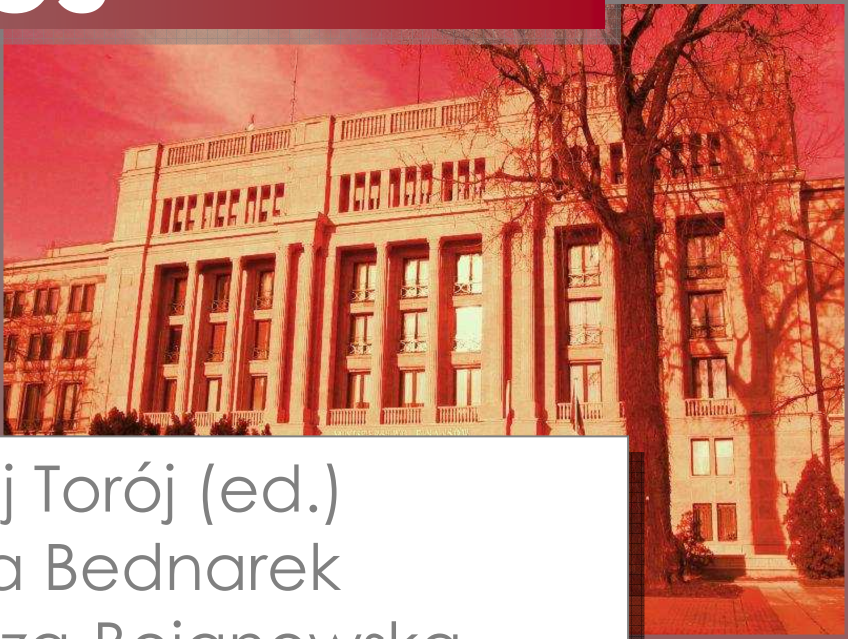
Ministry of Finance | Republic of Poland

No 11-2012
March 2012

MF Working Paper Series



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EMU: the (post-)crisis perspective. Literature survey and implications for the euro-candidates

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Abstract

This paper provides an extensive survey of literature on the euro area crisis from the perspective of a candidate country. A mix of country-specific and systemic factors emerge from our analysis, suggesting that a stable participation in the monetary union requires that both country-level and union-wide policies be applied. We demonstrate how the crisis developed since the inception of the EMU as a result of misspecified institutions, unhandled macroeconomic imbalances, neglected structural reforms, financial shocks and fiscal profligacy. We document the available empirical material and recent (or ongoing) institutional changes in order to better define the future euro area framework that new countries (with so-called derogation) shall enter at some point. Whatever final design emerges from this process, it has already become clear that they will adopt the euro in a package with entering some sort of fiscal union. The crisis has illustrated that deeper fiscal integration was a necessary condition for long-run stability, but – at the same time – the euro adoption will be associated with giving up more sovereignty than it has previously been expected. The new situation implies some serious shifts in relative importance of euro-costs and euro-benefits for the EA-newcomers, both on the upside and on the downside. It remains an issue for quantitative research to weight their relative impact against each other, but it seems that their conditionality on country-level macroeconomic policy largely exceeds the previous assessments.

JEL Classification: D61, E42, F33.

Keywords: EMU, euro area crisis, euro adoption, Maastricht criteria.

1 Introduction

The nexus between the business cycle phase and the euro adoption has usually been considered as a short-term phenomenon. This time seems to be different, however. The crisis which has been ongoing since 2007 and spilling over into subsequent areas has become so profound and so multidimensional that the arising questions go far beyond this nexus. In particular, it has already led to significant structural changes in the European economy. From the perspective of a derogation country, the main question sounds as follows: to what extent does the crisis affect our previous perception of costs and benefits from future euro adoption, as summarized i.a. for Poland by the National Bank of Poland (2009)[1]?

No single paper, including this one, should aspire to provide the satisfactory answer at the moment. Instead, we focus on making the question itself more specific in the light of existing research and providing qualitative, preliminary answers.

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[1] See also Narodowy Bank Polski (2004) for an earlier view.

Firstly, one might ask which crisis we actually mean. We attempt to decompose the euro area crisis into a sequence of mutually dependent events that is usually flattened and oversimplified in the public discourse. This allows to differentiate between crisis components that are systemic by nature (and of utmost importance to euro area candidates) from either country-specific problems or problems that are independent from the monetary integration in Europe. The "euro crisis" originated far in the past from the sources such as imperfect design of euro area institutions, rising competitiveness problems and external imbalances, financial stress and fiscal policy problems turning into some sovereign debt crises. These sources are obviously interrelated and incorporate, to various extent, union-wide and country-specific components.

Secondly, the extensive literature overview serves the purpose of presenting the "new" euro area that is being forged at present and confronting it with the "old" one. The differences in systemic setup allow us to identify directly the points in the pre-crisis view of costs and benefits of euro adoption that should be challenged. Most importantly, the euro area is tending towards deeper fiscal unification which implies non-negligible loss of fiscal autonomy after the euro adoption. New institutions for pan-European financial supervision have been established, which may affect the map of risks for financial stability related to the euro adoption. Also, new procedures for handling macroeconomic imbalances have entered into force, with different implications for euro area and non-EA countries. Markets have returned to their disciplining role (largely abandoned after the euro area creation) of effective discrimination between euro area countries. Last but not least, the crisis has shed some new light on the application of the Maastricht criteria.

Thirdly, the post-2007 experience shed a lot of light on the mechanisms of the euro area that were not empirically tested before. Even if the systemic setup remained unchanged at some points, our understanding of it has definitely been extended. The crisis has illustrated the fact that the euro area – in the form created in 1999 – found itself in a sort of unstable equilibrium that failed to resist severe shocks without major institutional changes. The union without a lender of last resort, any form of debt pooling and fiscal transfers, effective enforcement mechanisms for fiscal discipline and flexible markets has proven unsustainable and we can see the ongoing adjustment as a transition to a new equilibrium.

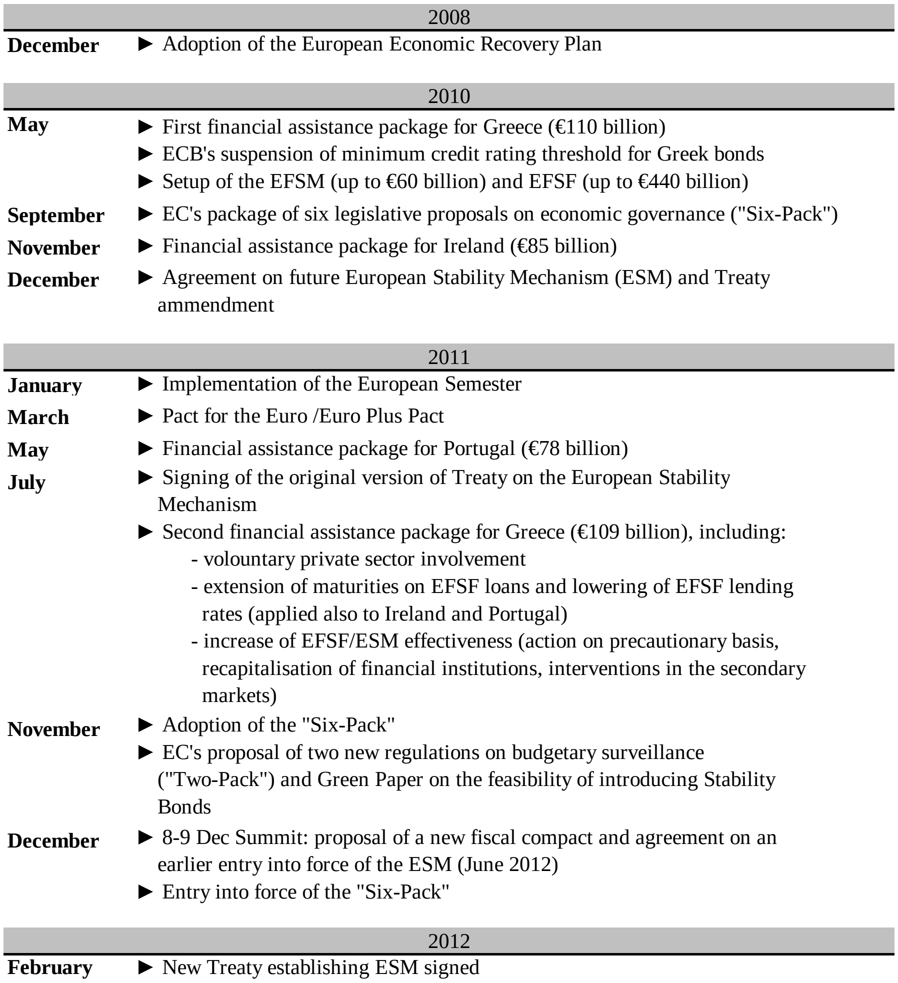
Fourthly, as our literature survey did not fill all the gaps, we identify a number of challenges for future research. They mainly involve the cost-benefit balance of euro adoption for the Polish (or any other candidate) economy. A number of concepts need to be quantified, e.g. the impact of joining the fiscal union on social welfare, the model of a monetary union's financial markets and individual countries' external disequilibria or the role of nominal exchange rate as a shock absorber in emerging markets at crisis times. New institutions and procedures (like the ones dedicated to monitoring imbalances or financial supervision) need more profound investigation.

We attempt to contribute to the literature by presenting a structured, comprehensive summary of the literature on euro area crisis; importantly, we take a perspective of a candidate country that has not adopted the euro yet and where the timing of the euro adoption might be seen as, to some extent, a decision variable. Such a discussion seems to be missing now for the general public. In consequence, the global financial crisis and the subsequent developments in the European markets have led to a substantial fall of the systemic trust, i.e. citizens' trust in institutions such as governments, parliaments – on both national and international (specifically European) level, financial institutions (including especially central banks) and the overall mode of production (for details see Roth, 2009b). Roth (2009b) presents data according to which confidence levels in the market economy[2] decreased in most of the largest economies on the both sides of the Atlantic.

Importantly, also trust in the public institutions was severely damaged, specifically with respect to the European Union's (EU) institutions, including the ECB (Roth 2009a, 2009b). It may also imply a similar trend in the evolution of public trust and support for the common currency in general. Indeed, similar results with respect to the euro and it's introduction in Poland were reported by Torój and

[2] This was measured on the basis of a survey question on the attitude towards the free enterprise system and free market economy (for details see Roth, 2009b).

Table 1: Key European policy actions since 2008



	2008
December	► Adoption of the European Economic Recovery Plan
	2010
May	► First financial assistance package for Greece (€110 billion) ► ECB's suspension of minimum credit rating threshold for Greek bonds ► Setup of the EFSM (up to €60 billion) and EFSF (up to €440 billion)
September	► EC's package of six legislative proposals on economic governance ("Six-Pack")
November	► Financial assistance package for Ireland (€85 billion)
December	► Agreement on future European Stability Mechanism (ESM) and Treaty ammendment
	2011
January	► Implementation of the European Semester
March	► Pact for the Euro /Euro Plus Pact
May	► Financial assistance package for Portugal (€78 billion)
July	► Signing of the original version of Treaty on the European Stability Mechanism ► Second financial assistance package for Greece (€109 billion), including: - volountary private sector involvement - extension of maturities on EFSF loans and lowering of EFSF lending rates (applied also to Ireland and Portugal) - increase of EFSF/ESM effectiveness (action on precautionary basis, recapitalisation of financial institutions, interventions in the secondary markets)
November	► Adoption of the "Six-Pack" ► EC's proposal of two new regulations on budgetary surveillance ("Two-Pack") and Green Paper on the feasibility of introducing Stability Bonds
December	► 8-9 Dec Summit: proposal of a new fiscal compact and agreement on an earlier entry into force of the ESM (June 2012) ► Entry into force of the "Six-Pack"
	2012
February	► New Treaty establishing ESM signed

Source: authors

Osińska (2011; see Box 1). Much of this might have resulted from a rise in uncertainty about the impact of the euro adoption on crisis management options and future situation in the euro area as such.

As the euro area crisis is in full swing, the entire set of policy responses remains undefined yet. Although a number of them are already in force and others – envisaged in detail (see Table 1), the probability of new initiatives is high, even in the short run. Therefore, we should emphasize that the cut-off date for this paper is the end of January 2012.

The rest of the paper is organized as follows. Section 2 describes the build-up of external imbalances over the first decade of the euro area, accompanied by structural reform deficiencies. Section 3 demonstrates the hit of the financial crisis in 2008 and the EA-specific issues associated with the policy response. Section 4 deals with the sovereign debt crisis that emerged from the previous phases and gave rise to the need for systemic changes, along with a concise presentation of their menu emerging from the theoretical literature. Section 5 goes back to the flaws in the Economic and Monetary Union's

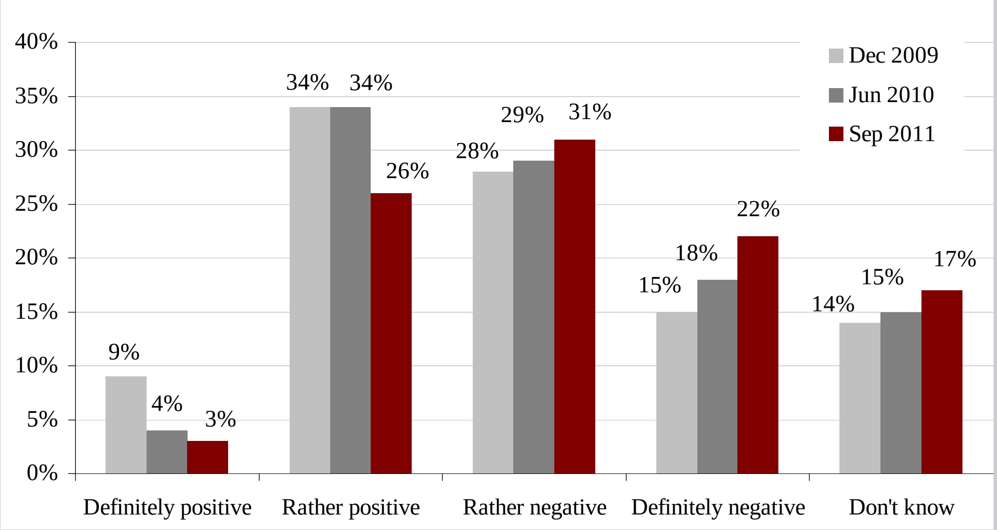
(EMU) setup in 1990s uncovered in the course of the above-mentioned stages and recapitulates the actions taken on the EU level during the crisis. Section 6 recapitulates the conclusions for candidate countries and discusses crisis-related problems regarding the convergence criteria. Section 7 concludes with the identified gaps in the literature.

Box 1. Country study: Poland – evolution of public perception of the euro

The support for the euro adoption in Poland has declined since 2009, when equal shares of euro enthusiasts and euro opponents were recorded (43%). In 2011, 29% of respondents supported the euro, whereas 53% were against its introduction (see Figure in this Box).

Torój and Osińska (2011) analysed changes that the determinants of this public support underwent between 2009 and 2010. Whereas it generally (and, in fact, substantially) declined over this period, it was probably due to sovereign debt crises in the euro area, which got extensive media coverage over the period in question, and even more so in 2011, leading to a widespread perceived association between "euro" and "crisis". This fall in support was concentrated along some dimensions. First of all, the conviction of euro being a strong, stable currency has definitely ceased to drive a positive attitude towards it. Instead, a negative attitude started to result from low income or high age (previously insignificant). Most surprisingly, a relatively more negative attitude in 2010 was represented by students, white-collar workers (as compared to blue-collars), as well as big city residents (as compared to the rural areas). On the other hand, the outflow of common currency supporters was not concentrated in any single electorate of the political parties.

Importantly, it was also found that the declared level of information about the euro was a key driver of the support for the euro adoption in Poland, both in 2009 and – even more so – in 2010. Well-informed respondents tended to be significantly more supportive of the common currency than ill-informed ones. Additionally, a room for substantial marginal gains from a potential informational campaign was identified, as even badly informed citizens are significantly more supportive of the common currency than very ill-informed ones.



Source: Ipsos/The Ministry of Finance

2 Stage 1: divergent competitiveness and imbalances

2.1 External imbalances within EA: stylized (arti)facts

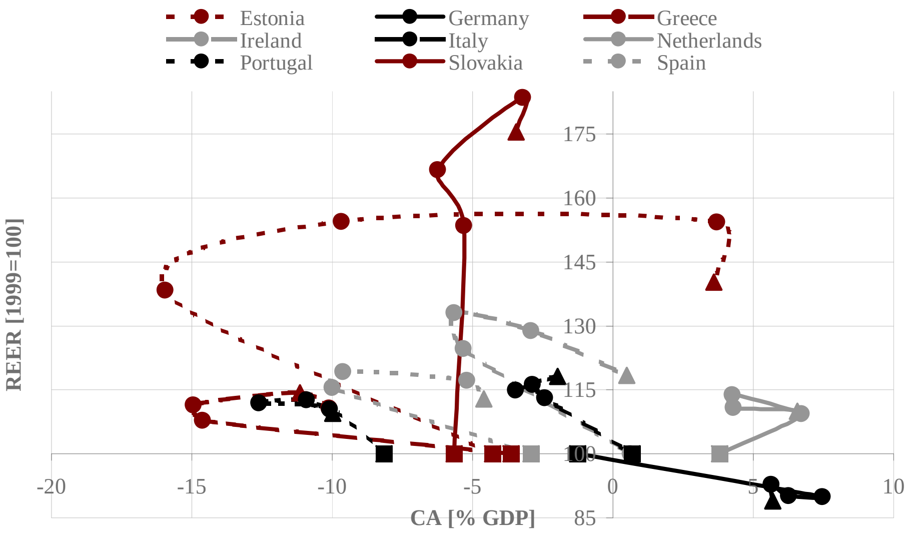
Since the inception of the EMU, the issue of nominal and real divergence of euro area countries has been attracting the attention of researchers. But it was only after the financial, economic and eventually sovereign debt crisis that the debate on divergences dominated Europe's policy agenda. Over the first decade of the currency union's functioning, it was widely believed that real divergence, including non-negligible shifts in cross-country competitiveness and the accompanying current account (CA) imbalances, would serve as part of the adjustment process on the country level. Absent autonomous monetary and exchange rate policies, asymmetric shocks should have led to an inflation differential, real appreciation or depreciation and consequently loss or reinforcement of domestic producers' competitiveness in union-wide markets. As Barnes (2010) points out (*ex post*), it was all the matter of persistence: in fact, appreciation trends turned out to be very inertial, and depreciation – extremely difficult to trigger. At the same time, countries with undermined external competitiveness started to develop an increasing share of nontradable sector in the economy (Felipe and Kumar, 2011) and thereby further increase their vulnerability to asymmetric shocks (cf. Harashima, 2011).

Country-specific shocks and their insufficient stabilization with available policy instruments (fiscal and macroprudential) have therefore led to a build-up of internal economic, financial and fiscal imbalances that meanwhile turned into external imbalances (Barnes, 2010). Persistently high current account deficits of some countries over the period 1999-2008 (Figure 1) have accumulated into sizable stocks of net external liabilities, raising these countries' vulnerability to external developments. Fully integrated money market, coupled with highly segmented retail banking markets, ensured international capital flows that financed locally managed risk, resulting in excessive risk taking (especially given the weakness of financial regulation – worldwide and unionwide). To some extent, external imbalances were also caused by the catching-up effects within the euro area, as implied by the intertemporal theory of the current account determination. In the pre-crisis literature, it was even concluded that current account imbalances do not pose a problem in the monetary union "up to a first order" (Blanchard and Giavazzi, 2002). However, Belke and Dreger (2011) demonstrate that the significance of this effect diminishes towards the end of 2008. Furthermore, according to Camarero et al. (2010), equilibrium capital reallocations to regions yielding higher return are likely to be less persistent than current account imbalances in the first decade of the euro area. Likewise, Zemanek et al. (2009), Jaumotte and Sodsriwiboon (2010) and Barnes et al. (2010b) estimate (by means of panel regressions) that current account deficits in Southern euro area countries on the eve of the crisis were out of line with their economic fundamentals. Even in the intertemporal setup, agents' expectations about future growth in the euro area could have turned out to be overly optimistic, as argued by Camarero et al. (2010).

The global demand downturn in 2008-2009 hit therefore EA economies that found themselves in different positions as regards competitiveness and external vulnerabilities. Intuitively, this put the relatively uncompetitive economies in a particularly difficult situation (di Mauro et al., 2010). At the same time, that downturn can be seen as the first severe adverse economic shock to hit the EMU and stress-test for the external adjustment capacity of its economies. Martinez-Mongay and Lasierra (2009) note that most of the crises in Spain in the pre-euro era were followed by competitive devaluations, which was no longer a feasible option in 2008. Also Greece and Portugal experienced competitive devaluations in 1980s. In the latter case, de Macedo (2009) emphasized the key role of devaluations in Portuguese economic policy after the fall of the regime in 1970s which made businesses unfamiliar with deep restructuring measures in an unfavourable competitive environment. Similarly, Kyriacou and Papageorghiou (2010) remark that Cyprus also had to tackle the crisis under a brand-new macroeconomic policy regime.

It was even more so in the case of Slovakia (a 2009 newcomer into the EA) whose currency – unlike the currencies of neighbour emerging markets – avoided massive depreciation. For an economy

Figure 1: REER and current account dynamics in EA17, 1999-2010



■ – 1999, ▲ – 2010.
Source: Eurostat data.

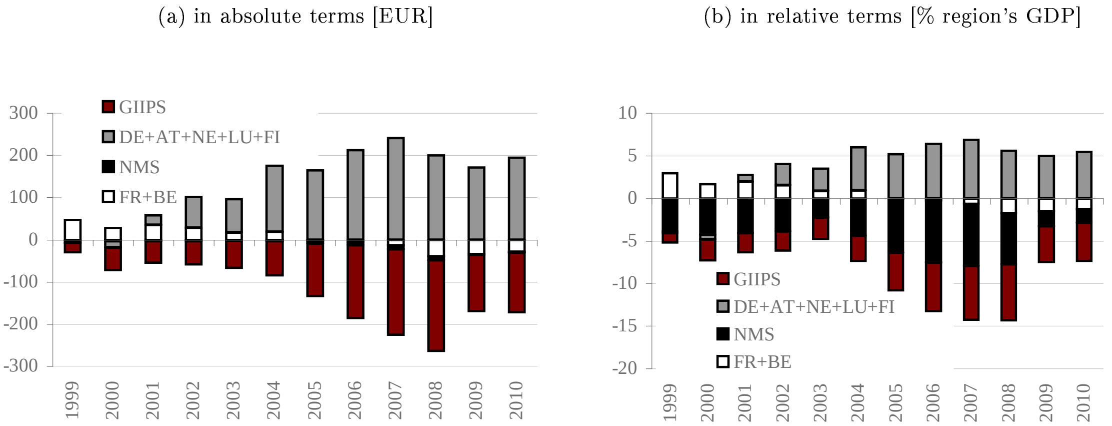
with a strong tradable manufacturing focus, it might have been seen as a comparative disadvantage against e.g. Poland (Lalinský, 2010). However, Lalinský (2010) and Martinez-Mongay and Lasierra (2009) both stress that price competitiveness in a flexible economy is just a short-run determinant of competitiveness and that in the long run it is rather structural policies that drive exports growth. According to Lalinský (2010), the euro area accession could ultimately make Slovakia a winner rather than a loser, provided that it brings more long-term stability.

Wyplosz (2010a) argues that the crisis has not only revealed the drawbacks of the EMU (in the form of limited policy options when dealing with external imbalances), but also the benefit of high real exchange rate stability for the European enterprises. In his opinion, the "key benefit from a common currency has been reaped" as policymakers did not have to worry about sudden and wide shifts in relative competitiveness because of nominal exchange rate depreciations or devaluations. While limiting the scope for nominal shocks, this constraint could equally be seen as negative for countries now unable to regain competitiveness via internal devaluation.

During the crisis, a characteristic pattern of reversal in real exchange rate and current account deficit could be observed in Ireland, Spain and Greece (see Figure 1; also note the less characteristic case of Italy and the spectacular adjustment in Estonia). Bayoumi et al. (2011) deliver econometric evidence that this adjustment may have been mainly an artifact of intra-EA realignment, as estimated intra-EA trade elasticities turn out to be significantly higher than external ones. This supports the view of competitiveness channel being (to some extent) at work. At the same time, Jeong et al. (2010) and Aflouk et al. (2010) point out that not all misalignments from equilibrium since 2007 were resolved in the later years. Using FEER estimates of the euro area countries' real exchange rates, they conclude that misalignments in 2007 were higher than the following adjustment, and that much of the realignment was channeled through output, not through the real exchange rate.

The crisis has inspired some research on the anatomy of EA countries' external imbalances. As a result, there is a widespread consensus view now that (i) the euro area's current account is almost balanced, so the individual countries' imbalances are an internal phenomenon of the EA, (ii) it was the "core"

Figure 2: CA balances for euro area countries, 1999-2010



(a) in absolute terms [EUR]

(b) in relative terms [% region's GDP]

Source: Eurostat data.

or "North" of the euro area (Germany, Netherlands, Austria, Luxembourg, Finland) that was lending and the "GIIPS" (Southern countries plus Ireland) that were borrowing and (iii) there was little (and changing) contribution from France and Belgium, while persistent current account deficits of the new Member States in the EA are too low in absolute terms to yield any significant contribution to the problem (cf. Figure 2).

There are also some more sophisticated breakdowns. Zemanek et al. (2009), Barnes (2010), Waysand et al. (2010) and Jaumotte and Sodsriwiboon (2010) emphasize that it was mainly the private sector's behaviour that drove these imbalances, rather than the public sector, and the reversal will require a lot of restructuring on the side of non-financial enterprises. Jaumotte and Sodsriwiboon (2010) also demonstrate that it was a substantial decline in private savings (rather than increase in investment) that drove the current account deficit (Barnes, 2010, attributes it to decline in real interest rates in the peripheral countries after the euro adoption). Meanwhile, the EMU participation enabled these countries to maintain investment close to the pre-EMU level, in spite of falling savings. Using a disaggregated map of the EMU creditors and debtors, Waysand et al. (2010) note that individual countries' top creditors or debtors do not coincide with these countries' top trading partners.

The menu of post- (or mid-)crisis policy options towards the external imbalances within the EA remains broadly unchanged as compared to the pre-crisis view, only their inevitability is now better documented. As noted by Camarero et al. (2010), there are 2 ways to adjust substantial open NFA positions within the euro area: either a costly and disorderly market-driven realignment, including the discretion of creditors (cf. King, 2011) and tremendous losses in market confidence, or a policy-enhanced adjustment. Unfortunately, in a monetary union, the preventive role of monetary policy is out of question anyway, and the fiscal policy can afford no more that to be fine-tuning the reversal to sustainable paths. However, some authors argue that fiscal consolidation (Jaumotte and Sodsriwiboon, 2010) and prudent fiscal policy (Berger and Nitsch, 2010) are the key steps to avoid re-emergence of external imbalances in the future. Felipe and Kumar (2011) and Lalinský (2010) also suggest that it is necessary to upgrade the export basket by research and development, improving education and innovation in national economies.

The list of policy measures for the resolution of current competitiveness problems includes mainly structural policies: improving product and labour market flexibility (Bayoumi et al., 2011), wage moderation policies (Martinez-Mongay and Lasierra, 2009) both in private and public sector (Holm-Hadulla et al., 2010), more flexible social security network and "more incentive-compatible welfare state" (Zemanek et al., 2009). As a result, unit labour costs should be more flexible. Felipe and Kumar (2011) also argue that this should be accompanied by enhanced flexibility of unit capital costs (ratio of nominal profits to capital productivity) for the firms to share the adjustment costs in an adequate proportion. They demonstrate that during (and in spite of) the crisis, the measures of capital costs were rising in all EA-12 countries, while not attracting as much attention as unit labour costs. All this should improve the EA countries' capacity to manage the so-called "internal devaluations" that were proven by the crisis to be extremely difficult. Martinez-Mongay and Lasierra (2009) call for an extended and enhanced, pro-active role for national governments in seeking a broad social agreement in such cases. Berger and Nitsch (2010) present econometric evidence in favour of the above means being solutions to persistent competitiveness losses and current account deficits.

A separate (and relatively new) policy issue is the strategy for the surplus economies. In the pre-crisis literature, Germany was indicated as an example of reform leader able to accumulate gains from increasing competitiveness (see Box 2). This is why some authors argue for an asymmetric treatment of surplus and deficit countries, as deteriorating competitiveness for the sake of reducing imbalances should not be an advisable strategy (Belke and Dreger, 2011). Such view is also reflected in the design of the thresholds indicating the possibility of imbalance (see Table 2) in the new EU procedures: the "balanced" current account ranges from -4% to +6% of GDP. On the other hand, some authors see the strategy of surplus economies as a part of the problem. Brecht et al. (2010) argue that it is the export-driven model of growth in Germany that leaves aside the internal demand considerations and conserves imbalances. They suggest that there might be a trade-off between restoring fiscal and external equilibrium in individual euro area countries, and remain sceptical about *Stability and Convergence Programmes* that cover the horizon 2010-2013 because they envisage both fiscal consolidation and a reduction of current account deficits in euro area countries. According to these authors, the latter objective requires a looser fiscal policy in the economies with current account surpluses (such as Germany). King (2011) calls for an international coordination between both surplus and deficit countries in resolving imbalances, discouraging from a disorderly adjustment at creditors' discretion as the costly alternative. Waysand et al. (2010) suggest that a reduction in the net foreign liabilities of the Southern EA countries would imply negative wealth effects for the Northern EA with their net foreign assets as a mirror image.

The above solutions suggest that the euro area needs a unified structural policy framework and indeed Barnes (2010) calls for such a new, comprehensive and cross-cutting approach. The European Commission (EC) seems to have acknowledged that the competitiveness channel did not turn out to be an efficient tool of adjustment. Persistent and high imbalances, as Soukiazis et al. (2011) demonstrate using Portuguese data, constrain growth (both when they are external and internal) – a phenomenon known as the Thirlwall's law. All this inspired the European Commission to propose in September 2010 a new set of macroeconomic policy requirements for the Member States of the entire EU (apart from some euro area countries, strong imbalances have also built up i.a. in the Baltic states).

This set, named **Macroeconomic Imbalance Procedure** (MIP, see Table 1), was established in late 2011 in two regulations of the European Parliament and the Council of the EU (European Parliament and Council of the European Union, 2011b,a). It aims to avoid both external and internal imbalances in the EU Member States. Like Excessive Deficit Procedure (EDP), the MIP consists of preventive and corrective arm.

The **preventive arm** comprises 2 stages:

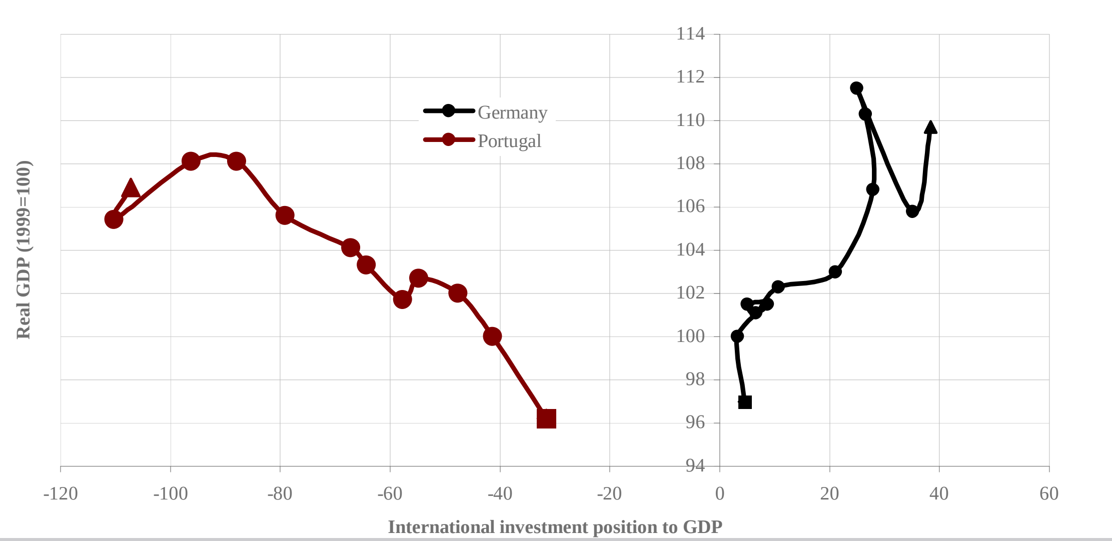
1. **Alert mechanism.** A scoreboard of indicators (see Table 2), along with their economic reading, is evaluated by the EC in an annual report. There are thresholds set for every indicator (in some cases differentiated between euro area and other countries), also certain combinations of indicators should be regarded as particularly risky. The set of indicators was constructed with the intention to reflect the principles of simplicity and transparency, parsimony, high quality of data and forward-looking orientation. The Eurogroup and Ecofin Council discuss this report, and – as a conclusion – Member States with potential macroeconomic risks are identified.

2. **In-depth review.** The countries identified are investigated in detail, by means of a wide set of indicators and analytical tools. The EC also takes account of existing Council recommendations,

Stability and Convergence Programmes, *National Reform Programmes*, as well as warnings and recommendations from the European Systemic Risk Board (see Section 3). The in-depth reviews are to be prepared from February to April and released in May.

Box 2. Country study: GERMANY vs PORTUGAL

The opposite vectors of Germany and Portugal in the EMU reflect extremely different patterns of external adjustment over the first decade of the euro. At the end of 2011, Germany is a key current account surplus country with strong competitiveness and public finance. At the same time, Portugal is on International Monetary Fund's (IMF) assistance since May 2011.
After the reunification boom, **Germany** acceded the euro area with overvalued – as it is commonly considered – real exchange rate. However, after a sequence of labour market reforms in early 2000s (*Agenda 2010*, including the key *Hartz IV* module), its manufacturing sector became highly flexible. Germany's export-driven growth strategy was possible thanks to a wage moderation policy and a broad social pact. Macroeconomic stability was additionally supported by almost balanced budget.
Portugal, in turn, suffered from a decade of near-zero GDP growth. It was a result of both "bad luck" (globalisation and competition from emerging Asia) and "bad policies" (negative productivity shocks and unrelated rapid wage increase). This led to a shrinkage of tradable sector, loss in export markets, economic slowdown and consequently deterioration in public finance. Necessary structural reforms started as late as 2005, but their effects came too late to avoid the effect of crisis hit for a country with eroded competitiveness.



■ – 1998, ▲ – 2010.
Source: Langedijk and Roeger (2007); dos Santos (2008); Barnes (2010); Jaumotte and Sodsriwiboon (2010); Eurostat data.

3 outcomes are possible: (i) no imbalance problems are identified, (ii) some (moderate) imbalance is identified and the EC-EU Council recommendations are released, (iii) severe imbalance is identified. The last possibility launches the corrective arm by the EC-EU Council recommendation on the existence of an excessive imbalance (Excessive Imbalance Procedure, EIP).

In the **corrective arm**, Member States are obliged to submit to EC corrective action plans. The the EC and EU Council can either assess this plan as sufficient and endorse it, listing the adequate

Table 2: Macroeconomic Imbalance Procedure – scoreboard for alert mechanism

Imbalance	Indicator	Thresholds	Additional indicators
external	current account balance (3 year average, as a % of GDP)	-4% to 6%	net lending/borrowing vis-à-vis rest of the world
	net international investment position (as a % of GDP)	>-35%	net external debt
	real effective exchange rate (% change over 3 years, HICP-deflated, relative to 35 industrial countries)	+/-5% for EUR, +/-11% for non-EUR	REER vis-à-vis rest of the euro area
	export market shares (% change over 5 years)	>-6%	export market shares based on volumes of goods, labour productivity, trend TFP growth
	nominal unit labour cost (% change over 3 years)	<9% for EUR, <12% for non-EUR	nominal ULCs (changes over 1, 5, 10 years), effective ULC relative to rest of euro-area
internal	deflated house prices (y-o-y % change)	<+6%	real house price, nominal house price, residential construction
	private sector credit flow (as % of GDP)	<+15%	financial liabilities of the non-consolidated financial sector, debt/equity ratio
	private sector debt (as % of GDP)	<160%	private sector debt based on consolidated data
	general government debt (as % of GDP)	<60%	–
	unemployment rate (3 year average)	<10%	–

Source: European Commission (2012).

corrective actions and their respective deadlines, or as insufficient, asking for a resubmission. If two successive corrective action plans are evaluated as insufficient, a yearly fine is imposed on the euro area country under procedure.

The implementation monitoring of an agreed corrective action plan requires regular reports by the Member State. Based on these reports, the EC and EU Council repeatedly assess the undertaken corrective actions and the plan itself. If a EA country fails to implement the plan within envisaged deadlines, the EC and EU Council adopt the decision on non-compliance, set new deadlines and impose an interest-bearing deposit of 0.1% GDP. In the case of two successive decisions on non-compliance, this deposit becomes a (yearly) fine.

The set of indicators reflecting the external imbalances includes:

- current account (CA) balance as % of GDP;
- net international investment position as % of GDP;
- real effective exchange rate (REER) dynamics;
- export market share dynamics;
- unit labour cost dynamics.

These indicators are complementary and their specific patterns should capture the beginning of a boom-bust episode. A remarkable appreciation of REER might suggest a loss in international competitiveness of domestic goods. This usually emerges as a deterioration in the current account balance. As real appreciation may also be driven by improving quality of the exported products and a drop in current account balance may result from a favourable financing environment (e.g. FDI inflow), these indicators are supplemented with export market share dynamics. If sharply falling as well, it clearly suggests competitiveness problems. Growing labour cost dynamics links them to overheating in the domestic economy. Finally, negative and sizable (in magnitude) net international investment position – accumulated over a period of persistent competitiveness loss and current account deficit – is associated with strong external vulnerability to crises.

This combination would have called for policy action in 2008 for some euro area economies (e.g. Portugal and Italy), as well as for some ERM II countries (Latvia, Lithuania, Estonia). At the same time, the practical efficiency of the procedure remains an open issue at the current stage. On the one hand, one might say that it was the lack of political incentives for structural reforms in the Southern Europe that prevented the competitiveness channel from efficient functioning and that the sanctions under EIP could fix it. On the other hand, lots of policy measures of similar nature were explicitly named in the policy commitments for the Baltic states. One possible weakness of the EIP is a missing clear relationship between policy instruments and the objectives to be attained. Another could be judgemental, to some extent, character of the evaluation (Calmfors, 2010).

Paradoxically, MIP requirements might be easier to comply with for the countries outside the euro area. Torój (2012) shows that welfare losses from the introduction of MIP, translated into equivalent losses in steady-state consumption, rise by a factor of approximately 1.12 after the euro adoption. According to his DSGE-model-based study, the welfare loss from the lower CA threshold is equivalent to a 0.105% fall in steady-state consumption in a euro area economy (0.033% under the autonomous monetary policy). Under the constrained policy, fiscal authorities react less aggressively to demand shocks, allowing for more fluctuations in consumption, output and inflation in order to ensure low CA volatility. In the monetary union, national authorities have only fiscal policy instruments at their disposal.

Another problem is associated with the differentiation of thresholds. In catching-up economies, REER appreciation along with persistent CA deficits and negative NFA positions can – to some extent – be seen as equilibrium phenomena, powered by price level convergence or Balassa-Samuelson effect on the one hand, and financial deepening on the other. In the current design of the scoreboard (see Table 2), this is not formally taken into account. There is either no differentiation between countries, or a differentiation between euro area and non euro area economies. This does not necessarily reflect the grouping into catching-up and non-catching-up economies – Slovakia as EA insider and the UK as EA outsider being the most prominent examples. Torój (2012) shows that the welfare losses in the catching-up economies could be reduced while effectively preserving the same economic threshold for the rest of the EU. If we consider e.g. CA+capital account (KA), possibly augmented by FDI inflow, as an indicator instead of CA alone, the above-mentioned losses in steady-state consumption drop at least to 0.019% and 0.010% respectively. This results from the usually positive KA balance in the EU New Member States (NMS), amounting to approximately 1% of GDP over the recent years.

2.2 External imbalances within EA: case for product and labour market reforms

By acceding to a monetary union, countries have lost the easy option to devalue their currency in case of asymmetric shocks. It was argued then – based on the standard competitiveness-restoring mechanism – that they would have no alternative but to make their economy more flexible through structural reforms (Bean, 1998). It has therefore often been argued that the EMU would strengthen the incentives for structural reforms in labour and product markets due to the loss of monetary autonomy.

In fact, the EU Member States have made significant progress in reforming their economies in 1990s – in the run-up to stage III of Economic and Monetary Union. The prospect of not qualifying for the launch of the single currency seems to have been an important motivating factor. However, the progress was uneven both across countries as well as policy areas. After the start of the third stage of the EMU, reform intensity has weakened – reforms have been piecemeal or targeted onto a limited groups of labour market participants (European Commission, 2008b). Before the ongoing crisis, financial markets failed to price individual countries' default risk premia in line with their reform efforts (Duval and Elmeskov, 2006), which seems to have brought about complacency (see also Subsection 4.2).

2.2.1 Structural reform in labour and product markets before and after the launch of the euro

Reform efforts before the launch of the third stage of Economic and Monetary Union has been significant, though uneven across euro area countries and policy areas.

Labour market reforms are perceived as particularly difficult politically. If a reform involves short-term costs for individuals, e.g. reductions in the level and duration of unemployment benefits and lower minimum wages, politicians may be highly reluctant to pursue such policies because a potential resistance from their voters (Bednarek-Sekunda et al., 2010). At the same time, high unemployment and low activity rates in the EU had long called for a decisive policy action. In the end, not all EA countries have made sufficient progress in reshaping their labour market institutions. As shown in Table 3, Ireland and the Netherlands stand out as the leaders, who tackled even the politically sensitive labour market issues, such as benefit generosity and wage bargaining mechanism. The remaining countries have achieved piecemeal policy changes concentrated in the uncontroversial areas of active labour market policies and partial liberalisation of employment protection legislation. Although there were more labour market reforms after 1999, especially increasing the reward from labour market participation, it is not clear whether they actually resulted in increased resilience against economic shocks. From the launch of the euro few reforms were comprehensive in nature – marginal adjustment of existing policies was the prevailing reform strategy. What is even more important, in many cases the tinges reduced labour market flexibility, yielding more stringent employment protection legislation and more generous pension systems (Bednarek-Sekunda et al., 2010).

The European **product market reforms**[3] have strongly influenced competition and the level of flexibility since the launch of the Single Market Program in 1992 and the EU competition policy in general (European Commission, 2008b). Despite the strong impact of the EU regulation on product markets, individual countries' policies differ significantly with respect to business regulation and the level of competition in individual industries (i.e. professional services).

EA countries have made significant progress with respect to business freedom in the second half of 1990s – just before the launch of the euro. In particular, starting a business has become easier and less costly. However in the following decade there have been some policy reversals. In particular, *administrative requirements* and *bureaucratic burden*[4] have contributed to the deterioration of the overall scores of EA Member States. At the same time the involvement of the state in the economy was reduced – in most countries government investment and the role of state enterprises was scaled back (Gwartney et al., 2011). Worryingly, countries with the strictest business regulation lagged behind the most business-friendly economies despite significant improvements in policies.

Presented evidence shows that EA countries have not reformed their economies sufficiently before the launch of the euro. Countries such as Greece, Spain, Portugal and Italy have been hit particularly

[3] Following European Commission (2006a), product market reforms are defined as changes in product market regulation, i.e. the regulatory framework determining the functioning of goods and services markets. Product market regulation includes economic regulations, which affect the market behaviour of businesses and influence decisions on pricing, market entry and exit, investments, etc., as well as administrative regulation.

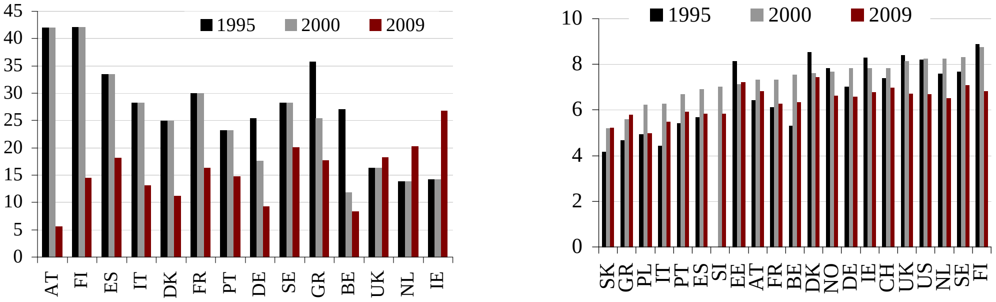
[4] *Administrative requirements*: This sub-component is based on the Global Competitiveness Report question: "Complying with administrative requirements (permits, regulations, reporting) issued by the government in your country is (1 = burdensome, 7 = not burdensome)." Bureaucracy costs: This sub-component is based on the Global Competitiveness Report question: "Standards on product/service quality, energy and other regulations (outside environmental regulations) in your country are: (1 = Lax or nonexistent, 7 = among the world's most stringent)". Data source: World Economic Forum, Global Competitiveness Report (various issues), http://www.weforum.org/en/initiatives/gcp/index.htm.

Table 3: Labour market policy changes in selected EA-countries

Policy area	AT	BE	FI	FR	DE	GR	IE	IT	LU	NL	PT	ES
from the early 1980s to the late 1990s (+ denotes "good" policy shift (more flexibility), ++ – "very good" shift, X – "bad" shift, - – no significant change)												
Benefit replacement rate	X	+	X	-	-	n.a.	+	X	n.a.	-	X	+
Benefit duration	-	-	-	X	X	n.a.	X	-	n.a.	-	X	-
Benefit Strictness	-	-	-	-	-	n.a.	-	-	n.a.	+	-	-
ALMP	-	-	-	+	+	n.a.	-	-	n.a.	+	+	-
Union Coverage	-	-	-	X	-	n.a.	?	-	n.a.	-	-	X
Union Density	+	-	X	-	-	n.a.	+	-	n.a.	-	++	-
Coordination	X	X	+	X	-	n.a.	+	+	n.a.	+	-	-
Employment Protection	-	+	+	X	+	n.a.	-	+	n.a.	+	+	+
Labour Taxes	X	-	-	-	-	n.a.	+	X	n.a.	+	-	-
discretionary changes in labour market policy in response to the economic downturn (Y – yes, empty – no)												
Job subsidies, recruitment incentives or public sector job creation						Y			Y		Y	Y
Reductions in non-wage labour costs		Y	Y	Y	Y						Y	Y
Short-time work schemes	Y	Y	Y	Y	Y		Y	Y	Y	Y		
Activation requirements			Y				Y	Y			Y	
Job search assistance and matching	Y	Y	Y			Y	Y	Y		Y		Y
Job-finding and business start-up incentives			Y								Y	Y
Work experience programmes							Y				Y	
Training programmes	Y		Y			Y	Y	Y		Y	Y	Y
Generosity or coverage of unemployment benefits		Y	Y			Y		Y			Y	Y
Social assistance		Y										
Other payments or in-kind support			Y			Y					Y	Y
Fiscal measures for low earners	Y	Y	Y			Y						Y
Training for existing workers	Y	Y	Y			Y				Y		Y
Apprenticeship schemes	Y	Y	Y				Y			Y		

Source: based on Layard et al. (2005); OECD (2009).

Figure 3: Economic Freedom of the World in the EU Member States 1995-2009: government enterprise and investment



(a) Government investment as a share of total investment

(b) Index of government enterprise and investment

Note: countries in figure 3a are ranked according to the drop in government investment between 2000 and 2009, i.e. approximately between the launch of the euro and the peak of the current crisis. Countries in figure 3b are ranked according to their 2009 score and the magnitude of score improvement between 2000 and 2009.

Source: Gwartney et al. (2011).

hard as a result of bad policies of the past. Economic literature suggests that crises are conducive to structural reform (Høj et al., 2006), which could be confirmed by the current pressure from financial markets (see Subsection 4.2). Moreover, in the current situation, i.e. under little macroeconomic policy munition left, structural reforms are the main available policy instrument to revive growth. Priorities include policies to prevent hysteresis-like effects: reduction in entry barriers in sectors with strong immediate job-creation potential (such as retail trade and liberal professions), social transfer programmes and activation policies. Therefore, reformist governments should expect a triple dividend from reforms carried out in the present situation: they could stimulate growth, help cut public debt and boost employment (OECD, 2011b).

2.2.2 Structural reforms as policy response to the crisis

From the onset of the crisis, the euro area states' efforts were concentrated in the financial sector. This means that the pace of changes should be stepped up in the remaining areas (product and labour markets), where progress has been modest so far. Many of the initiatives, especially in the labour market, aim purely at alleviating the impact of the downturn on jobs and some of them are temporary. These policies however did cushion the impact of the downturn on employment levels and deserve further research (OECD, 2011b). In order to prevent housing bubbles from arising again in the future, countries should review their housing policies. Social policy reform is also crucial in the face of elevated public indebtedness – a problem compounded by demographic developments in Europe.

European Union has made attempts to address the above problems creating a new Euro Plus Pact (which commits members to competitiveness-enhancing structural reforms), MIP (see Table 2) and the European Semester framework (see Subsection 4). However, the EU initiatives play only a complementary role in promoting structural reforms – the efforts of individual governments are the key instrument to reshape labour and product markets in EA countries.

According to the OECD, priority should be given to the reforms that could speed up the recovery and help consolidate the public finance in a way that protects long-term growth. Desirable actions include, for instance, relaxing anti-competitive regulations in product markets, enhancing the efficiency of health and education spending, strengthening the job search incentives and skills of the long-term unemployed through active labour market policies and unemployment benefit system reform, and reducing access to early retirement. It is also important to reconsider housing policies' objectives. Misguided housing policies have contributed to the build-up of imbalances in several euro area countries but also to reduced labour market mobility and slower employment recovery (OECD, 2010).

As shown in Table 3, most measures taken by the euro area states in the first years of the crisis where of rather *ad hoc* nature and involved uncontroversial policy changes to quickly remedy the deterioration of the labour market situation. The popular measures included policies to boost labour demand, assist the unemployed in their job search and build human capital through training. Few countries have succeeded in implementing more comprehensive labour market reforms during the crisis. Among EA states, Spain stands out as an exception (see Box 3), which seems to be due to a particularly weak performance of the labour market and huge labour shedding. Apart from these measures, governments strengthened safety nets by extending income support for the unemployed and low-income earners. In the product markets, the prevailing strategy was to reduce entry barriers mainly by simplifying business start-up procedures, to reduce administrative burden on companies, as well as to adapt bankruptcy procedures to facilitate rapid restructuring (OECD, 2010, 2011b; The World Bank, 2011)

Few countries have already taken decisive steps to tackle the roots of the labour market problems. Despite their spectacular short-run effects on unemployment, partial reform strategies run the risk of negative long-term impact such as creating duality in the labour markets (OECD, 2011c). It is therefore essential that countries which have not reformed their labour markets comprehensively step up their efforts in this area. Flexicurity-like solutions recommended to the EU Member States through *Europe 2020* strategy, with lax employment protection legislation, generous safety net (but subject to strict conditionality) and active labour market policy, may constitute an attractive policy option (Andersen, 2011).

The lack of large-scale reform initiatives so far may have been caused, among other things, by the stage of electoral cycles in many countries. Governments are typically wary of implementing controversial large-scale reforms in the run-up to elections. Structural reforms meet strong opposition from interest groups who incur costs due to the policy changes while the benefits of reforms are more diffused and may often arise only in the future – beyond the term in office of the incumbent government (Buti et al., 2008; Bean, 1998). Crises, however, provide a strong incentive to governments to implement unpopular or controversial reform that were initially opposed by powerful interest groups (Rodrik, 1996). One could expect therefore that the severity of the current crisis could motivate reform laggards to catch up with their more shock-resistant counterparts. For example, **National Reform Programmes** (as envisaged in the European Semester framework) are expected to contain measures to be implemented in line with the goals envisaged in the Europe's growth strategy *Europe 2020*.

Alesina et al. (2006) find evidence that a crisis stimulates reforms that do not need to have large social cost if they are accompanied by appropriate welfare reforms where needed (see also Alesina, 2010). Empirical research based on a set of policy indicators compiled by the OECD for 21 countries provides evidence that deep downturns have motivated significant labour and product market reforms in the past. It also suggests that an important influence on the implementation of structural reform is exerted by factors such as exposure to foreign competition and government's duration in office. Budgetary conditions (which determine whether the government can compensate for losses incurred by certain social groups) and spillovers across policy areas (in particular from the product to the labour market) may also play a role (Høj et al., 2006).

Two of these factors may prove particularly significant in the present circumstances. Firstly, the dire fiscal situation of the countries most strongly hit by the current crisis may undermine the viability of radical reforms. On the other hand though, 2011 saw (early) general elections. According to the recent experiences of radical reform episodes in OECD countries, governments generally seem to have a window of opportunity to move on reforms early in their mandates, especially if they have been elected with a strong mandate for reform and the problematic issue is salient in voters' minds (Tompson, 2009). Current circumstances seem to fulfill these conditions as voters in Europe's most troubled economies have opted in 2011 for governments dubbed "technocratic" (Greece, Italy) or explicitly committed to quick and radical policy changes. Fatás and Mihov (2010) and Lane (2010) argue that the crisis is the right period to implement institutional reforms because it seems that in good times there is never sufficient political will to implement these ideas. A good institutional framework would lessen pressures on governments in the future to produce quick, large, and possibly suboptimal fiscal consolidations. Against this background, the current crisis can prove to be an opportunity for Europe.

Box 3. Country study: Labour market reform in Spain

Spain is a notable example of a country carrying out politically difficult reform of employment protection legislation during the crisis. The key problem in the country's labour market is record high unemployment and duality – a high share of workers employed on temporary contracts. The number does not reflect the duality problem in its entirety: it is suspected that the high number of self employed is another manifestation of employers' attempts to avoid high *de facto* firing costs.

In September 2010 the Spanish Parliament approved changes that aim to reduce the duality in the Spanish labour market by implementing several measures. First, the law makes it easier for firms to have dismissals accepted by the courts as justified by expanding the conditions under which a dismissal for objective reasons could be rendered justified. If this reform is effective, it will reduce severance payment of firms substantially, from the current practice of 45 days' wages to 20 days' wages per year of seniority. Before the reform, firms often declared dismissal unjustified upfront in order to avoid legal costs of court proceeding. These provisions apply to all labour contracts, while further changes are only relevant for new contracts.

The law facilitates the use of permanent contracts with reduced severance pay of 33 days' instead of 45 days' wages in the case of unjustified dismissal for the so called PEP contract. Also the range of beneficiaries of this contract has been extended to persons with disabilities, persons registered as unemployed for at least one month (instead of six previously), unemployed who have continuously been on temporary contracts during the preceding two years and unemployed who have been on a permanent contract in another company during the preceding two years.

Interestingly, the reform introduces a capital-funded component, similar to the one introduced in the framework of the Austrian severance pay reform which, further reduces the costs of dismissal. From 2012 instead of paying the total amount of severance pay at dismissal, employers would pay regularly an amount equal to a certain number of days' wages per year into this fund. The employee may benefit from this fund in the event of dismissal, geographical mobility, for training purposes, or in the case of retirement. In the case that the worker changes employers voluntarily the money is kept in the worker's account.

What is particularly important, the law makes the use of temporary contracts more restrictive. Anecdotal evidence suggests that in the past circumventing the restrictions was all too common. After the transitory period has passed, the compensation paid by the employer upon termination of a temporary contract would increase from 8 to 12 days. Furthermore, the law introduces a maximum duration of three years for *contratos de obra y servicio* under which the worker is hired to perform a specific task. This limit can be extended by another year through collective agreement. The maximum duration and the conditions under which contracts can be extended remain basically the same for the other types of temporary contracts.

Source: OECD (2011a).

3 Stage 2: financial crisis

In the absence of necessary structural reforms, macroeconomic imbalances had been building up and contributing the development of euro area vulnerabilities. In this context, the financial crisis hit the euro area markets unprepared. It is therefore essential to draw conclusions from the financial stress in the EA and ask to what extent the current crisis in the euro area has been endogenously determined within the union rather than driven by exogenous financial factors. The nexus between the financial crisis and the EA financial markets was at least twofold.

On the one hand, the financial crisis may be seen as a real-life stress test for the EA financial system. Before the crisis, a high level of financial integration was considered a catalyst of economic integration as a whole. Efficient functioning of financial markets in the monetary union was also seen as supporting a smooth transmission of the ECB monetary policy decisions. Broader and deeper integration was expected to increase market liquidity, resulting in greater risk diversification possibilities. Last but not least, efficient functioning of euro area payment system was expected to implement the idea of single market (see European Commission, 2011f; European Central Bank, 2011a). Yet, if financial markets are to foster economic growth, they have to be possibly stable and resistant to crisis events.

On the other hand, factors specific for a monetary union also played a non-negligible role. The international flow of funds within the EA (largely driven by the lack of FX risk) enabled persistent shortages of savings in some countries to be balanced by the surpluses generated by others. Catching up economies like Ireland, Portugal and Spain (see also Section 2) increased their volumes of credit, benefiting from the inflow of funds from abroad (i.a. from Germany). It was not only increased access to external financing that facilitated excessive lending, but also global phenomena of the great moderation period such as technological progress, financial liberalisation and over-optimistic perception of future economic situation (see Zespół Roboczy ds. Makroekonomicznych, 2011b). Combined with low interest rates (being a consequence of single monetary policy), the above-mentioned factors led to credit booms (see Brzoza-Brzezina, 2005; Garcia-Herrero and Fernández de Lis, 2008) and added to the deterioration of competitiveness.

3.1 Financial stability developments in EA countries in the run-up to the crisis

Before the crisis, financial markets in the EU (and especially in the euro area) witnessed an improvement in the level of integration, although the scale of this improvement differed between individual market segments. On one hand, cross-country spreads in money and bond markets were reduced to low levels, the popularity of EA cross-country bond purchases grew significantly, as did also the share of euro area cross-country equity holdings. On the other hand, retail and corporate banking segments remained fragmented. Improvement in the level of financial integration was accompanied (and boosted) by progress in integration of market infrastructures (TARGET and TARGET2, SEPA, progressing work on TARGET2-Securities). Due to financial crisis, the pace of integration was hampered.

Before the outbreak of the crisis, the global economy had witnessed two decades of "Great Moderation" characterized by reduced macroeconomic and financial volatility, as well as sustainable economic growth. Favourable macroeconomic conditions resulted in increased profitability of the financial sector and overpricing of assets (among them real estate). These conditions, along with financial liberalization and innovation, created a fertile ground for the vulnerabilities to build up. Loosening of credit standards and soaring real estate prices led to growing supply of low credibility mortgage loans. The compensation of loan managers depended on the amount of originated loans (European Central Bank, 2009b), therefore loosening the interest in their quality. Moreover, an increasing share of loans was financed by funds borrowed in the interbank money market (widening funding gap), resulting in an increase in maturity mismatches and deepening the banking sector exposure to liquidity risk. Financial sector, in search of higher profits, turned from transferring funds from depositors to creditors towards more risky products. Securitisation weakened the incentive for an in-depth, ongoing scrutiny of creditors and increased speculation, while the speculative use of derivatives highly exposed sector's profit and loss statements to the market risk. The assets of financial institutions were growing without an adequate capital coverage, therefore increasing the leverage ratio. Growing risk was underpriced both by financial institutions and regulators.

Regling et al. (2010) emphasise that, although the financial crisis was triggered by the collapse of the US sub-prime market, one should not forget that financial innovation, regulatory and supervisory gaps, weaknesses in risk management and corporate governance failures as well as accounting weaknesses amplified and accelerated the consequences of excess liquidity and credit growth. However, the very impulse of the financial crisis 2008-2009 had little to do with the euro-area-specific factors (yet).

3.2 Financial stress in EA after 2007: the ECB response

Recall that the sequence of crisis events was triggered by the subprime crisis, which blew up in August 2007 and became the global crisis in September 2008 (see Baldwin and Gros, 2010). At that point, many banks in the eurozone were both massively overleveraged and holding important quantities of toxic assets, having bought into overheated housing markets either directly or through complex derivatives. At the same time, the credit markets' "sudden financial arrest" (Caballero, 2009) in September 2008 wiped out the wholesale market that many Eurozone banks relied upon for funding.

The mostly US-originated risk has been transferred to other developed economies through the balance sheets of financial institutions, which accumulated mortgage backed assets. Securitisation decoupled risk originating and risk taking institutions. Spread of vulnerabilities across the market was reinforced by credit rating agencies, which granted high ratings to low credibility products. On the other hand, high level of dependence on (and, at the same time, trust in) the judgements of credit rating agencies weakened the effectiveness of market monitoring. As stated by De Vincenzo et al. (2011), due diligence by investors was insufficient and their reliance on rating agencies excessive (see also Barnes et al., 2010a). Moreover, increase in the risk of write-offs in mortgage backed assets posed a threat to financial institutions which secured those instruments selling credit default swaps (CDS).

These global phenomena affected various EA financial markets to different extent (see Box 4 for examples). While money and government bond markets were significantly hit (cross-country standard deviations of money market rates and government bond spreads increased considerably in the last months of 2008), the corporate bond, equity and retail banking markets were affected to a much lesser extent. Moreover, market activity was temporarily retrenched within domestic borders (European Central Bank, 2009c).

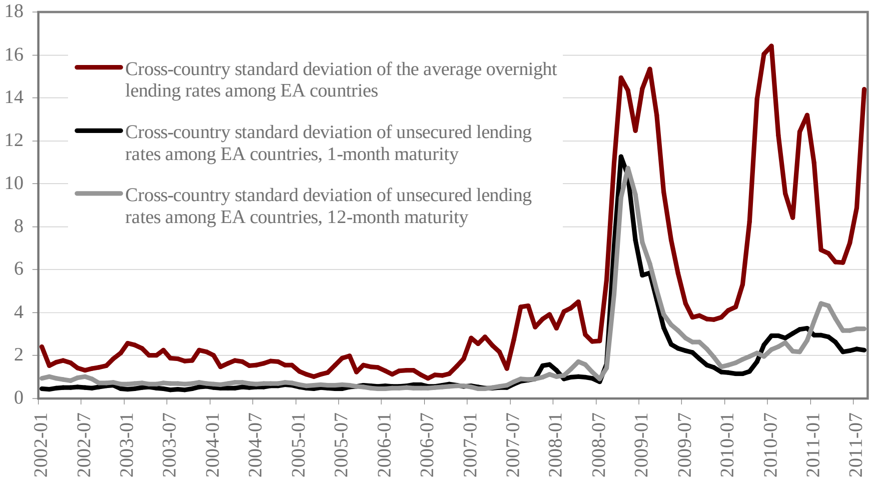
Unknown exposure to risky assets that led to a freeze of money markets forced the ECB to act as (almost single) liquidity provider (Cassola et al., 2011; Gabrieli, 2009). In order to revive the money market, in August 2007 the ECB accommodated the liquidity demand from the banks through a fixed rate operation with full allotment. In September 2008, the ECB put into force three non-standard groups of measures. Firstly, availability of credit to the private sector was maintained by granting banks with unlimited access to credit at low, fixed interest rate and maturity of up to 6 months. Secondly, list of assets accepted as collateral was widened. Finally, more counterparties were allowed to take part in the ECB's refinancing operations.

As the international investment climate started to improve, 2009 saw an easing of tensions in financial markets and improved financial integration, especially in those market segments which had been mostly affected during the financial turmoil. Given the improvement in 2009 relative to the last quarter of 2008, it appeared in 2010 that the level of integration would gradually return to its pre-crisis levels, as measured by cross-country standard deviations of lending rates (see Figure 4).

Yet toxic assets write-offs combined with banks' capital that was not matched with their risk profiles triggered costly bank recapitalisation programmes. Those one-off expenditures contributed to deterioration of countries' fiscal positions, giving a rise to sovereign debt crises (see Section 4). Those strains prevented further progress towards stable market conditions leading to widening of government bond and money market spreads. The cross-country standard deviation of the EONIA and EURIBOR diverged during 2010, as a result of increased sovereign credit risk (European Central Bank, 2011a).

The ECB reacted to the later stage of the crisis by implementing programmes aimed to improve

Figure 4: Cross-country standard deviation of money market rates among EA countries



Source: European Central Bank.

banks' funding possibilities: **Covered Bond Purchase Programme** (CBPP, since July 2009) and **Securities Market Programme** (SMP, since May 2010; see Subsection 4.3.1).

The former programme was focused on reviving the market for covered bonds, which constituted an important source of banks' financing before the turmoil. Its aim was to (a) promote the ongoing decline in money market term rates; (b) ease funding conditions for credit institutions and enterprises; (c) encourage credit institutions to maintain and expand their lending to clients; and (d) improve market liquidity in important segments of the private debt securities market (European Central Bank, 2009a). Beirne et al. (2011) summarize that the Eurosystem purchased covered bonds of 60 billion EUR in nominal value (422 different bonds) under the effective period of the CBPP (July 2009 – June 2010), out of which 27% was purchased in the primary and 73% in the secondary market. These authors emphasize that Covered Bond Purchase Programme met its objectives, contributing to a decline in money market interest rates, easing of funding conditions in the market, encouraging credit institutions to maintain and expand their lending to clients and improving market liquidity in private debt securities market.

3.3 Financial market supervision after 2008 and accession booms: lessons learned, homework done?

Short term measures of the ECB were meant above all to revive the money market and ensure smooth transmission of monetary policy to the real economy. Apart from that, the crisis revealed the need for strengthening the supervision in the financial markets, both at the macro (national) and the micro level, as well as the need for tightened policy coordination (in the EU or at least EA). Baldwin and Gros (2010) emphasize that loose coordination of banking and financial market policies at the EU level resulted from the assumption that financial markets would work smoothly. Yet as they did not, the lack of a coordinated banking policy deepened the problem. Some eurozone governments (such as the Irish, Dutch and Belgian ones) stepped in and cleaned up banks' toxic assets, while others (among them France, Germany and Italy) were much less active. As a result, banking fragility became concentrated in the largest economies (Baldwin and Gros, 2010). The need for strengthened and coordinated supervision was expressed in conclusions from the report prepared by the de Larosière

Group (see de Larosiere Group, 2009). As a result, on 1. January 2011 a new regulatory framework in the EU became effective, consisting of pillars on both macro and micro level.

Box 4. Country study: Ireland vs Spain

During the ongoing crisis Irish and Spanish economies were deeply damaged by boom-bust cycles in housing markets. In order to draw lessons from those examples, it is important to study the cases with more scrutiny.

Ireland faced a GDP decline of 21% between Q4 2007 and Q3 2010 accompanied by a severe fiscal deterioration. Fiscal balance shifted from positive in 2007 to baseline deficits of 11-12% of GDP in 2009 and 2010 (14.5 and 32% of GDP respectively, when one-off banking system recapitalisation costs are included). Among the main factors behind these developments one should mention the boom-bust cycle in the Irish property market, progressing deterioration of country's competitiveness and procyclical fiscal expansion. Surge in construction activity, with the economy driven by a boom in real estate, manifested itself mostly between 2003 and 2007. The positive wealth effect stemming from rising property prices (287% over the period 1997-2007) contributed to strong growth in private consumption. As the tax revenues from asset-related sources were considerable, the government was also able to fund strong pace of public expenditure growth, while maintaining a budget surplus resulting in the decline of the debt/GDP ratio. These events resulted in employment growth rather than productivity growth, therefore contributing to the build up of imbalances. The property boom was financed through aggressive lending by the Irish banking system, which relied mostly on short term interbank funds and international bond issues. By early 2008, Irish banks found it challenging to maintain funding in the international wholesale markets and, at the same time, faced a rapid withdrawal of domestic investors from the property market. Stress in the markets culminated in September 2008 (disruption of international credit markets after the collapse of Lehman Brothers). The decline in property prices and the collapse in construction activity resulted in severe losses in the Irish banking system. In turn, this contributed to the economic crisis through a credit squeeze and the fiscal crisis, both directly through the costs of recapitalising the banking system and indirectly through the loss of asset-driven revenues.

In Spain, the period around the adoption of the euro (1996-2007) was characterized by increased residential investment and high growth rates of house prices. Between 1997 and 2007, house prices increased by 197%. The demand for housing grew not only due to lower interest rates in the euro area, but also because of high levels of immigration and the baby boom generation (which peaked in Spain in the early 1970s) turning into adulthood, fuelling demand in the real estate sector. It was also the growing interest of the banking sector in securitisation that added to these phenomena. It was particularly noticeable from 2001 onwards and mostly from 2005 onwards and was synchronised with large increases in credit to the private sector. On the eve of the crisis, it was financing a substantial portion of bank lending to the private sector. Steep growth in bank credit was accompanied by a large rise in private sector debt. Due to wealth effect, borrowing capacity of house owners was boosted, increasing the funds disposable to finance other consumption. Increase in borrowing combined with the fall in the saving rate resulted in current account deficit growth. Since late-2007, the boom cycle has turned into a bust. The bust was mitigated by the presence of dynamic provisioning system which reduced the procyclicality of provisions, but did not manage to fully eliminate it. The way the statistical fund was defined and the extraordinary length of the recent business cycle upswing implied that most institutions reached the required maximum level relatively early.

Source: Lane (2011), Carbó-Valverde et al. (2011), Aspachs-Bracons and Rabanal (2011), ECB Residential Property Price Index Statistics.

The macroprudential pillar is based on the **European Systemic Risk Board (ESRB)** which is responsible for the macroprudential supervision of the whole EU financial sector. The ESRB's main objective is to contribute to the prevention and mitigation of systemic risks to financial stability in the

EU arising from developments within the financial system and taking macroeconomic developments into account (Babecký et al., 2011). For this purpose, the ESRB carries out the following four main tasks: risk surveillance (or risk identification), risk assessment (or evaluation of risk severity), followed by potential risk warnings and, where relevant, policy recommendations (see European Parliament and Council of the European Union, 2010c; Council of the EU, 2010). Although ESRB is an independent EU body, it is not a separate legal entity. Analitycal, statistical, logistical and administrative support to its proceedings is provided by the ECB.

International Monetary Fund (2011) emphasises several drawbacks that may hamper the works of the Board. Firstly, the institutional set-up of the ESRB is considered relatively complex. Its main decision making body – the General Board – consists of 37 voting members and 27 non-voting members. This may lead to overly cautious warnings. Moreover, decision making process in such a large group may prove time-consuming and therefore cumbersome. Secondly, the ESRB's enforcement of its recommendations will depend on the effective operation of the "comply or explain" principle as well as on the credibility that the Board will gain among market participants. Last but not least, International Monetary Fund (2011) stresses the role of data availability. In the current framework, data concerning individual financial institutions may be requested only when reasoned, which may hinder any systematic analyses.

At the micro level three **European Supervisory Authorities (ESAs)** have been set up with tasks related to the banking, insurance and securities sectors respectively. Tasks of the European Banking Authority (EBA), the European Insurance and Occupational Pensions Authority (EIOPA) and the European Securities and Markets Authority (ESMA) comprise issuing binding (and also non-binding) technical standards, the settlement of disagreements between supervisory authorities and direct supervision of certain institutions (e.g. credit rating agencies; see European Parliament and Council of the European Union, 2010d, European Parliament and Council of the European Union, 2010e, European Parliament and Council of the European Union, 2010f, European Parliament and Council of the European Union, 2010a, European Parliament and Council of the European Union, 2010a). All three authorities are regulatory agencies of the European Commission as legal entities with administrative and financial autonomy. Their decision making bodies comprise the Board of Supervisors (representatives of the national supervisors and selected European institutions), the Management Board (limited group of Board of Supervisors members), and the Chairperson as well as the Executive Director, responsible for representing and managing the authority respectively. Although ESAs do not take a direct part in the adoption of the EU legislation, they can react to activities threatening the smooth functioning of the EU financial markets by temporarily prohibiting or restricting certain financial activities. International Monetary Fund (2011) emphasizes the areas of focus that need to be carefully addressed by the ESAs in order to gain the credibility in the markets: stress tests for banks (EBA), implementation of Solvency II rules (EIOPA) and credit rating agencies supervision (ESMA). If the 3 institutions fail to gain the label of being effective, they may become an additional layer of supervision and workload with little effect on coordination and targeted harmonization. Among the challenges for smooth functioning of ESAs, International Monetary Fund (2011) mentions also the dependence on European Commission in the field of regulatory prerogatives, as well as endowing them with sufficient resources with commensurate skills.

Progress in microprudential supervision can be observed also at the global level in the rules of **Basel III** framework, which deals both with the capital adequacy and liquidity issues. As key elements of the new agreement one shall mention: (i) higher levels of regulatory capital (e.g. level of Common Equity Tier I capital will be raised from 2% to 4.5%); (ii) leverage ratio that will constitute a non-risk-based measure of bank's financial structure; (iii) stricter criteria of regulatory capital meant to increase its quality; (iv) updated definition of risk weighted assets; (v) liquidity risk management and measurement framework. Beside the above-mentioned measures, the Basel rules comprise also macroprudential instruments – the countercyclical and the conservation buffer. Due to this rule, financial institutions will be forced to build-up capital buffers in good times to be used in bad times. The capital conservation buffer of 2.5% of risk weighted assets (RWA) is meant to be comprised of common equity Tier 1 and will be applied above the regulatory minimum capital requirement. If the value of the conservation capital falls below the threshold of 2.5%, limits on earnings distribution will be automatically implemented.

The countercyclical buffer is meant to mitigate the procyclical risk taking of the banking sector. If the pace of credit growth is assessed as too dynamic, national financial supervisor may take the decision to enforce the buffer of 0-2.5% of RWA (the size of the buffer is to be decided on the national level). Higher capital requirements will both mitigate the growth of credit in the economy and provide financial institutions with currency that may prove vital in the case of a credit bust and the following market disruptions.

The above-mentioned Basel III principles are expected to limit excessive risk taking and result in higher losses absorption capacity of banks. The implementation timeline assumed by the Basel Committee is based on graduality. While the liquidity coverage ratio and the increased capital level requirements are to be met by 2015, for other rules the implementation deadline has been set for 2018 (leverage ratio, deductions from capital base, net stable funding ratio) or even 2019 (capital conservation buffer). On the one hand, back-loading of implementation deadlines can be considered a drawback of the new set of rules, but on the other hand it can help to mitigate their potential negative impact on the short term performance of the economy (Barnes et al., 2010a).

Some doubts are also related to the construction of the countercyclical buffer. De Vincenzo et al. (2011) raise the issue whether the implementation of the buffer should be rule-based or a matter of public authorities' judgement. According to them, under uncertainty, discretion is essential to guarantee the right amount of flexibility, but can lead to opacity in the decisions made by regulators, raise level-playing-field issues and reinforce political pressure. It can also provide wrong signals and trigger self-fulfilling prophecies. Under rule-based frameworks, any policy reaction would be left to predefined automatic mechanisms and triggers, therefore allowing for the avoidance of time-inconsistency, but the design of the rules may occur difficult, particularly for a brand new policy which should be applied worldwide (De Vincenzo et al., 2011).

Besides the need for stronger European cooperation in the field of financial supervision, the crisis unveiled the need for more transparency in the markets, with over-the-counter (OTC) trading being one of the main issues. In its proposal for a European market infrastructure regulation (EMIR) on OTC derivatives, central counterparties (CCPs) and trade repositories (TRs), the EC suggested introducing a reporting obligation for OTC derivatives to TRs, rules on prudential, organizational and conduct-of-business standards to reduce counterparty credit risk and operational risk for CCPs, mandatory CCP-clearing for contracts that have been standardized, and risk mitigation standards for contracts not cleared by a CCP. It also requires the use of electronic means for the timely confirmation of the terms of OTC derivative contracts (European Parliament and Council of the European Union, 2010b).

Crisis prevention measures for financial institutions need to be complemented with mechanisms aimed at crisis management and resolution. So far no solution to this problem has been introduced. Legislative proposals should include financial institutions resolution standards as well as preventive and early intervention measures, such as limiting the payment of dividends or increasing transparency of institutions' business activity. European Central Bank (2010d) emphasizes that risk management frameworks are essential also in the case of financial market infrastructures in order to minimise the contagion risk of a critical counterparty's potential default. According to Van der Zwet (2011), crisis management tools to be introduced in Europe in order to prevent from future financial turmoils should guarantee timely decision making, speedy implementation and decisive intervention.

Although not yet finished, regulations should also cover the activity of systemically important financial institutions, treatment of credit rating agencies and oversight of the shadow banking system. In the time of progressing integration between financial institutions, especially within the EU, a new look at the cooperation between national supervisory authorities (or even creating a single authority) is of utmost importance. This view is supported by De Vincenzo et al. (2011) who stated that ensuring a more effective exchange of information among supervisors in different jurisdictions and successful common actions is key in preserving financial integration, while avoiding negative cross-border spillovers. If the idea of a single European supervisor is not put into practice, Barnes (2010) suggests empowering European Banking Authority to ensure that a system based on national supervision leads to coherent regulation and effective supervision.

From the point of view of the EA candidate countries it is important to evaluate how the currently introduced changes influence certain costs of euro adoption, in particular the risk of credit-fuelled consumption boom. It might be argued that the new institutional and legal framework, including Basel III-related requirements and a strong EU-level (or EMU-level) financial supervision, could reduce this risk. On the other hand, it remains unknown how effective these solutions turn out to be in practice, especially as regards euro area specific issues. The future developments in the euro area financial markets will be crucial for financing investment and development in a converging economy, especially once it adopts the euro.

4 Stage 3: sovereign debt crisis

When the financial and economic crisis struck, the countries' possibilities to react were limited by weak fiscal position. During the years of prosperity, spanning from the creation of the common currency until 2007, efforts to limit the levels of indebtedness were insufficient. Therefore, during the crisis, recapitalisation of banks resulted in high levels of general government deficits, triggering sovereign debt crises. However, the shock originating in the financial sector and spilling over into public finance of euro area countries can by no means fully account for the ongoing crisis developments in euro area institutions. In fact, using the nomenclature of the IMF Early Warning Exercise (International Monetary Fund, 2010), it was just a "trigger" that hit the underlying systemic "vulnerabilities". These resulted from both persistent fiscal profligacy by some countries and imperfect design of the EMU as a whole. This is why the solution of the problem must take into account monetary union specific issues, as well as long-run stabilisation (and not only one-off crisis resolution) measures. While this section remains focused on theoretical considerations of the EA fiscal issues, the following presents their current state of implementation at the EU level.

4.1 Sovereign debt crisis: why Europe, why the euro?

A few years ago, the era of developed countries' sovereign defaults seemed to have been closed forever. Although the European economic history saw some defaults of today's euro area countries (including Greece 5 times since its independence in 1829, last of which in 1932, and – even more frequently – Spain 13 times, France 8 times and Germany 8 times), they happened at times of extraordinary stress and under incomparably inferior macroeconomic frameworks (see Reinhart and Rogoff, 2008). The most recent default experiences involve mainly South American countries, expecially Argentina in 2001. However, some authors draw parallels between the experience of some euro area countries (especially Greece) and Argentinian crisis in 2001 (see Box 5).

When the single currency project was launched about two decades ago, there was a debate among economists as well as policymakers about the institutional system for framing the national fiscal policies and for preserving the fiscal sustainability of the EMU. As a result, the euro area is a monetary union with monetary policy set up at the central (European) level while fiscal policy is carried out at the sub-central (national) levels (Bordo et al. 2011).

This is a somewhat fragile construct due to the fact that its members issue debt in "foreign" currency, over which they have no control, i.e. which they cannot issue (see for instance Boone and Johnson, 2011; de Grauwe, 2011b; de Grauwe, 2011d). This means that a country joining the monetary union gives up the capacity to issue its debt in the national currency over which it had earlier full control. Moreover, member countries of a monetary union lose much of their space to apply counter-cyclical budgetary policies. When the budget deficits increase during a recession, investors may lose confidence in the capacity of the sovereign to service the debt. de Grauwe (2011b) analyses the differences in such a situation between two groups of countries: non-members and members of monetary unions. The former group can (theoretically) force the national central bank to buy up securities and the bank can always provide liquidity. In the latter group, the government cannot roll over its debt (in the EA – only the ECB can buy it) and the financial market is strong enough to push this country into default.

Box 5. Country study: Argentina

In 2001-2002 Argentina experienced one of the worst economic crises in its history, with the government defaulting on its debt, output falling by about 20% over 3 years, inflation reigniting, banking system being largely paralyzed and the Argentine peso's dollar value – which had been pegged 1-to-1 with the U.S. dollar – falling to 4-to-1 in just a few months (Daseking et al., 2004).

One of the main lessons from Argentina's crisis is the importance of timely debt restructuring: measures to delay it are likely to increase the cost and complicate the process (Daseking et al., 2004). Kiguel (2011) has drawn further lessons for the eurozone, i.a. (i) reductions of the fiscal deficit through decreases in nominal expenditures or increases in taxes in the midst of a recession are inefficient, (ii) when the public sector is large and there are powerful trade unions, it is extremely difficult to correct an overvalued currency through deflation, (iii) a devaluation in a dollarised economy can be problematic as it can lead to significant balance-sheet problems that need some kind of government intervention.

Some authors (Kiguel, 2011, Cavallo, 2011, Valiante, 2011) compare Argentina to Greece and emphasize the following differences: Greece is more indebted, its current account deficit is much larger and competitiveness problems – much deeper. Based on Argentina's experience, Blejer and Levy Yeyati (2010) summarized four areas that a country should deal with when it needs to devalue: "peso-ification" or redenomination of contracts, imposition of tight restrictions on commercial bank operations, external debt restructuring and the use of capital and exchange rate controls – at least temporarily. Needless to say, these options are infeasible for Greece if it was to remain in the EMU.

Abandoning the control over domestic currency has substantial implications for a country's credibility as a debtor. In the EMU, fiscal policy was left to national governments with only three main safeguards (Baldwin and Gros, 2010): the Stability and Growth Pact (SGP, see Section 5), the ECB's independence (protection against political pressures to inflate away debt and prohibition of monetary financing) and the "no bailout" clause. These safeguards have turned out to be insufficient in providing the countries with incentives to preserve the credibility in question. This is why Schuknecht et al. (2011) argue the sovereign debt crisis in the eurozone is mainly a symptom of policy failure and deficiencies in fiscal policy coordination.

Although the introduction of the euro was preceded by substantial fiscal improvements, later on a number of EA countries (i.a. Greece and the rest of "GIIPS" group) switched to fiscal expansions as low interest rates allowed to finance primary spending and tax cuts (Hauptmeier et al., 2010; Schuknecht et al., 2011; cf. Subsection 2.2.1). Moreover, a number of countries (Greece being here again the most prominent example) had problems with fulfilment of the the Maastricht criteria from the very beginning of the EMU's third stage (see Box 6).

At the same time, a high degree of economic and financial integration between euro area countries creates numerous channels through which developments in one country may affect others. The financial spillovers, as compared to trade spillovers, have turned out to be an extremely powerful mechanism of transmitting developments in one country to others through positions in financial markets, inter-linkages between financial institutions and changes in market valuations. As a result, the crisis had effects on other euro area countries. For example, the timing of movements in (i) the euro bilateral nominal exchange rates, (ii) credit spreads on the debt of many euro area countries and (iii) the interbank market closely followed the news about the situation in Greece (Barnes, 2010). Baldwin and Gros (2010) describe situation since the intensification of the Greek crisis in 2010 as rigging of a racing sailboat. Its interlocking system of stays and braces could hold against the strongest winds as long as all parts of the system held fast. A failure of one or two cables, however, would transfer overwhelming stress to other parts, potentially triggering a catastrophic collapse. For this reason, the European leaders could not afford to let one of GIIPS countries face its debt problems alone and proposed different solutions and helps to avoid the "Greek tragedy" so as to avoid a "eurozone tragedy".

Box 6. Country study: Greece

Since 1990s, the Greek economy has had substantial problems with public finance, international competitiveness and structural reforms. The main concern was a long period of fiscal indiscipline with the resulting increase in public sector indebtedness. It was coupled with a domestic credit-boosted demand boom in private consumption (leading to surge in private sector's indebtedness) and largely supported by the reduction in interest rates prior to the euro adoption. Meanwhile, Greece experienced a strong increase in domestic demand and a real exchange rate appreciation (European Commission, 2011a). Persistent inflation differentials against the rest of euro area countries resulted in a gradual loss of competitiveness (Valiante, 2011). The EU funds were directed to consumption rather than investment.

Before entering the eurozone, Greece attempted to implement some reforms to meet the Maastricht criteria but these measures were mainly short-lived, whereby long-term solutions and sustainable reforms were missing. Structural difficulties continued into the period of euro area membership. Attempts to implement an economic recovery plan were made, but they were insufficient to cope with the problems accumulated over an extended timespan. Despite the strong growth performance over the last decade, the country slipped into a sovereign debt crisis at the end of 2009 as major downward revisions of fiscal data were announced. Agencies cut the ratings of Greece and the spreads between Greek and German bond yields skyrocketed.

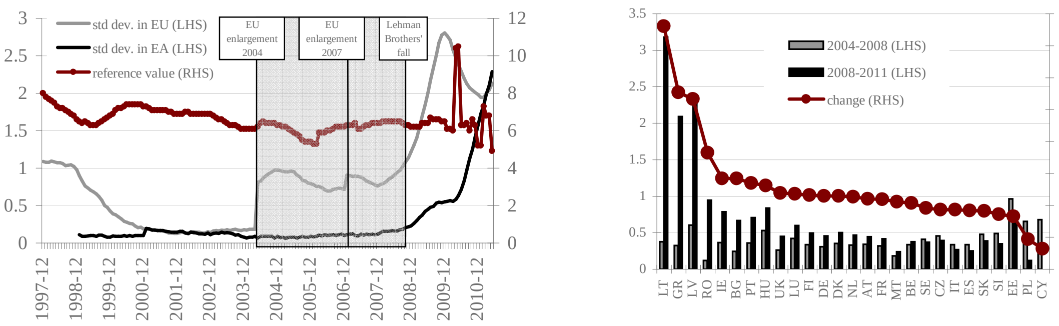
In 2010 an ambitious, deficit-slashing *Economic Adjustment Programme* was prepared, focused on a front-loaded fiscal consolidation effort in order to secure debt sustainability, financial sector stability and adequate liquidity in the banking sector, but also implementing structural reforms aimed at boosting productivity growth and competitiveness (European Commission, 2010b; Hallerberg, 2011). Following the further worsening of market conditions in the course of April 2010, the authorities requested bilateral financial assistance from the euro area member states and a *Stand-By Arrangement* from the IMF. Since May 2010, the euro area member states and the International Monetary Fund provide financial support to Greece in the context of a further deterioration of its financing conditions. Despite the re-iterated recovery plans, the situation of Greece is uncertain. The Greek case led to an unprecedented exposition of the EMU's systemic weaknesses and vulnerability to contagion. No single factor can be pointed out as the main reason for the Greek crisis, and a comprehensive set of measures is needed now to restore confidence and maintain financial stability.

At the same time, these measures face heavy social resistance, in particular in Greece (as they envisage large-scale fiscal tightening) but also in some EU countries (as the Greek commitments in exchange for financial assistance are considered incredible). This blurs the political perspective of their smooth implementation.

While allowing Greece's disorderly default would probably spread the crisis to other countries in an adequately disorderly fashion, transfers and bail-outs were also argued to be creating adverse incentives for the future, i.e. a moral hazard problem (Wyplosz, 2010b, Issing, 2010). As it is an issue specific to monetary unions, it was actually expected at the stage of the EMU design. The Stability and Growth Pact (see Section 5) envisaged mechanisms of ensuring long-term fiscal sustainability, but in practice it was inefficient and the budget balance depended mainly on the business cycle (cf. Subsection 5.1.1). This made it difficult to hold governments accountable and the scrutiny of the EU governments' budget plans and outcomes was insufficient (Burda and Gerlach, 2010).

Research suggests a number of ways to deal with the moral hazard in the euro area. Fahrholz and Wójcik (2011) suggest that the policies should aim at increasing the perceived costs of default relative

Figure 5: Maastricht interest rates in the EU countries: dispersion over time and across countries



(a) time series variance of Maastricht interest rates in the EU

(b) cross-country variance of Maastricht interest rates in the EU

Source: the Bureau of Government Plenipotentiary for Euro Adoption in Poland (2011).

to the short-term costs connected with economic adjustment. Calmfors (2010) also proposes loss of voting power in the Excessive Deficit Procedure for all countries deemed to have excessive deficits and/or larger automaticity of the enforcement steps. According to Hallerberg (2011), a country that did not comply by a clear margin should lose the EU transfers in the following year. This would provide the public with a signal that their government has not performed according to expectations. An extreme case exists in the Brazilian fiscal framework in the form of personal, legal responsibility of government officials for exceeding the spending or debt limits, with life-time exclusion from politics or even imprisonment (Hallerberg, 2011).

4.2 Symptom: interest rate spreads within the EA

From 1999, the euro area sovereign bond spreads between individual countries converged to almost negligible levels. Ehrmann et al. (2011) decompose the possible sources of any differences as (i) liquidity-driven, (ii) credit-risk-driven and (iii) perceived probability of euro area break-up. Until 2007, break-up was almost unthinkable, credit risk considerations did not play a significant role in the sovereign debt markets (Darvas et al., 2011), and the low (but non-zero) spreads were mainly attributed to liquidity. Worsening and diverging fiscal positions of the euro area countries, however, changed this perception. The strengthening of the fiscal discipline imposed by the financial markets, however, was not pronounced until late 2008, when the fiscal crisis intensified. To understand the rationale and the dynamics of the rise in inter-country EA bond spreads (see Figure 5), one needs to take insight into the determinants of these spreads, including both EA-wide and country-specific characteristics.

In times of increased macroeconomic uncertainty and greater volatility in financial markets – as during the credit crunch in 2008 – there is a higher likelihood of the need to unwind an investment position quickly. National bond markets in the euro area are different in terms of liquidity depending on the issuing volume, the national issuing policy and the existence of sufficiently liquid futures markets that offer hedging possibilities. Under increased demand for assets that can be traded at low cost, higher **liquidity risk** contributes to an increase in liquidity premiums (Barbosa and Costa, 2010). According to Schwarz (2010), measures taken to improve market functioning were sufficient and successful as long as the crisis was perceived as liquidity-driven.

However, in the times of rising **investors' general risk aversion**, they also rebalance their portfolios toward less risky securities. Among the EA sovereign issuers, the German Bund gradually started to be perceived again as “safest haven” both in terms of liquidity and credit quality. According to Bernoth and Erdogan (2011), the interest rate differentials of the EMU countries versus Germany generally rose in the periods of high global risk aversion. Interestingly, it was already in 2006 (i.e. before the onset of U.S. and global financial turmoil) when general investor risk aversion started having a continuously growing impact on sovereign risk premia and to revitalize Germany’s safe haven status. This conditionality is reflected in the results obtained by Georgoutsos and Migiakis (2010). They show that, under high volatility conditions, most of the European sovereign and high credit quality corporate bonds are seen as substitutes, while a deterioration of credit conditions reflected in corporate bond yields of the lower bound of the investment category leads to increases in European sovereign bond yields.

During the crisis, the ongoing deterioration of fiscal positions raised questions about the sustainability of public finances, reflected in credit rating downgrades of several euro-area sovereign issuers. Moreover, some governments have taken on large liabilities which were likely to affect their perceived creditworthiness. Barrios et al. (2009) indicate that this affected all three types of **credit risk**: default risk (the probability that the issuer fails to meet the obligations either on coupon payments or repayment of principal at maturity), credit spread risk (the probability that the market value of the bond will decline more than the value of other comparable quality bonds) and downgrade risk (the possibility of a downgrade by a credit rating agency).

The literature identified a number of indicators related to the credit-risk. For example, while the presence of **fiscal rules** does not have a significant explanatory role regarding sovereign bond yields *per se*, Iara and Wolff (2010) underline that they are highly relevant when investors become risk averse. Countries with better fiscal rules witness then lower increases of sovereign bond yields relative to Germany. Financial markets returned to their role in disciplining highly indebted countries by starting to pay attention to both **general government deficit and debt to GDP ratios**, which they neglected in the past (Hallerberg, 2011; Wyplosz, 2010a). As Dötz and Fischer (2010) indicate, the combined effect of individual countries’ **financial sector soundness** and **price competitiveness** has proved important for spread developments during the crisis period in consideration. This suggests that price competitiveness moved into investors’ focus as financial sector soundness weakened.

At the end of 2011, the divergence of sovereign bond yields reached its historical peaks. Unsolved tensions in the euro area, substantial probabilities of some countries’ insolvency (Greece and, to a lesser extent, some others) and rising mistrust in fiscal policy frameworks prevailed over the pre-crisis homogeneous perception of euro area countries. Moreover, the Southern EA’s debt burden started to drag on Germany’s debt perception in the middle of the debate on bail-out necessity, which was reflected in an unsuccessful bond tender in November 2011.

4.3 Cure: fiscal consolidations, fiscal rules, and what else?

Fiscal tensions in the euro area that have emerged in the form of persistent spreads between sovereign yields call for a far-reaching resolution. It must consist of both (i) short-term measures addressing the current EA coordination and stability problems (the ECB response in debt markets, fiscal coordination and consolidations measures) and (ii) measures aimed at ensuring long-term stability of the EMU and avoiding future problems (introduction of fiscal rules, pooling of EA debt and establishing a permanent crisis resolution mechanism).

4.3.1 ECB response in debt markets

The Securities Markets Programme (SMP, cf. Section 3) was targeted to alleviate the financing conditions of public budgets in the countries hit by the sovereign debt crises. Under the SMP, Eurosystem central banks have been enabled to purchase (a) on the secondary market, eligible marketable debt instruments issued by the central governments or public entities of the Member States whose currency is the euro; and (b) on the primary and secondary markets, eligible marketable debt instruments issued by private entities incorporated in the euro area (European Central Bank, 2010b).

As stated by the vice-governor of the ECB, specific measures needed to be taken by the central banks, including the purchase of government bonds issued by countries facing evident malfunctions that prevented a proper transmission of monetary policy (Constancio, 2010). The ECB bought government bonds from some member countries with financial problems, either directly or indirectly, and accepted their bonds as collateral in its support of the banks from the above-mentioned countries. In doing so, the ECB rechannelled liquidity to distressed countries and prevented breaking up the euro area by financial markets.

According to de Grauwe (2011b), it was the right policy for a central bank whose *raison d'être* is to preserve the monetary union. Although the European Central Bank (2011b) claimed to act in full independence, with a clear primary objective of the price stability in the euro area as a whole, its actions were heavily criticised on the grounds of moral hazard problem. This criticism has been strong enough to convince the ECB that it should not be involved in such liquidity operations, and that the liquidity support must be done by other institutions (see Subsection 4.3.6).

Belke (2010a) claims that, from the ECB's perspective, it should be crucial to minimize the risk of moral hazard, which is always implicit in any rescue mechanism and might impact on medium-run inflation expectations. Moreover, Boone and Johnson (2011) argue that Europe's financial system relies on moral hazard, i.e., a "no defaults" policy, to attract the funding needed to roll over large amounts of short-term bank and sovereign debt.

4.3.2 Fiscal coordination and consolidation

Given the high stocks of government debt after the crisis and the related market pressures, a common long-term goal of the eurozone members is fiscal consolidation (see Table 4). Corsetti et al. (2010) suggest that the appropriate strategy may not be the same across countries, as some of them need a sharp correction in response to increasing risk premia. Failure to meet the targeted **size** of consolidation would not only further raise their cost of borrowing, but undermine macroeconomic stability. Yet the extent and credibility of corrections will be ultimately judged by their mid- to long-run sustainability.

The **timing** also matters: immediate cuts in spendings and tax hikes may signal the government's commitment to consolidation. However, the theoretical literature also points to several desirable effects of gradual consolidations (see i.a. Corsetti et al., 2010). As Fatás and Mihov (2010) suggest, "steady but gradual consolidation may be the strategy that has the lowest cost in terms of lost output. Cutting too much today could throw us back into a recession, but cutting too slowly may heighten panic in the markets for government debt".

Another dimension is the **distribution of the consolidation effort between the revenue and expenditure side**. Given the size of the public debt, it is unlikely to place the whole burden of correction on tax hikes. Furthermore, empirical evidence (Alesina and Ardagna, 2010) shows that the government's ability to cut (or at least contain) spending is a more efficient strategy than increasing taxes. Moreover, fiscal adjustments on the spending side are more likely to be associated with future high growth rates than fiscal expansions on the spending side and do not necessarily have a systematic negative impact in the electoral cycle.[5]

Furthermore, there are different views as regards the **coordination** of consolidation efforts. On the one hand, macroeconomic divergence and fiscal imbalances within the euro area were partly due to inconsistent fiscal and structural policies implemented in individual EA states. Therefore, the

[5] Alesina et al. (1998) do not find any systematic relations between the occurrence of large reduction of budget deficit and electoral success of the government, but find some evidence that the popularity of the government reacts more positively to fiscal adjustment on the spending side, possibly because of lower or no costs in terms of output loss. No systematic evidence of predictable political losses following fiscal adjustment was found.

Table 4: Fiscal situation and adjustment needs in the euro area

Country	Government budget balance (2010)	Government gross debt (2010)	Required adjustment (2010-2020)	Required adjustment and age-related spending (2010-2030)
Austria	-4.4	72.2	2.4	6.7
Belgium	-4.1	96.2	3.2	8.7
Cyprus	-5.3	61.5	n.a.	n.a.
Estonia	0.2	6.7	-3.5	-3.1
Finland	-2.5	48.3	0.9	6.6
France	-7.1	82.3	6.2	8.4
Germany	-4.3	83.2	2.2	4.4
Greece	-10.6	144.9	10.5	14
Ireland	-31.3	94.9	12.4	14.4
Italy	-4.6	118.4	3.2	4.6
Luxembourg	-1.1	19.1	n.a.	n.a.
Malta	-3.6	69	n.a.	n.a.
Netherlands	-5.1	62.9	4.2	9.5
Portugal	-9.8	93.3	6.4	10.6
Slovakia	-7.7	41	7	8.9
Slovenia	-5.8	38.8	3.7	7.7
Spain	-9.3	61	8.2	10.3
Poland	-7.8	54.9	7.2	7.6

Source: EC's autumn 2011 economic forecast and IMF, Fiscal Monitor. Shifting Gears Tachling Challenges on the Road to Fiscal Adjustment, Work Economic and Financial Survey, April 2011.

European Commission proposed to reinforce the economic governance in the European Union by improving policy coordination. As a result, the "European Semester" (European Commission, 2010c) was put into practice in 2011. It involves EU-level discussions about fiscal policy, macroeconomic imbalances (see Subsection 2), financial sector issues and growth-enhancing structural reforms. The outcomes serve the governments as an input for drawing up their *National Reform Programmes* (submitted along with *Stability and Convergence Programmes*) and national budgets (for the following years). According to the EC, the EU Member States would benefit from early coordination of fiscal and structural policies at the European level.

There are also opposite views that no coordination at the EU level is needed (McKay, 2005). Henning and Kessler (2012) admit that any central rule (as SGP) might quickly lose credibility when one sovereign breaches it. According to them, creating stringent state-level debt brakes in Europe without a capacity for countercyclical stabilisation would be a serious mistake. They argue that the present crisis could be sufficiently traumatic to produce an autonomous reduction in debt tolerance in the most affected countries but its strength is uncertain and may vary among them. Also, in their opinion, setting fiscal parameters independently in each state and enforcing them internally might isolate deviant behaviour and protect others.

4.3.3 Fiscal rules

Apart from short-term consolidation measures, the European Union needs long-run solutions to avoid sovereign debt crises in the future. One of them, currently implemented in some EU countries, are strict numerical **fiscal rules** – aimed at ensuring that future fiscal plans remain in line with long-term fiscal sustainability. Fiscal rules are defined i.a. as “a permanent constraint on fiscal policy, typically in terms of an indicator of overall fiscal performance” (Kopits and Symansky, 1998). Kopits and Symansky (1998) emphasize that a critical feature of a fiscal rule is ensuring the continuity of its application on a permanent basis by successive governments.

Fiscal rules can have different roles, goals and types (revenue rules, expenditure rules, budget balance rules, debt rules; see for more: Darvas and Kostyleva, 2011; IMF, 2009; Table 5). Iara and Wolff (2010) argue that national fiscal rules have their beneficial effect by reducing the uncertainty of market expectations regarding fiscal variables and these rules can thereby limit the sovereign risk by increasing the trust in the sustainability of public finance in addition to their direct contribution to better fiscal outcomes. On the other hand, a study by Hauptmeier et al. (2010) suggests on the basis of real time rules that average expenditure and debt ratios in 2009 for the eurozone aggregate would not have been much different than actually experienced.

The results of Darvas and Kostyleva (2011) also call for enhanced budgetary procedures. Likewise, Calmfors (2010) suggests that a successful reform of the EU economic governance should not only strengthen fiscal rules, but also national fiscal frameworks. At the European level, the EC proposed i.a. faster progress towards the medium-term fiscal objectives for high-debt countries or greater emphasis on the debt criterion (see also Subsection 5.1 for the current state of implementation). On the country level, Calmfors (2010) proposes well-defined fiscal objectives, *ex ante* guidelines for the use of fiscal policy as a stabilisation tool, commitments to transparency and stronger incentives to adhere to national targets.

As regards the EA-specific issues, Belke (2010a) enumerates an automatic expulsion from the euro area, installing some sovereign default mechanism (see Subsection 4.3.6) or “hard-coding” fiscal limits into every country’s legislation by means of automatic, binding and unchangeable rules. He argues that “every euro area member country should be obliged to implement this clause in its own constitution as a condition *sine-qua-non* for uninterrupted membership”. Annunziata (2010) proposes that any deletion or amendment to this clause later on should lead to an automatic exit by the respective country from the euro area.

However, Fatás and Mihov (2010) suggest that such rules may prove to be unsustainable, either because in some cases they are far from optimum for individual countries (could produce highly procyclical policy during downturns) or because such rules are sometimes abandoned due to political demands. Also, as regards balanced budget constitutional clauses, de Grauwe (2011a) suggests that the focus on such solutions would underplay the role of private sector indebtedness in the crisis developments, and that such measures would be very difficult to implement.

4.3.4 Eurobonds

Pooling of sovereign bond issuance in the euro area has been discussed in the academic and financial environment as a remedy against the sharp increase in sovereign bond spreads. The sovereign debt crisis in the euro area has significantly raised the focus on joint issuance – not only as a tool for fostering integration and the efficiency of financial markets in the euro area, but also as a potential response to the crisis.

In a *green paper* about pre-conditions and public debt financing possibilities through “Stability Bonds”, the European Commission (2011g) assesses the feasibility of common issuance of sovereign bonds among the EA countries and suggests three possible approaches. In the first approach, it is assumed that the national issuance will be fully substituted by “Stability Bonds”, with joint and several guarantees. The second approach assumes partial substitution of national issuance by “Stability Bonds”, with joint and several guarantees. In the third option, the issuance of national bonds may be partially substituted by “Stability Bonds”, with several but not joint guarantees. Yet the issuance of common European stability bonds seems to be conditional on the substantially reinforced fiscal surveillance and policy coordination, which are essential to avoid moral hazard. Moreover, the suggested design has to be compatible with the EU Treaty and considered as reliable by financial market participants (European Commission, 2011g).

The eurobond proposal faces a lot of criticism and resistance. Issing (2009) claims that common bonds would be a *placebo* for a countries with weak financial position, hampering the eagerness to take fundamental reforms. Moreover, he argues that the eurobonds would be very costly and, if not supported by all Member States, may undermine the solidarity in the euro area. de Grauwe (2011b) also mentions the moral hazard problem and the potential premium to be paid by countries like Germany over their current sovereign debt interest rate, what may negatively influence their credit ratings.

The problem is all the more complicated as the German constitutional court has ruled that country cannot enter into unlimited, open-ended commitments *vis-à-vis* counterparts. Pisani-Ferry (2011b) mentions a proposal originated in Germany which addresses these concerns by suggesting a temporary guarantee scheme covering current debt in excess of 60% of GDP. The creation of a temporary redemption fund is suggested, where participating countries could issue debt in the following few years until they reach their quota (debt less than 60%) and they will be required to earmark specific tax revenues. Other literature proposals envisage market-based discrimination between low- and high-risk Eurobonds (see Table 5).

4.3.5 Fiscal watchdogs

Another proposal in the literature aimed to increase fiscal transparency and elaborate monitoring is to establish credible and independent national fiscal boards (Baldwin and Gros, 2010; Fatás and Mihov, 2010; Lane, 2010) similar to existing ones in some countries (Sweden, Canada, Hungary, UK – see Calmfors, 2010). These institutions, independent from governments, would be in charge of providing "objective" macroeconomic forecasts (on which government budget proposals would have to be based), assessment of policy initiatives, *ex ante* evaluation of whether fiscal policy is likely to meet its medium-term targets and *ex post* evaluation of whether it has met these targets, providing analyses of the long-run sustainability of fiscal policy and preparing policy recommendations. Fiscal watchdogs could also take important policy decisions, e.g. the Swedish one can allow for flexibility in times when there is a clear trade-off between sustainability and business cycle stabilisation (Fatás and Mihov, 2010). Brasilian independent fiscal council monitors a regularly updated scorecard if local governments reach their targets.

In general, fiscal watchdogs make governments more accountable to the electorate. It is also discussed (Calmfors, 2010; Burda and Gerlach, 2010; European Central Bank, 2010c) to set up an independent fiscal policy council at the European level, outside the European Commission, which could evaluate whether national fiscal frameworks meet certain minimum standards and engage in broader macroeconomic surveillance. Such surveillance is by nature more judgmental than pure fiscal surveillance and therefore is exposed to even larger risks of political interference.

4.3.6 European Stabilization Mechanism

Before the crisis, the EU used to grant financial help to Member States only outside the euro area, in situations when a given Member State was in difficulties or was seriously threatened with difficulties as regards its balance of payments. The legal basis for balance-of-payments assistance was Article 143 of the Treaty on Functioning of the European Union (TFEU). The financial crisis caused a need for financial help for three non-euro area Member States – Hungary (2008–2010), Latvia (2009-2012) and Romania (ongoing, from 2009).

More importantly, it also turned out that under extraordinary economic conditions brought by the crisis, and due to escalation of its repercussions in the euro area, financial help was needed also for euro area countries. To guarantee the stability of the euro area and assist individual states in financial difficulties, a joint EC-ECB-IMF financial assistance to Greece, Ireland and Portugal was granted (see European Commission, 2010b; European Commission, 2011b; European Commission, 2011c).

The sovereign debt crisis has created a need for a **permanent crisis resolution mechanism** (Calmfors, 2010; European Central Bank, 2010c; Mayer, 2010), which should balance moral hazard considerations against the risk of systemic financial collapse and where defaulting country could apply for a swap of its debt against claims on the crisis resolution fund, which would then acquire the claims on the country from lenders. Moreover, some authors (Calmfors, 2010 and Schuknecht et al., 2011) propose that fines and other financial sanctions should be transformed into insurance fees, which will go into a crisis resolution fund.

First, in May 2010, an *ad hoc* mechanism of bilateral loans of 110bn EUR, granted by euro area Member States and the IMF, was set up to contain the imminent threat of Greek insolvency as Greece was facing a sharp deterioration of its financing conditions.

Different proposals to address this problematic *ad hoc* approach emerged in the literature (see Table 5). Simultaneously, recognizing that financial difficulties experienced by a Member State may present a serious threat to the financial stability of the European Union as a whole, temporary financial backstop mechanisms were created. These were the **European Financial Stabilization Mechanism (EFSM)** and the **European Financial Stability Facility (EFSF)**. The former is based on guarantees from the Community budget and is able to provide loans of up to 60bn EUR, whereas the latter is an inter-governmentally owned company with lending capacity of up to 440bn EUR, backed by guarantee commitments from the euro area countries. These two mechanisms are complemented with financial support from the IMF of up to 250bn EUR. Ireland (in November 2010) and Portugal (in May 2011) were granted respectively 85bn EUR and 78bn EUR from these funding mechanisms, conditionally on appropriate adjustment programs. In the meantime, European leaders decided to set up a permanent crisis resolution mechanism, **European Stability Mechanism (ESM)**, replacing the two temporary ones eventually from (a target date of) 1. July 2012[6] onwards. Its creation is based on a new Treaty[7], building on the amendment to Article 136 of TFEU. Furthermore, in July 2011, second financial support program for Greece was agreed (109 bn EUR) and additional measures were applied to strengthen the existing solutions. These measures took the form of voluntary contributions from the private sector, extension of maturities of the loans under EFSF and lowering of lending rates.

The latter decision addressed the previous critique of the EFSF regarding the financial assistance to distressed governments provided at punitive interest rates (de Grauwe, 2011c). It was argued (e.g. in the case of Ireland) that an interest rate of close to 6% was too high (de Grauwe, 2011c; Lane, 2011). On the one hand, according to Belke (2010a), the setup of EFSF and the EFSM implies that fiscally solid countries would be punished and the less solid would be rewarded for their lack of fiscal discipline and excess private and public consumption. To avoid this, the official funding should contain a premium to discourage moral hazard. On the other hand, this premium can make it difficult for the government to reduce its deficit and achieve fiscal sustainability. Secondly, the lending conditions gave a wrong signal to the market, indicating that there was a significant risk of default. Charging such a high interest rate was contrary to the policy of the stick and carrot in the form of – respectively – an austerity package (ensuring conditionality) and a concessional interest rate that would make it easier to stop the debt accumulation and signal trust in the success of the package to the financial markets (see de Grauwe, 2011c).

The EFSF was also criticised for its exclusive design for small, peripheral countries (see e.g. Gros and Mayer, 2011). It was argued that its firepower would be insufficient to undertake massive bond purchases, especially if contagion in the European financial markets would spread to bigger countries like Spain or Italy. Moreover, due to the inherent weakness in the structure of the EFSF, a substantial

[6] Originally the ESM was supposed to enter into force on 1 July 2013, however, the December's 2011 summit accelerated it by one year. See Subsection 5.3.

[7] The original version of the treaty on ESM was signed on 11 July 2011, but later it has been modified in order to incorporate decisions taken by the heads of state and government of the euro area on the summits of 21 July and 9 December 2011.

increase in its size would not solve this problem. Gros and Mayer (2011) argue that the cascade structure of the EFSF is problematic for two reasons. Firstly, a country that finds itself in financial difficulties and asks for support from the EFSF can simultaneously "step out" as guarantor for further debt issuance by the EFSF. Secondly, it can be expected that a country which faces high borrowing costs will also "step out" and stop providing guarantees. If this happened, the EFSF would be backed only by the core euro area countries. Especially, if – for instance – France lost its AAA status (which in fact partially happened in January 2012 in the case of France and eight other EA countries, which were downgraded by S&P), the whole burden would be thrust upon Germany and some of its smaller neighbours. This would be politically unacceptable and could lead to e.g. a German debt crisis (Gros and Mayer, 2011; see also Wyplosz, 2011). In fact, after the downgrade of France, also the EFSF's long-term rating was lowered.

5 Back to stage 0: the original sin of euro area design

5.1 EA institutions: what had been missing?

The decision on the creation of the monetary union in Europe was clearly inspired by the political aim of European unification (de Grauwe, 2005). According to the original optimum currency area (OCA) theory, however, Europe was far from an optimum monetary union, what brought about strong scepticism about the success of this project, especially among numerous US economists (for an excellent survey see Jonung and Drea, 2010). The building blocks of the original OCA theory include the works of Mundell (1961), McKinnon (1963) and Kenen (1969). The standard approach evaluated the trade-off and choice between the permanently fixed exchange rate regime of a monetary union with increased efficiency in cross-border transactions and the fully flexible exchange rate regime with national monetary policy independence. Cost-benefit analysis was presented together with factors influencing the result of this calculation. The set of optimality criteria comprised, among others, trade openness and concentration of trade between the countries that form the common currency area as well as degree of the asymetry of macroeconomic shocks that hit the countries in line with the existence of adjustment mechanisms offsetting these shocks. The adjustment mechanisms include flexibility of wages and prices and mobility of factors of production (labour and capital) as well as appropriate fiscal policy, including a transfer mechanism, when the first two conditions are not met to a sufficient degree. In a nutshell, a standard textbook argument goes as follows: a currency union cannot work without sufficient fiscal convergence, if there is no high degree of economic integration (Krugman and Obstfeld, 2009).

Specifically, as Bordo et al. (2011) point out: "the euro area was the first case in the history of monetary unions where monetary policy-making is centralized under one central bank while fiscal policy-making is decentralized in the hands of the national governments of the member states". Instead of creating a fiscal or political union, Stability and Growth Pact (rooted in the Maastricht Treaty) was established in the sake of imposing public finance discipline. Harashima (2011) identifies the main drawback of the SGP in its insufficiency (lack of flexibility) and inefficiency (lack of enforcement power). In his view, the crisis has shown the trade-off between economic stability and national sovereignty in monetary unions and that without sufficient emphasis on the former, these unions face a risk of a break-up (a point continuously risen by de Grauwe in the pre-crisis literature, e.g. de Grauwe, 2006).

While one flaw in the euro area design was associated with neglecting persistent macroeconomic imbalances (cf. Section 2), the other ones involve fiscal policy and the limited role of the ECB in the system. As a result of the fiscal design shortcomings, the euro area has turned out to be intrinsically susceptible to crisis events.

Table 5: Proposals for a new EU governance system in the literature

Name	Source	Main idea
Budgetary Discipline Index	Darvas and Kostyleva (2011)	Combining rules of fiscal discipline and procedures for the three main stages of budgeting: the preparation stage (when the budget is drafted), the authorisation stage (when the budget is approved by the parliament) and the implementation stage (when the budget is implemented and may be amended). According to the authors' empirical analysis, South-Eastern European countries with a higher value of the index had a smaller increase in the debt/GDP ratio and better budget balances.
"Blue" and "red" Eurobonds	Delpla and von Weizsäcker (2010)	Authors suggest to divide the government debt into two tranches: a senior tranche ("blue") which is to amount to 60% of GDP and a junior tranche ("red") comprising the residual debt (above the specified threshold). Therefore the blue tranche would be less risky than the red one.
European Consolidation Pact	Bofinger and Ried (2010)	A new instrument for further fiscal policy coordination in Europe which would contain elements from Greece rescue package and the following permanent crisis resolution framework (see Subsection 4.3.6) but placing them within a consistent, systematic long-run framework. The authors intend the ECP to supplement the SGP at the time of crises as common ground for the requirements currently imposed on the crisis countries in return for international assistance. The ECP would offer strict consolidation rules for all members. Countries willing to participate in the ECP would be obliged to implement an automatic tax increase law in their national legislation and apply for ECP guarantees for each new issuance of government debt that is in line with the specified path to balancing its budget.
European Monetary Fund	Gros and Mayer (2010); Mayer, 2010	Independent institution to manage and finance assistance programmes of countries in financial difficulties. The authors argue that if debt restructuring is unavoidable, this institutional framework could facilitate the process and therefore consider a quick establishment of such a fund as essential. It may be achieved by using the enhanced cooperation clause, without a Treaty modification. But as Häde (2010) argues, this mechanism is probably in conflict with the Excessive Deficit Procedure laid out in Art. 126 TFEU which clearly states under which conditions penalty payments are foreseen. Other authors argue that there are several arguments in favour of installing an EMF that goes beyond the role of the International Monetary Fund (Belke, 2010a). For example, this fund would create a global and a regional system (Johnson, 2010) and a higher impact in international organizations like the IMF or G-20.
"You Break It, You Own It Europe" scenario	Buiter and Rahbari (2011)	The authors put forward minimum institutional, fiscal and regulatory framework aimed at survival of the euro area in the long run. It consists of three main elements: (i) adequate liquidity support mechanism for sovereigns and banks to prevent illiquid but solvent entities from being forced into default (in practice a combination of the EFSF/ESM and the ECB, while the firepower of the former is not yet enough); simultaneously, the ECB should be taken out of the quasi fiscal support; (ii) sovereign debt restructuring mechanism for the euro area; (iii) special resolution regime for European banks and a "Euro-TARP" for cross-border systemically important banks and other financial institutions (TARP stands for Troubled Assets Relief Program, one of the measures used by the US government to address the subprime mortgage crisis). In short, these components characterise a system in which crises would be resolved by a combination of default and resolution regimes, with a few elements of a fiscal union.

Source: authors.

5.1.1 Stability and Growth Pact – critique and evolution

The crisis has shown that, overall, the SGP has not fulfilled its role in contributing effectively to the fiscal discipline in the EU and the euro area. An econometric analysis suggests that it has had no overall effect on the average behaviour of the primary balance (Ioannou and Stracca, 2011). An optimistic reading of such a result might imply some degree of success of the SGP. Namely, its existence might have prevented the establishment of the EMU from adversely affecting the fiscal behaviour or, in other words, that the positive effects of the SGP might have counterbalanced the deficit bias that the monetary union brought about. However, the authors do not find this interpretation entirely plausible. In their opinion, a proper set of rules in a monetary union should go beyond such a no-change outcome.

From a historical perspective, one may say that after the introduction of the euro fiscal policies were broadly relaxed and rather little progress towards sound public finances was made. To be fair, one should, however, differentiate between two groups of countries. As regards the period 1998-2003, Larch et al. (2010) make a distinction between "early flouters", including Germany, France, Italy, Portugal and Greece and "early compliants", consisting of Spain, Ireland, Austria, Netherlands and Belgium. Adding to the latter group also Finland, Annett (2006) argues that actually the SGP was quite successful in these countries. On the grounds of empirical results, the author concludes that SGP is more suited to small, volatile countries (i.e. appreciating an external anchor) or ones committed to an agreed fiscal contract (i.e. facing greater domestic political cost for violating it). Similarly, contribution of SGP to fiscal discipline was found in countries for which its provisions were compatible with domestic economic policy objectives (Buiter, 2006).

Generally, even under SGP there was lack of incentives for countries to save in good economic times, so as to ensure room for expansionary measures in the bad times (see Buiter, 2006; Filipek and Schreiber, 2010). Therefore, Schuknecht et al. (2011) characterise the period prior to the crisis, i.e. the first nine years of the existence of the euro area 1999-2007, as "wasted good times". In their opinion, over this period the foundations for the current crisis in the EMU were laid, notably by watering down the provisions of the SGP. Ironically, it were the designers of the Pact – Germany and France – who first violated the rules and EDP was suspended on that time by the decision of the Council. As Issing (2011) recalls, France and Germany not only broke the rules, but – what is even worse – also organised a political majority to stop the application of the further steps of the SGP provisions.

This situation led to subsequent revision of the Pact in 2005 (see European Commission, 2006b). Changes to the SGP framework considered both the preventive and the corrective arms of the Pact (for a brief discussion of the reform, see e.g. Filipek and Schreiber, 2010). Within the preventive arm, the main changes included: greater focus on the cyclically-adjusted budget balance (i.e. net of one-off and temporary measures, CAB) in assessing fiscal adjustments, change in definition of the MTO (medium term objective) that allowed for formulating country-specific reference values, special provisions for countries introducing structural reforms (conditions allowing for deviations from the adjustment path towards the MTO were specified) as well as recognition of a need for application of the debt criterion. However, as Filipek and Schreiber (2010) point out, the Council could not agree on a quantitative definition for reducing debt, so – from today's perspective – even after the 2005 reform debt ratio remained a loose requirement.

Under the corrective arm, definitions of "severe economic downturns" and "other relevant factors" were modified (the former was loosened, whereas the application of the latter was expanded for initiating the EDP) and deadlines for taking corrective measures were extended. What did not change was reliance on peer pressure and non-automatic sanctions. Although there were initial concerns about the reform expressed notably by the European Central Bank (2005), it was generally applauded by the European Commission; however, it was stressed that it did not address all the previously identified problems. As the time has shown, even revised framework, though, did not prevent the current crisis.

The literature on proposals of reforming the SGP is vast. Notably, Fischer et al. (2006) provide an exhaustive survey of 101 proposals presented before the 2005 reform of the SGP. The authors conclude, however, that despite a broad consensus about the desirability of common supranational fiscal rules in the euro area – as opposed to relying only on market forces in handling the deficit bias inherent in its construct and the risk of spillovers – this was the only common denominator of the proposals presented by economists. Disagreement and a wide range of different proposed solutions were due to the lack of general agreement among the economic profession on the role of fiscal policy and way of its coordination (in contrast to monetary policy). Although analyses presented before the SGP 2005 reform constitute important contribution to the literature, our scope of anaylsis is restricted to the few recent years only and the crisis perspective. In this context, the work of Larch et al. (2010), who identify a list of **major flaws** of the European economic governance system that led to the crisis, is an excellent reference:

1. **Poor effectiveness of the preventive arm of the Pact**. SGP was designed to promote counter-cyclical behaviour in good times in order to limit business cycle volatility and enhance fiscal sustainability, but in practice it failed to do so, which accounts for one of its most significant limitations (see e.g. Filipek and Schreiber, 2010). Instead of enhancing fiscal prudence, revenue windfalls resulting from economic booms were rather used to relax budgetary policies, leading to a significantly limited fiscal "breathing space" during subsequent economic downswings and exceeding of the 3% Maastricht threshold for fiscal deficit. Specifically, some authors point to the uncertainty regarding the measurement of the CAB, an important yardstick of the EU fiscal surveillance used to detect current fiscal position net of cyclical conditions and one-off or temporary measures, as one of the factors responsible for failure of the preventive arm of the Pact (Bofinger and Ried, 2010; Larch et al., 2010). This adds to the complexity of the surveillance system. Also, the lack of clarity whether an excessive deficit is due to unexpectedly worsened economic conditions or just loose budget plans together with the lack of scrutiny of the latter contributed to the moral hazard problems inherent in the system (Burda and Gerlach, 2010).

   Also, the fact that the system was **too narrowly focused on deficit** contributed to its ineffectiveness. Indeed, the debt criterion has never been effectively used in practice in order to take steps towards launching the EDP. This was a mistake because – as Burda and Gerlach (2010) argue – the recent events have shown that in fact limiting government indebtedness is the key to credible and sustainable monetary stability in the euro area. The narrow focus on deficit expressed in relation to GDP missed also the fact that GDP itself endogenously reacts to austerity measures (Bofinger and Ried, 2010). Similarly, the system did not account for heterogeneity and interdependence issues modelled by Tamborini (2011), which may imply different conditions for adjustments towards the SGP targets for different Member States and, by the same token, ignores the idea that the specified debt target may not be a stable steady state for all countries (i.e. even when the targets are reached, some countries may be easily shocked away). Coordination of national consolidation efforts are thus desirable (Bofinger and Ried, 2010).

   Moreover, the **no bail-out clause** enshrined in the Maastricht Treaty (currently Article 125 TFEU) was supposed to avert extremely irresponsible fiscal behaviour. The clause says that neither the Union nor a Member State shall be liable for or assume the debts of any other Member State. In practice, however, the full credibility of the no bail-out rule is questionable due to its direct conflict with financial stability objectives, especially with integrated financial markets (Belke, 2010b) and in times of widespread financial distress and sovereign debt problems (see e.g. Bofinger and Ried, 2010; Burda and Gerlach, 2010). As Calmfors (2010) points out, the system was based on a tacit assumption that if a eurozone country was endangered by a default risk, it would be left alone, which in the end of the day proved to be far from reality. Taking this into the account, one can argue that the *ad hoc* creation of the EFSM and EFSF in May 2010 in fact ignored the no-bail-out clause (Belke, 2010b; Calmfors, 2010; cf. Subsection 4.3.6).

2. **Weak EU enforcement**. Two main instruments available within the SGP framework – peer pressure under the preventive arm of the Pact and sanctions under the corrective arm – have proved to be insufficient to guarantee the obedience to the common rules. The assumption that Member States would comply with these rules so as to avoid sanctions turned out to be too

optimistic, while the Council has ended up as the weak link in the EU governance structure (Larch et al., 2010). It was clearly visible in 2003 in the already mentioned case of Germany and France, when several large countries running deficits colluded in order to reject the Commission's recommendation and block a step forward in the direction of sanctions under the EDP. Therefore, i.a. Calmfors (2010) points to the flaws in the voting system in the Council and suggest that Members States with excessive deficits should be deprived of their voting rights, so as to prevent building blocking coalitions or a reversed qualified majority voting should be introduced – i.e. qualified majority of countries voting against launching the sanctions rather then in favour of them.

All in all, the system was rather based on moral suasion and trust in the willingness of individual countries to respect the rules, than on a true enforcement power (see Larch et al., 2010). The reason for the lack of effective enforcement mechanisms stems from the original conceptual mistake inherent in the architecture of the SGP in form of the existence of *de facto* fiscal sovereignty of national governments (see e.g. Filipek and Schreiber, 2010; Larch et al., 2010; Tamborini, 2011). In other words, the common rules at the European level are imposed externally on the fiscal policies that still remain national prerogatives under democratic control of national governments and parliamets. This is regarded as a unique feature of the EMU, differentiating it from other currency unions known from the economic history (Bordo et al., 2011; Fischer et al., 2006). Strengthening the system of the EMU would therefore require strengthening the *national* fiscal systems (Calmfors, 2010). This holds as long as the euro area remains a monetary union without a fiscal (or even political) union.

3. **Lack of robust escape clauses** designed for situations when the rules are objectively no longer viable under extremely harsh economic conditions. Although the 2005 reform was meant to add some flexibility to the system, notably by defining and introducing MTO and allowing for some controlled deviations from this country-specific target, the rules remained still too tight for cases of major unforeseen economic downturns as the recent financial crisis. Therefore, euro area countries essentially ignored the SGP rules (or were allowed to do so, by giving priority to actions under European Economic Recovery Programme endorsed in November 2008; see e.g. Larch et al., 2010 or Palley, 2011). As a result, the years 2009 and 2010 brought about opening of the EDP for almost all the EU countries. What would be desirable, as Larch et al. (2010) point out, is a more robust framework containing provisions for temporal suspension of the rules in a pre-designed way, and thus enabling to maintain the rule-based system over the long run and limiting *ad hoc* discretion.

4. **Lack of crisis resolution mechanism or provisions for sovereign debt default**. When the debt problems escalated in Greece in the first half of 2010, threatening the financial stability in Europe, there was no instrument available to deal with that issue. The EU was equipped only with an instrument dedicated to countries outside the euro area and helping Greece in May 2010 required improvisation under the "no-assistance" principle derived from the no-bail-out clause (see Section 4). Clearly, the lack of crisis resolution mechanism in the euro area not only fueled worries in the financial markets, but also "forced" the ECB to launch unorthodox measures in order to safeguard the stability of financial systems – as it could not afford just to "wash its hands" in a situation of a crisis (European Central Bank, 2011b). Many authors highlighted the need for a permanent crisis resolution mechanism in the euro area (see e.g. Belke, 2010a; Calmfors, 2010; European Central Bank, 2011c).

5. **Weak statistical surveillance**. Again, the central point of the system was in the end of the day based on the trust that the national authorities would provide accurate and reliable data in a timely fashion. The case of Greece (major revisions of the government data that led to the subsequent sovereign debt crisis) shed light on the significant limitations of the system, however (see e.g. Gros, 2010; Larch et al., 2010).

Reform of the economic governance in the EU was launched in 2010, notably by tabling by the European Commission six legislative proposals. After months of negotiations between the European Commission, the Council and European Parliament the so called "six-pack" was endorsed in autumn 2011 by all 27 EU Member States as well as the European Parliament and came into force in mid-December.

This legislative pack, reinforcing the Stability and Growth Pact, consists of five regulations and one directive. It is meant as a long-term solution, aimed at ensuring fiscal discipline and preventing new crises in the EU. Its two primary goals comprise stronger preventive and corrective actions as respective to the two arms of the Pact. In brief, the main changes to the Pact were introduced in the following areas (European Commission, 2011e):

- **Deficit**. Introduction of financial sanctions also in the preventive arm of the Pact (based on Article 121 TFEU), applying to the euro area states under EDP that do not take adequate actions and do not comply with specific recommendations aimed at correcting their excessive deficits, addressed to those Member States by the Council. Deficit reduction benchmark was set at minimum 0.5% of GDP annually. Moreover, a new "expenditure benchmark" was defined, placing a cap on the annual growth of public expenditure according to a (prudent) medium-term rate of growth in the form of the requirement not to exceed this reference rate in the case when MTO has not yet been reached.

- **Public debt**. Making the debt criterion fully operational (launch of EDP due to breaching the debt criterion even if the deficit is below the reference value of 3% of GDP) and introduction of a numerical benchmark for its reduction ($\frac{1}{20}$ of the excessive amount annually on average over 3 years[8]). Furthermore, under the preventive arm, Member States with debt ratios in excess of the reference value of 60% GDP or subject to pronounced risks in terms of overall debt sustainability are now required to make faster progress on their adjustment path towards their MTO (i.e. higher than the benchmark of 0.5% GDP mentioned above).

- **Sanctions**. Introduction of a new set of sanctions in both arms of the Pact, which will be applied more gradually and more automatically than it was before. Notably, a "reverse qualified majority" voting will take place in all but one case (see Table 6 below). Also, special sanctions concerning the manipulation of statistics were foreseen.

Finally, the existing system has so far **ignored other than fiscal macroeconomic imbalances** as well as **treated fiscal consolidation and structural reforms as substitutes rather than complements** (see Section 2). Especially the example of Ireland and Spain[9], who had been SGP's top performers before the crisis hit, shows that disciplined public finances are not enough to ensure stability in a monetary union (see e.g. Calmfors, 2010; de Grauwe, 2011a; Filipek and Schreiber, 2010).

An overall assessment of the "six-pack" is rather mixed. On the one hand, many of the issues mentioned in the previous critique of the SGP have been addressed, like external imbalances, need for sanctions on the earlier steps of the procedure or modifications in the voting system. It seems, however, that the extent of the introduced changes in many cases was unsatisfactory. To discuss an example, the "six-pack" shifted the focus from short-term fiscal deficits also to long-term debt developments (as postulated by i.a. Bofinger and Ried, 2010). Specifically, a quantitative benchmark for reducing debt was defined, which can be considered as progress in comparison to the previous revision of the SGP in 2005, as it was mentioned above. There remain, however, some doubts about the effectiveness of the debt rule. Long transition period preceding the full implementation of the rule and a wide range of special factors that are supposed to be taken into the account (some discretion in the assessment of a country's debt ratio is inevitable; see European Central Bank, 2011c) suggest that the debt rule may in practice rarely amplify the EDP (Schuknecht et al., 2011). Moreover, according to the

[8] For example, Member State with a 80% debt ratio would need to reduce its debt by 1% of GDP annually on avarage over three years in order to acheive a satisfactory pace of decline (European Central Bank, 2011c).

[9] For more details, see country study in Box 4.

Table 6: Enforcement measures underpinning the SGP in the euro area

Trigger of the sanction	Sanction	Adoption
Council decision establishing failure to take action in response to a Council recommendation under Art. 121(4)	Interest-bearing deposit (as a rule 0.2% of GDP)	Reverse QMV
Council decision based on Art.126(6) of the Treaty i.e. existence of an excessive deficit only if the Member States had already lodged an interest-bearing deposit (i.e. in case of non-compliance with the preventive arm provisions) or in case of particularly serious non-compliance with the rules	Non-interest-bearing deposit (as a rule 0.2% of GDP)	Reverse QMV
Council decision based on Art.126(8) of the Treaty i.e. non-effective action in response to the recommendation to correct the excessive deficit under Art. 126(7)	Fine (as a rule 0.2% of GDP)	Reverse QMV
Council decision based on Art.126(11) of the Treaty i.e. non-effective action in response to the notice to correct the excessive deficit under Art. 126(9)	Fine 0.2% of GDP + variable component	QMV

QMV = qualified majority voting. Source: European Commission (2011e)

European Central Bank (2011c), the benchmark for debt reduction should be treated only as an absolute minimum for Member States' efforts in this respect. This corresponds with a conclusion drawn by Tamborini (2011) that the new framework will probably be insufficient to reduce debt ratios across the countries to the target of 60% of GDP and keep them stable over time unless benchmark interest rates remain at present historical minimum.

Basically, the revised framework does not represent a "quantum leap" in the EU economic governance (as advocated by the European Central Bank, 2011c; Schuknecht et al., 2011; Ioannou and Stracca, 2011), but instead it strengthened the hitherto existing "rules + sanctions" approach (Tamborini, 2011). In other words, no mechanism to override national sovereignty was set up (Belke, 2010b), throwing attention to a question of rhetorical nature raised by Annunziata (2010; cited also by Belke, 2010b): "But what makes us think that these interest bearing deposits would be enforced, when the fines already envisaged in the SGP have never been levied?"

By the same token, the issues of strengthening the national fiscal frameworks (as postulated by, for instance, Annunziata, 2010 or Calmfors, 2010) and enshrining the fiscal objectives in national law (see eg. European Central Bank, 2011c) were not really addressed and needed further action with respect particularly to the euro area countries (see Subsection 5.3). Finally, under the revised framework, monitoring and implementation of the rules has become even more complex (Schuknecht et al., 2011), which undoubtedly constitutes another weakness of the system.

On the basis of the above-mentioned doubts and related market developments, the institutional reforms in the EU and in particular in the EMU are still work in progress (see also Section 5.3).

5.1.2 Role of the ECB

Due to limitations described in Section 4, national governments in the euro area cannot fully guarantee to the bondholders that they will always have cash to pay out the bonds at maturity. In such a setting financial markets acquire power to force a default on a given government (de Grauwe, 2011b) because – under a speculative attack – it cannot use its central bank to intervene in the bond market. In other words, European monetary union replaced the exchange rate speculation problem (which was particularly severe before the creation of the euro, in the times of the ERM and especially its crisis in 1992-93) with a bond market speculation problem, since in the euro's architecture there is no "government banker" to "defend" national bond markets (see Palley, 2011).

Specifically, the ECB on the Treaty grounds is prohibited from intervening in the national government bond markets (which is justified, however, on the grounds of eliminating inflationary debt monetising). This constitutes a key difference of the financial system between the euro area and the UK or the US. The lack of a lender of last resort makes euro area more like a typical emerging market (which often issues debt in a foreign currency) rather then a developed one (Boone and Johnson, 2011), posing a risk of being confronted with a "sudden stop" in capital inflows. Consequently, this can set in motion an interaction between liquidity and solvency crisis – as soon as investors fear some payment difficulties, they withdraw liquidity from the national market, which pushes up the interest rate and turns a liquidity crisis into a solvency one (see de Grauwe, 2011b). In some circumstances, the EMU may thus be prone to self-fulfilling dynamics stemming from arising distrust. In other words, fear of potential insolvency may push a country into factual insolvency.

A solution to this monetary-union-specific problem can be exactly the same as the solution to the contagion problems of a banking sector (de Grauwe, 2011d). It is namely the existence of a **lender of last resort**, ensuring that the cash will always be available if needed to pay out the deposit holders (or bondholders in the case of a monetary union). Intuitively, the only institution which could take up this responsibility in the euro area is the ECB. However, so far it is reluctant to do so and the self-fulfilling crisis dynamics seems to account for the ongoing contagion in the euro area's sovereign debt markets. The lender of last resort should be seen as an insurance mechanism for the stability of the system. Note that EFSF and ESM, as opposed to the ECB, are only imperfect substitutes of that, as they would never gain sufficient credibility to prevent contagion forces due to a limited amount of funds at their disposal.

de Grauwe (2011d) also argues that the risks of inflation and moral hazard are not really an issue. With regard to the former, he points out that a central bank's bond purchases increase the monetary base, but not necessarily the money stock, where the inflation comes from. Moreover, effects of all such operations can always be sterilised. What concerns the moral hazard, on the other hand, the author points to the paradox of the economic doctrine telling that the lender-of-last-resort function should only be used for liquidity problems as opposed to solvency problems, but eventually concludes that because these two cannot be easily separated in practice, the need for a lender of last resort arises. In contrast, Darvas et al. (2011) criticised the early attempts to solve the crisis in the euro area exactly because in their opinion the applied policies addressed all crises as if they were purely liquidity ones, failing to identify possible insolvency issues at hand. Meanwhile, the Greek insolvency was almost clearly visible and required a different cure (Darvas et al., 2011; see also e.g. Marzinotto et al., 2010 for the diagnosis of the Greek case).

If liquidity and solvency issues cannot be easily separated in practice, a central bank should be responsible for liquidity issues, whereas another supervisory institution should tackle the moral hazard issues. There exists an analogy to the banking system, where these two functions are separated between the central bank and another supervisory institution. On these grounds, de Grauwe (2011d) calls for the ECB to take the full responsibility of lender of last resort in the euro area, highlighting simultaneously that this should be complemented with further steps towards political union in order to enable more effective control over fiscal policies.

A different view is represented by i.a. Zemanek et al. (2009), who oppose the idea of increased "non-standard" activity of the ECB in the form of expansionary monetary policy or any form of quantitative easing. The authors argue that buying government bonds reduces incentives for undertaking structural reforms, leads to moral hazard and accumulation of even more debt. Therefore, they oppose any form of denationalization of debt in the euro area and a supranational fiscal bailout. Also Issing (2011) argues that the ECB should abstain from fiscal policy actions and restore its full independence.

The above controversy has probably translated into a pronounced fall of trust in the European Central Bank. The measure of the net trust[10] in the ECB reached its historical low in early 2009, when for the

[10] The percentage of respondents who trust minus the percentage who do not trust. See for instance Roth (2009a, 2009b), Roth et al. (2011b).

first time in history a majority of European citizens distrusted it. The recorded drop between late 2008 and early 2009 was equal to more than seven times the standard deviation observed over the previous period starting since the creation of the euro (Roth et al., 2011b). Noteworthy, in the three largest euro area economies – Germany, France and Italy – the slump in trust was particularly severe. While the situation improved in late 2009, a second dip in the citizen's trust in the ECB occurred in spring 2010[11], when the trust in the ECB across Europe plummeted again (slightly recovering thereafter). The lowest level of trust in the ECB since its founding was recorded in Greece in autumn 2010 (-36 p.p.; see e.g. Roth et al., 2011b).

Roth et al. (2011a,b) and Gros and Roth (2010) show that European Union's citizens react differently in good (normal) and in bad times with regard to the trust in national and European institutions (including the ECB). Overall, their studies show that macroeconomic determinants play a key role in explaining the changes that the public opinion underwent during the crisis.[12]

Particularly, inflation reduces citizen's trust in national and European governmental institutions (i.e. European Parliament and European Commission) – but only in good economic times, whereas the effect of higher unemployment is stronger in the times of crisis (especially in EU-15 sample). However, the recent fall in trust appears to be primarily related to rise in debt-to-GDP ratio (Roth et al., 2011a). In the EU-15 sample this relationship seems to be driven by countries which were more engaged in aiding their financial sector and implementing significant austerity measures. Moreover, with specific respect to the ECB, Gros and Roth (2010) and Roth et al. (2011b) argue that it was heavily blamed by the Europeans for the real economic downturn caused by the financial crisis, which accounts for the first of the above-mentioned substantial falls in trust. The second dip in trust, however, was related to the rise in public debt and inflation. Importance of fiscal developments was additionally stressed in a study by Wälti (2011). Ehrmann et al. (2010) argue, however, that the fall in public trust in the ECB may have been largely predicted on the basis of the pre-crisis regularities, i.e. (i) sharp economic deterioration, (ii) the overall fall in trust in the European project and (iii) banking sector problems.

Already in 2009 a question was raised about the nature of the observed loss of confidence and its sustainability (see Roth, 2009b). Recent attempts in responding to this issue suggest that for the ECB, a new equilibrium of the trust level has already stabilized at a significantly lower level than before the crisis (Roth et al., 2011b). This means a challenge for the ECB to re-establish the trust. In this context, the findings of Ehrmann et al. (2010) can be helpful, as they point to the nexus between the knowledge about the ECB and trust in it, which proved to be particularly evident during the times of financial crisis. In short, higher degree of knowledge leads to a higher degree of trust on average.

5.2 Possible scenarios: break-up, fiscal federalism, or something else?

It is a commonly shared view that the euro area will either break up or integrate much closer, moving forward in the direction of a fiscal – or even a political – union. The former option could theoretically take several forms – of an expulsion or and exit of one or some Member State(s), either economically weak or economically strong.

Expulsion or exit by a weak country (e.g. Greece). Although the Treaties do not contain provisions for expelling a country from the euro area or the EU, the Lisbon Treaty laid out in its Article 50 a procedure for leaving the EU voluntarily. Quitting the euro area as such, however, has not been regulated. Nevertheless, Neumann (2010) suggests that the Treaties can theoretically always be amended to specify conditions for expulsion from the euro area. Such a solution, however, would create an opportunity for massive speculation and might not be credible because of its toughness and fear by the other countries of possible spillovers (Belke, 2010a). In practical terms, Greece might also be "pushed out" of the euro area if the willingness of other Member States to fund the Greek sovereign

[11] This was the time of the ECB's "unorthodox" policy change (see Section 4).

[12] Farvaque et al. (2011), however, argue that socio-demographic determinants of trust in the ECB dominate macroeconomic ones by a considerable margin of magnitude.

evaporates or the ECB refuses to fund its banks (see Buiter, 2011b). Buiter (2011b) assigns probability of 20-25% to this possibility.

In brief, the lack of regulation on leaving the euro area implies that a Member State cannot leave the EMU without simultaneously leaving the EU (see Athanassiou, 2009; Dor, 2011). The details of such a process are not clear, as Buiter and Rahbari (2011) point out, but certainly it would require much time and effort. Afterwards the country could theoretically negotiate re-entering the EU with an opt-out clause[13], but this would be a politically risky process (Dor, 2011). Alternatively, international public law might be used. As Dor (2011) points out, the *Vienna Convention on the Law of Treaties* (1969) allows for denouncing or suspending an international treaty or even withdrawing a country's application even if the treaty does not state the latter. Specifically, Article 44 thereof defines conditions for denouncing some of the clauses of an international treaty while keeping some part of it. It is not clear, however, whether the *Vienna Convention...* can be applied to the EU Treaties, the more so as some EU Member States (France, Malta and Romania) have not ratified it (Dor, 2011).

Many of the advocates of Greece leaving the eurozone point to the subsequent devaluation as what Greek economy needs most. For instance, Hankel et al. (2009) argue that this is the only way to correct fundamental imbalances and restore internal stability. Also, among others, Roubini (2011) points to the fact that Greece is stuck in a vicious cycle of insolvency, low competitiveness and ever-deepening depression, so that the only way to escape is to begin an orderly default, voluntary exit from the eurozone and return to drachma. According to this line of reasoning, large enough devaluation would mean a quick way to improve Greek cost-competitiveness in the international trade and to boost its exports. However, this improvement would rather be short-lived in the absence of significant structural reforms (see Section 2). Other consequences of devaluation may unveil the short-sightedness of this solution. It may backfire by deteriorating Greek purchasing power, incurring probable rise of inflation, likely reciprocal protectionist reactions of trading partners and increase in real government debt (Regling et al., 2010). Furthermore, Greek exit from the euro area would also imply a massive bank run leading to a collapse of the country's banking and financial system, default and bankruptcy on a large scale also in the non-financial sector (cross-border enterprises), downgrade of its public debt to less than junk status, losing access to financial support and new funding, sovereign default (either outright or by redenomination of the public debt into a new currency) as well as long lasting stigma on the future Greek sovereign even if thereafter the country regained access to international financial markets (see Buiter, 2011a; Buiter and Rahbari, 2011; Gros, 2010). Additionally, exiting EU, Greece would lose structural and cohesion funds.

Gros (2010) argues that a Greek default without formally exiting the EMU would anyway effectively push Greece out of the euro area and effectively reduce its status to that of Montenegro, which "unilaterally euroised" its economy. In addition, Buiter and Rahbari (2011) discuss the possibility of keeping the euro for financial contracts while using a new currency for current transactions as well as introducing new currency only as numeraire or unit of account. Nonetheless, neither of these solutions would work in practice or constitute a real solution to Greece's economic problems. Not only would the former idea be too complex in practice, but also it would provide an excellent setting for evasion due to the existence of multiple currencies for different types of transactions. Whereas the latter option might possibly work, there is hardly any historical experience here to draw on. Besides, this type of solution would only enable to control the nominal exchange rate, while the competitiveness depends on the real exchange rate.

Exit of a strong country (e.g. Germany). Buiter and Rahbari (2011) also describe what could happen if a fiscally and competitively strong country would exit the euro (and simultaneously the EU, as discussed above). This option, in opinion of Buiter (2011b) is very unlikely and accounts for probability of less than 3% only. The reason for Germany and its possible followers (say, the Netherlands or Finland) for leaving the euro could be a protest against the evolution of the EMU into a transfer union. A new common currency union and EU could then be recreated by these countries,

[13] Opt-out countries (currently only Denmark and The United Kingdom) are allowed to choose freely whether to adopt the euro or not.

and if the group is big enough and consists of core countries, possibly nothing would be left to keep together the remaining periphery countries. The authors conclude that such a solution would be costly for both the exiting and the remaining Members States. For the former group of countries, the main cost would stem from much less competitive exchange rate, as the new currency would substantially strengthen against the euro (conceivably becoming a global "safe haven"). Auerback (2011) argues that this would imply a huge trade shock for Germany, possibly leading to destruction of its export base and a subsequent rise in its budget deficit due to the reduction of the external surplus.

A third way of similar kind, meaning a break-up of the EMU in its today's shape, comprises a proposal of Arghyrou and Tsoukalas (2010) in the form of a **two currency union**. The authors suggest to temporarily introduce a second, "weak" euro for the periphery countries, whereas the core EMU members would continue with using the euro. The new currency would also be run by the ECB (so that two reference rate would be set), but upon its introduction it would be appropriately devalued in order to restore the cost-competitiveness in the periphery countries, giving them time for introducing meaningful structural reforms. Similar proposals were also put forward by other economists, just to mention a division of the EMU into two ones – the Southern and the Northern one (respectively SEMU and NEMU; see Steinherr, 2011). In such a framework, countries belonging to the Southern EMU, characterised by different economic policy preferences, may for instance change their inflation target to above 2% or even substitute it with exchange rate targeting *vis-à-vis* the Northern EMU, simultaneously allowing for some controls of capital movements. The basic idea behind it is that the SEMU would be able to pursue their own (perhaps more suitable) economic policy objectives rather than remaining in the straitjacket of the current setting. Proposed criteria for classification of countries into the two categories could be based on a given country's performance since the introduction of the euro with respect to fiscal discipline, current account balance, situation in its banking sector and competitiveness of its economy (cost flexibility in the labour market, innovation, education). According to these criteria, Portugal and Greece would not classify into the NEMU, whereas Ireland, Italy and Spain might have a chance for that. The author, however, rests only with the general idea, without considering it in more details and one can imagine that the implementation would be very complex.

The alternative for eventual break-up of the euro area is to establish some sort of deeper fiscal federation[14] in Europe. This would be expected because the original surrogate of the fiscal union intended to impose discipline on the public finances accompanying the creation of the euro – the Stability and Growth Pact – did not bring the previously expected results (see Subsection 5.1.1). Therefore, one may argue that some kind of a **fiscal union**, complementing the current monetary union, is inevitable (see for instance Micossi, 2011; Bordo et al., 2011). Although there seems to be a consensus view that the establishment of a fiscal union would be a way to solve the current crisis, the debate focuses on possible design of a new framework. The literature provides a wide range of important considerations.

Bordo et al. (2011) analyse five fiscal federations and formulate on these grounds necessary conditions for successful functioning of such an arrangement. Ensuring fiscal discipline is here of primary importance. Five fiscal federations in that study have been forged over time as a result of a "learning by doing process", in which capacity to adapt to changing economic and political circumstances was present. The authors identify three possible ways to impose fiscal discipline: no-bail-out clauses, constitutional restrictions and financial market discipline for the government debt. Noteworthy, the latter can work efficiently only as a complement – and not just a substitute – to a **no-bail-out clause**, which must be strict and credible itself. In addition to that, Bordo et al. (2011) highlight a need for crisis resolution mechanism or – in other words – a well-developed **transfer mechanism** to be used in times of exceptional economic distress. Such a mechanism may be facilitated by an **union-wide bond market** with a commonly issued bond. The latter may be much more successful in terms of preventing liquidity and credibility problems, but it is by nature subject to the free-riding problem

[14] As Bordo et al. (2011) point out, there is no single definition of this notion. Nevertheless, it includes an arrangement on the design and distribution of taxes and public expenditures.

(see Subsection 4.3.4).[15]

Buiter and Rahbari (2011) analyse an extreme version of a system of transfers, namely a mechanism of transfers from fiscally strong to fiscally weak EU or euro area member states with simultaneous loss of fiscal sovereignty for beneficiary countries (in the form of, for instance, the European Commission and the ECB in control of public spending and tax policy). According to the authors, such a solution might not necessarily require Treaty revision, but could possibly be introduced through the "back door" via "enhanced cooperation". Belke (2010a) states that such extreme form of conditionality would constitute an institutional safeguard welcomed especially by the ECB, focused on minimizing the risk of moral hazard.

Hallerberg (2011) argues that the experiences of Brazil may be valuable for the EU. Brazilian states negotiate with the central government budget caps, which are subsequently approved by the national Senate. If later the state governments miss the agreed targets, they lose substantial fiscal transfers from the central government. The author suggests that similar rules might be put in place in the EU framework with respect to cohesion funds or – possibly – some transfers within the CAP, so as to ensure potential for a credible punishment among all Member States.

Naming the lack of a fiscal union with appropriate powers as the core reason for the current problems of the euro area, the question Marzinotto et al. (2011) are posing is no longer "Whether a fiscal union?", but rather "What kind of fiscal union?". The authors propose a set-up of a limited fiscal union with a Ministry of Finance[16] headed by a minister with a veto right over national budgets in case they could pose a serious threat for the euro area sustainability.

The core of the union would be the availability of fiscal resources at the federal level. Thus, the ministry would need to have an appropriate taxing capacity, so as to be able to provide financial support to illiquid but solvent countries (the ministry would also prepare appropriate assessments). In the authors' opinion, the federal tax-raising power should amount up to 2% of euro area's GDP (i.e. about 180 billion euro). With a permanent income stream of this extent, the ministry should be able to borrow enough money to support even Italy and Spain. Simultaneously, the very existence of common euro area fiscal resources of this volume would enable the ECB to play the lender of last resort role, which is not possible within the current framework (see Subsection 5.1.2).

Then, the euro area Ministry of Finance would need to stand behind any potential losses that the ECB may incur due to exercising this postulated function. Although the proposed changes would require rewriting the Treaties (which would be a time-consuming process due to the Treaty revision approval procedures), it seems that a clear commitment of the European leaders to this idea may already create a space for the ECB to act and back-stop the financial system and the sovereign bond market (Marzinotto et al., 2011).

On the top of the previous scenarios, the "intermediate" ones between unstable *status quo* and stable fiscal federation remain to be mentioned (see Table 5), aiming to define a set of politically feasible and economically sufficient instruments to ensure long-term EA stability.

5.3 Step forward? From 8-9 December 2011 summit onwards

On 8-9th December 2011 another euro area summit took place, that was supposed to solve the crisis decisively. The European leaders expressed their will to take further steps towards a genuine "fiscal stability union" in the euro area (European Council, 2011). The markets, however, responded in a fashion suggesting that the deal might (again) not be enough. As *The Economist* (2011b) reports, yields on Italian and Spanish ten-year bonds rose again after falling in the run-up to the summit, coupled with the euro falling to its lowest level against the dollar since a year.

[15] The last condition enumerated by Bordo et al. (2011) is a degree of revenue and expenditure independence of the members of the fiscal union reflecting their preferences.

[16] See also Trichet (2011).

The deal comprised three major elements (see President of the European Council, 2011). Firstly, entry into force of the ESM rescue fund will be accelerated, so that it should enter into force in July 2012 instead of 2013 (to be exact, as soon as Member States representing 90% of the capital commitments have ratified it; see European Council, 2011). Later on, at the beginning of February 2012 a new version of the treaty on the ESM was signed, incorporating decisions taken on 21 July's and 9 December's 2011 summits. Secondly, additional resources of up to 200 bn EUR will be made available (by the central banks, in the form of bilateral loans) to the IMF and subsequently the EFSF leverage will be deployed. Thirdly, a new "fiscal compact" will be introduced.

The central element of the deal, new **fiscal compact**, will be introduced in form of an intergovernmental treaty (Treaty on Stability, Coordination and Governance, agreed by the European leaders at an informal meeting of members of the European Council in January 2012, see European Council, 2012) to be signed in March 2012 at the next official summit by all seventeen euro area members plus other non-euro countries willing to do so. The new treaty will enter into force once it has been ratified by at least 12 EA countries. Subsequently, the aim is to incorporate it into the EU law within five years of its entry into force. Van Rompuy, the President of the European Council, expects that the number of countries which will join the initiative will be very close to 27 (President of the European Council, 2011). At the heart of the compact lies a **new golden fiscal rule,** putting emphasis on a more decentralized approach to budgetary responsibility (see Pisani-Ferry, 2011a). The rule shall take the form of a requirement for the national budgets to be in balance or surplus (as a rule, the annual structural deficit should not exceed 0.5% of nominal GDP) and an automatic correction mechanism which shall be triggered in case of any deviation. This rule shall be incorporated within one year into the Member State's national legal systems at constitutional or equivalent level and its proper transposition shall be subject to the jurisdiction of the European Court of Justice. The Court's decision will be binding, and, if not implemented, can be followed up with a penalty of up to 0.1% of GDP payable to the ESM (in case of euro area countries) or the general budget of the EU. Member States will also be obliged to report *ex ante* on their national debt issuance plans and Member States under the EDP shall submit to the Commission and the Council for endorsement (and subsequent monitoring) an Economic Partnership Programme detailing the necessary structural reforms to ensure sustainable corrections of excessive deficits. Commenting on the conclusions of the summit, Pisani-Ferry (2011a) raised doubts, however, about the premise that strict enforcement of the SGP rules is the key to the euro area's problems.

Furthermore, the leaders agreed at the December's summit to examine swiftly new rules proposed by the European Commission in November 2011 in form of two new regulations (a "two-pack"), aimed at strengthening the surveillance mechanisms in the euro area, going beyond and complementing the "six-pack". The idea behind the Commission's proposal is that while the revised SGP will already be a game changer, more should be done specifically for the euro area countries, which are fragile to potential spillovers between them (European Commission, 2011d). Both regulations have been proposed under Article 136 TFEU, applying to euro area Member States only, which allows to strengthen the coordination and surveillance of their budgetary discipline in order to ensure the proper functioning of the EMU. The first regulation proposal contains common provisions for monitoring and assessing draft budgetary plans and ensuring the correction of excessive deficits, whereas the second one sets out rules for enhanced economic and budgetary surveillance for Member States experiencing or threatened with serious difficulties with respect to their financial stability. Specifically, the Commission postulates the introduction of:

- **Common budgetary timeline**. On the top of what is required under the European Semester (i.e. presenting the main characteristics of the public finance plans to the EC and the EU Council every spring), a new requirement would oblige the Member States to publish and present their draft budget laws for the general government for the following year to the EC and the EU Council no later than 15 October every year, in advance of their adoption by the national parliaments. This will enable an examination of the plans by the Commission and addressing an opinion whether they are in line with both the SGP requirements and recommendations from the

European Semester. Such opinion, although not giving the EC any power to veto or change the national budget plans, will subsequently equip stakeholders in the national budgetary process with all necessary information before the budget becomes a law, so that they will be able to make a fully informed decision.

- **Common budgetary rules.** In the budgetary planning **forecasts from independent bodies** should be used. Moreover, Member States shall implement **in their national legislation, preferably in the constitutions, numerical fiscal rules** on the budget balance for the general government consistent with the SGP provisions. Their implementation shall be monitored by **independent fiscal councils**.
- **Special monitoring of Member States under EDP**. The EC shall receive from the Member States concerned regular information needed to judge whether a risk of non-compliance with the deadline to correct the excessive deficit exists, specifically a comprehensive assessment of in-year budgetary execution for the general government and its sub-sectors shall be reported.
- **Enhanced surveillance** – upon a decision by the EC – **of Member States experiencing severe difficulties** regarding their financial stability or receiving financial assistance on a precautionary basis. The surveillance shall include obligation to communicate appropriate information to the EC and other European institutions when appropriate and to adopt necessary measures aimed at addressing the sources or potential sources of difficulties. Progress made in the implementation of the above-mentioned measures shall be verified by the regular missions conducted by the EC and the ECB. On the basis of this monitoring, when financial situation of a Member State has significant adverse effects on the financial stability of the euro area, the EC may propose that the EU Council recommend that the Member State seek financial assistance and that a macroeconomic adjustment programme be prepared.

The Commission's proposals should be examined soon, so that they will be in force for the next budget cycle. Additionally, it was agreed that, in order to strengthen policy coordination, the **Euro Summits will be held at least twice a year** and the president of these summits will be elected.

The cost of potential euro area break-up seems to be immense for all the stakeholders and the risk of such a scenario – still relatively low. This, however, will require a profound redesign of euro area fiscal institutions that is already in progress. Whatever final design emerges from this process, it has already become clear that the derogation countries will adopt the euro in a package with entering some sort of fiscal union. The crisis has illustrated that its creation was a necessary condition for the long-run stability, but – at the same time – the euro adoption will be associated with giving up more sovereignty (and deeper economic integration) than it has previously been expected.

6 Future stages: euro area enlargement issues

The crisis has provided EA-candidate countries with extensive empirical material concerning the functioning of the euro area that had previously been unavailable. It also triggered far-reaching institutional changes in the monetary union. In both cases, the experience of EA countries contains valuable information for the states with derogation. Nevertheless, the lessons about the euro adoption go beyond that. Adverse macroeconomic developments have also affected the functioning of the Maastricht criteria. In part, they have proven not to be immune against highly unexpected situations and additional lessons can be learned about their mechanics.

6.1 Price stability criterion

The price stability criterion stipulates that the reference value is calculated on the basis of at most 3 EU Member States that perform best in terms of price stability. This should not necessarily imply the selection of 3 countries with lowest HICP-measured, annual average inflation rate, as some of them might be treated as "outliers". Prior to the crisis, little had been explored in terms of which countries should be classified as outliers. The main contributions in this field came from the *Convergence Reports* 2004, in which Lithuania was excluded from the reference group as characterized by untypical, negative price dynamics (-0.2%). As emphasized by the European Commission, "this country has been excluded from the calculation of the reference value because countries with negative inflation rates are not considered to be best performers in terms of price stability". The ECB, in turn, described this negative figure as an outlier due to a coincidence of exceptional economic developments.

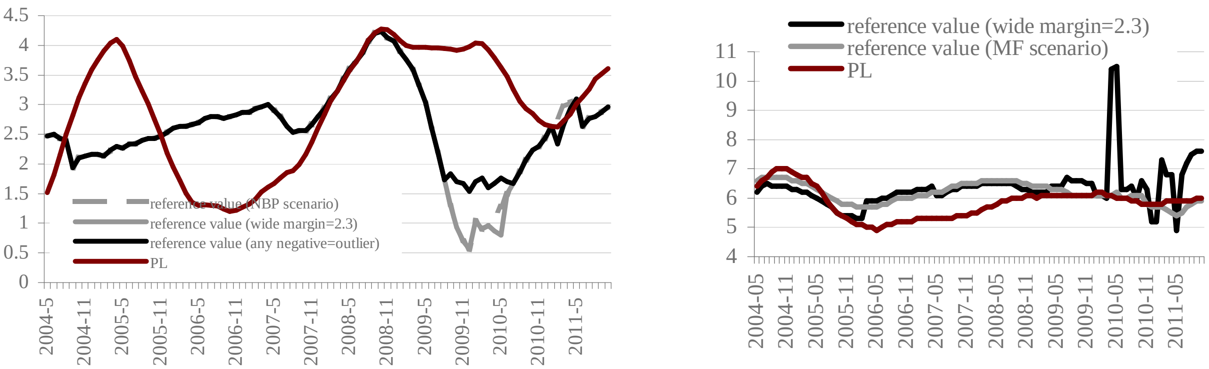
Strong deflationary pressures that emerged after 2008 in many EU economies brought the topic of deflationary outliers back on the agenda. Indeed, the *Convergence Reports* 2010 shed new light on the calculation of the reference value under negative inflation rates. The reports used data as of March 2010, when the HICP fell (in average annual terms) in 5 EU Member States: Ireland (-2.3%), Portugal (-0.8%), Estonia (-0.7%), Belgium (-0.1%) and Spain (-0.1%, but less in absolute terms than Belgium with higher precision). In spite of negative inflation dynamics in these countries, 3 of them (Portugal, Estonia, Belgium) constituted the reference group, which might be seen as contradictory to the European Commission's motivation for excluding Lithuania in 2004. Ireland, however, was excluded from the reference group as an outlier. At this point, one might ask about (i) the difference between Lithuania in 2004 and 3 reference countries in 2010, (ii) the difference between Ireland and 3 reference countries in 2010 and (iii) the predictability of reference value and the prospects for fulfilling the criterion by EA candidates in the future.

According to the European Commission (2010a), negative inflation rates are economically adequate given the common adverse shock that hit all of the EU economies, and any other solution would result in an upward-biased reference value. As regards Ireland, however, the EC reports that "it seems warranted to exclude from the best performers those countries whose average inflation rate is distant from the euro area average inflation (0.3% in March 2010) by a wide margin". Both the EC and the ECB emphasize that the notion of outlier should be subject to a dynamic, context-based interpretation rather than any mechanical rules such as excluding any country with negative inflation rate. This view might be supported by the findings of Lopez and Papell (2011) that the deflationary pressures in some euro area economies resulted from persistently divergent inflation rates in the previous years. The ECB also stresses the distinction between a negative inflation rate *per se* and deflation "which is a persistent decline in the general price level that becomes entrenched in agents' expectations". As regards the latter argument, it might be surprising to note that Lithuania – a country excluded from the reference group due to a negative inflation rate in March 2004 – already faced a positive HICP dynamic on annual basis (without considering a moving average) 2 months later and consequently turned to a positive moving-average dynamics 6 months later.

Notwithstanding the consistency of the EC's and the ECB's arguments, the approach adopted in the *Convergence Reports* from the crisis period seems to have increased the uncertainty around the future calculation of reference values faced by the Member States with derogation (Bureau of Government Plenipotentiary for Euro Adoption in Poland, 2010). First, the possibility of including negative inflation rates in the calculation of the reference value contradicts the interpretation of Lithuania's case in 2004. It also introduces an *ad hoc* criterion of a "deviation by a wide margin from the euro area". This is a disincentive from treating historical precedents and interpretations as a source of information about rules possibly applicable in the future. Second, the interpretation of outliers as of 2004 implied a lower bound on the reference value of 1.5% that eventually turned out to be nonexistent. The price stability criterion might hence be more restrictive for catching-up economies than it had been thought before the crisis. Darvas (2010) emphasizes that "flexible" application of the criteria has largely undermined the public trust in the process of euro area enlargement, and that the room for discretion should be limited. Simulations performed by Lewis and Staehr (2010) confirm that both the EU enlargement and the uncertain treatment of outliers considerably increase the probability of a sudden fall in the reference value.

Assuming, however, that there is a rule of "wide margin" not tested until 2010 but possibly applicable in

Figure 6: Price stability and interest rate criteria – reference value, 2004-2011, alternative calculations



(a) price stability

(b) interest rates

"Wide-margin=2.3": reference value excluding Latvia (VI 2010-I 2011) and Ireland (I 2010-V 2011).
"NBP scenario": reference value additionally excluding Latvia in IV-V 2010 and II-IV 2011 as a country on IMF assistance (see National Bank of Poland – Monetary Policy Council, 2011)
"MF scenario": reference value for interest rate criterion excluding the effect of changing composition (see Bureau of Government Plenipotentiary for Euro Adoption in Poland, 2011).
"Any negative=outlier": reference value excluding 1 to 5 countries over the period IX 2009-V 2011 (i.e. the time of negative inflation in annual average terms).

Source: Bureau of Government Plenipotentiary for Euro Adoption in Poland (the 2010, 2011); National Bank of Poland – Monetary Policy Council (the 2011); authors.

the future, the Bureau of Government Plenipotentiary for Euro Adoption in Poland (2010) attempts to estimate how much deviation from the EA annual average inflation would result in a country's exclusion from the reference group. Given all the cases of reference countries in *Convergence Reports* up to 2010, as well as a graphical analysis of charts in the *Convergence Report* 2010, and treating all this evidence as binding precedents, one might establish that the wide margin amounts to 2.3 p.p. (up to one-decimal precision). Such a rule would indeed imply a significantly different reference value in the crisis sample (2010-2011; see Figure 6a).

On top of that, exceptional economic developments should be taken into account (which is an intangible and discretionary notion by nature). This is why another alternative scenario for the reference value is considered in *Inflation Report* of November 2011 (the National Bank of Poland – Monetary Policy Council, 2011). Namely, the NBP assumes that any EU country taking advantage of the IMF or EU assistance programmes could be considered as an outlier. However, the NBP emphasizes that the information on outlier selection available to date is still insufficient to predict their occurrence. Additional input for this discussion will likely become available in spring 2012 with the publication of *Convergence Reports* 2012.

To generalize the case of outlier selection, Darvas (2010) challenges the previous calculation of the reference values based on order statistics rather than the EA average.[17] Not only does this raise business cycle dependence and blur the picture of convergence with the euro area, but also relates the assessment of Member States to economic developments in possibly small, remote or non-EA economies. Darvas (2010) proposes to reform the criteria taking this fact into account, and takes legal options into consideration. He argues that it is not adjusting the criteria to state-of-the-art economic experience and current market situation, but leaving them unchanged, that violates the principle of equal treatment of the Member States.

[17] Darvas (2010) applies the same reasoning to the interest rate and fiscal criterion.

6.2 Interest rate criterion

The reference value for the interest rate criterion is calculated as 12-month moving average of long-term government bond yields in at most 3 countries that belong to the reference group for the price stability criterion, plus 2 percentage points. At the advanced stage of the crisis, in particular since 2009, this value has become markedly more volatile than before. As the Bureau of Government Plenipotentiary for Euro Adoption in Poland (2011) demonstrates, this change is due to an interaction of 2 factors: (i) growing cross-country sovereign bond spreads (see Subsection 4.2) and (ii) more frequent rotation in the reference group. When EU countries with similar, low inflation rates represent differentiated interest rate levels, any switch within this group can lead to substantial fluctuations of the reference value. This is true regardless of their rotation frequency; however, the more frequently the countries switch, the stronger the impact of interest rate differentials is. The spreads between 10-year government bond yields within the EU have narrowed considerably by the end of 2000, as reflected by their standard deviation (see Figure 6b). Interest rate dispersion rose again in 2004, as a result of the EU enlargement, and – to a lesser extent – in 2007. These changes, however, were accompanied by stable, negligibly low dispersion among the euro area countries. After the culmination of the financial crisis in September 2008, both measures rose to historically high levels. This growth was partly corrected in the EU in late 2009, as the pressure in financial markets of the emerging economies gradually subsided. In contrast, the standard deviation among the euro area countries has been continuously rising since mid-2010.

At the same time, this phenomenon cannot be accounted for by growing volatilities of government bond yields in individual countries. Although for some of the EU countries the variance of long-term interest rates grew markedly in the period since September 2008, as compared to the years 2004-2008 (see Figure 5a)[18], a vast majority of the EU Member States did not exhibit a significant change in variance. Two of them (Poland and Cyprus) have even experienced stabilization of the long-term interest rates, as compared to their previous performance. In order to isolate the effect of the reference group's changing composition from the possible effect of rising volatility in individual countries, the Bureau of Government Plenipotentiary for Euro Adoption in Poland (2011) calculated an alternative, counterfactual reference value (see Figure 6b).[19] This exercise shows that the reference value for the interest rate criterion would have been less volatile in the recent period if the changes in the composition had not been taking place.

Rising cross-country differentials increase the volatility of the reference value as such (as long as there is any rotation in the reference group), but even more so when they are coupled with rising frequency of the rotation. This has been the case over the period 2008-2011. As compared with previous periods (1998 through 2004 and after the EU enlargement), countries switched 5.5 times a year, as compared to 1.4 before May 2004 and 3.5 after that. The first rise can partly be explained by a considerably wider pool of countries (25 instead of 15): 7 of the NMS – CZ, LT, PL, MT, EE, LV and SK – have already taken the positions of best-performers. The second rise, however, does not reflect a statistical effect of the EU enlargement. The average time in the reference group has also shortened – from 22.6 months in 1998-2004 and 13.4 months in 2004-2008 to 7 months in 2008-2011 (Table 7).

The rise in rotation frequency in the reference group resulted from inflation developments against the background of financial and economic crisis. Strong adverse shocks of differentiated scope hit heterogeneous EU economies, leading in some of them to strong disinflation or even deflation (cf. Bagliano and Morana, 2010). This was coupled with the emergence of outliers in the deflationary environment (see Subsection 6.1).

The persistence of government bond yield spreads between the EU countries (including the ones within the euro area) suggests a level shift rather than a temporary change in the market perception of risks,

[18] This is especially true for euro area countries on international assistance (Greece, Ireland, Portugal), the ERM II Baltic states (Lithuania and Latvia) and some of the Central European countries with relatively weaker economic fundamentals (Romania, Bulgaria, Hungary).

[19] Its initial value (for January 1998) was set equal to the actual one. The increments from period t to t+1 were sequentially calculated under the assumption that the all the reference countries of period t remain in this group in period t+1 (the increment from t+1 to t+2 under the composition as of t+1, etc.).

Table 7: Interest rate criterion – descriptive statistics in subsamples

Period	number of changes in reference group p.a.	average time in the reference group	std dev. of reference value (wide margin=2.3)	std dev. of reference value (MoF scenario)	std dev. of interest rate series within EU	std dev. of interest series within EA
1998m01-2004m04	1.4	22.6	0.4	0.4	0.4	0.1
2004m05-2008m08	3.5	13.4	0.3	0.3	0.8	0.1
2008m09-2011m05	5.5	7.0	1.1	0.3	2.0	0.8

Source: Bureau of Government Plenipotentiary for Euro Adoption in Poland (the 2011).

and hence a permanently higher volatility of the reference value can be expected as compared to the pre-crisis period. At the same time, one might still expect it to decrease from the levels observed in 2008-2011, as the impact of the economic crisis 2008-2009 will be subsiding and inflation developments normalize; one might equally expect it to rise once another deep economic crisis occurs.

The experience of the period 2008-2011 strongly deviates from the previous practice of applying the interest rate criterion. Its construction (especially the fact that it inherits the reference group from the price stability criterion) implicitly assumes the existence of a group of economies that excel both in terms of price stability and consequently (via expectations channel) face low long-term interest rates. Meanwhile, a combination of strong adverse economic shocks during the economic crisis (that eventually turned into sovereign debt crisis in some EU economies) resulted in exceptionally low price dynamics coupled with rise in government yields in some Member States (cf. the National Bank of Poland – Monetary Policy Council, 2011; Bureau of Government Plenipotentiary for Euro Adoption in Poland, 2011). The group of low-inflation economies comprised both countries that did not experience strong market tensions after 2008 and exhibit a long record of price stability (Germany, the Netherlands, Luxembourg), as well as economies that suffered from long and severe tensions in the markets and deep recession (Latvia, Ireland, Portugal).

From the Polish perspective, the above developments induced frequent changes in terms of fulfilment or violation of the interest rate criterion after 2008 (see Figure 6b). These changes clearly contrast with relative stability that characterized the fulfilment of this criterion in the earlier period of Poland's EU membership. Given the permanent shift in market risk perception after the crisis and the above discussion, one might argue that the fulfilment of the interest rate criterion in the future with an adequate safety margin will require (i) a stronger conviction of the markets that the fiscal criterion will have been fulfilled than it had been the case before 2008 (no more "halo" effect from the euro in expectations) and (ii) normalization of the debt market conditions in the euro area and a prospect for a stable period in the European economy. According to Darvas (2010), the crisis context has revealed that a volatile reference value makes the criterion fulfilment a matter of good luck rather than stable market expectations, and that this construction does not fit the spirit of Maastricht Treaty in the enlarged and crisis-experienced EU any more.

6.3 Exchange rate criterion

The outbreak of the financial and economic crisis has shifted the global financial markets to a new, high-volatility regime. This has obviously affected i.a. European FX markets, including the functioning of ERM II mechanism. In 2007, five European currencies participated in ERM II (Slovak, Estonian, Latvian, Lithuanian and Danish). During the crisis period, Slovakia and Estonia have successfully fulfilled i.a. the exchange rate stability criterion. Their experience, along with the assessment of Lithuania and (especially) Latvia in *Convergence Reports* 2008 and 2010, shed some new light on the assessment of this criterion.

Firstly, and intuitively, a switch to high-volatility environment in the FX market complicates the fulfilment of the criterion for ERM II participants. For countries willing to join the ERM II, another difficulty emerges from the necessity to set the central parity in a way consistent with equilibrium exchange rate estimates (which are far more difficult to obtain when speculative capital flows remain the main driver of exchange rate movements rather than the macroeconomic situation, cf. Siregar, 2011) and taking into account the current, highly volatile market rate. The PLN/EUR rate faced an unprecedented rise in volatility measures (ERV, implied volatilities) after the fall of Lehman Brothers in 2008. Crespo Cuaresma et al. (2010) see this pattern as puzzling and macroeconomically unexpected, but to some extent predictable using market information. Likewise, Geza and Giurca Vasilescu (2011) point out that the Romanian leu remained overvalued before 2008, but the strong depreciation that broke the pre-crisis upwards trend has left RON valued far below fundamentals. It is worth noting, however, that none of the ERM II currencies was devalued or broke the agreed fluctuations margin in the crisis years 2007-2011. Also, there is no new evidence as regards the tolerance of the ECB and the EC towards depreciation within the 15% margin.

Secondly, the last stage of Slovakia's participation in ERM II deserves particular attention. In Autumn 2008, after Lehman Brothers, most FX markets in the world – including NMS of the EU – experienced tensions and high volatility. While Latvia was going through severe tensions, and non-ERM II currencies were depreciating sharply, this culmination of the financial crisis had virtually no impact on the Slovak FX market. After the Council's decision to abrogate the derogation in July 2008, the magnet effect remained remarkably strong and the SKK/EUR rate remained stable. Notably, the National Bank of Slovakia did not intervene in the market at that time (see Zespół Roboczy ds. Makroekonomicznych, 2011a).

Thirdly, and most remarkably, the crisis resulted in an unprecedented, negative assessment of the exchange rate stability criterion merely based on the occurrence of the severe tensions and in spite of observing the agreed, narrow fluctuation margins and sufficiently long participation period. This was the case for Latvia in 2010 (see Box 7). According to the EC and the ECB, the global financial crisis 2008-2009 induced severe tensions in the Latvian FX market that manifested themselves in several ways. The short-term interest rate disparity *vis-à-vis* the euro area rose up to 20 p.p., Latvia obtained financial assistance of the EU and the IMF, and the interventions of Bank of Latvia were so intensive that they significantly reduced the stock of its FX reserves.

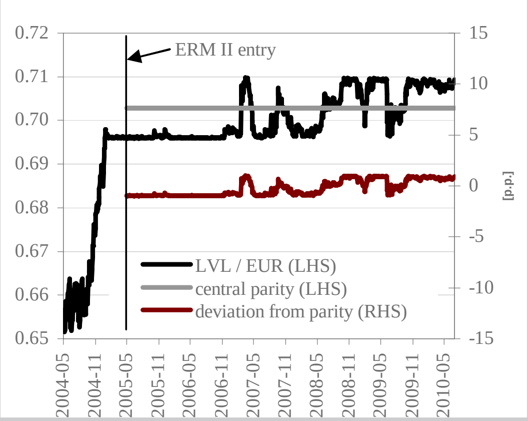
In its negative assessment of 2010, the ECB criticised Latvia for insufficient policy actions against growing imbalances (including the anti-inflationary measures of 2007), ineffective wage moderation policies and excessive credit growth under loose financing conditions until 2007. It was only the recession, as the ECB remarked, that started the correction, and no meaningful structural reforms were implemented until the actions enforced by the IMF and EU that accompanied the balance of payments assistance.

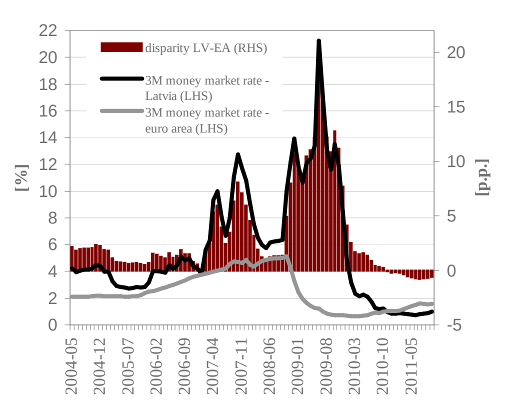
Fourthly, it might be interesting to note the evolution of the narrative assessment in the *Convergence Reports* after 2006. A broader range of auxiliary indicators is discussed, including net foreign assets, foreign debt (especially short-term debt) in relation to the stock of FX reserves, dynamics of foreign currency reserves, as well as share of the euro area countries in portfolio and direct foreign investment. Since 2006, the ECB has been paying increasingly more attention to the assessment of policy commitments made at the time of ERM II entry. In particular, Baltic states were criticised for a late and insufficient implementation of the wage moderation and credit restraint policies that exacebrated the impact of the crisis. Although the criticism towards policies has not yet resulted in any negative assessment, they might attract even more attention in the new economic governance framework. The assessment of exchange rate stability via auxiliary indicators may also be linked to the analytics of the Macroeconomic Imbalance Procedure.

Box 7. Country study: LATVIA

Tensions in the Latvian FX market began in February 2007. Amid deepening external and internal imbalances, the rating agencies changed the perspective for Latvia from stable to negative. This vulnerability, developing over an extended timespan, coincided with rumours about LVL devaluation. LVL/EUR rate depreciated sharply to its lower limit. Until April 2007, Bank of Latvia raised its interest rates, intervened intensively and the government announced a new, anti-inflationary policy schedule. The second wave of turbulence came in summer 2007, when investors started to fear the impact of imminent financial crisis in the USA on the global economy. Liquidity problems in the interbank market and rising risk aversion drove the interest rate disparity versus the euro area up to 8 p.p., but this time the Bank of Latvia was not forced to intervene. Market tensions subsided until spring 2008 and the EC and the ECB decided to issue a positive assessment of exchange rate stability in Latvia in *Convergence Reports* 2008, although accompanied by warnings concerning high macroeconomic risk, low liquidity and unsatisfactory implementation of ERM II-related policy recommendations.

Substantial deterioration of market conditions took place in September 2008. Lats fell under pressure as markets started to question the possibility of maintaining the central parity in ERM II and the peg. The interbank market rates rose sharply (along with spreads *vis-à-vis* the euro area in various market segments) and it was uncertain whether part of the financial sector liabilites would have to be taken over by the government. On top of that, Latvia was downgraded by rating agencies and sudden capital outflow began. Interventions by the Bank of Latvia that aimed to supply liquidity and maintain the peg turned out to be insufficient, in spite of a substantial meltdown of FX reserves (by one-fourth at the end of 2008). The balance of payments crisis forced Latvia to ask for international financial assistance from the IMF and EU. Bank of Latvia also concluded an agreement with Swedish and Danish central banks to supply liquidity in euro in swap transactions by the end of 2009. Negative feedbacks in Latvian and the world economy, including credit crunch, fall in external demand, continued capital outflows and political tensions, led to another wave of tensions in the second quarter in 2009. In spite of the market's doubts about the sustainability of the peg, the monetary authority has managed to defend it at the cost of substantial loss in foreign reserves.





The situation stabilized in summer 2009 after a budget amendment that envisaged a large-scale fiscal contraction. Even more fiscal austerity measures were included in the 2010 budget, which – in spite of some political tensions – further contributed to reestablishing the investors' confidence. In July 2009, the second tranche of the EU-IMF assistance was agreed. Over the period 2010-2011, Latvia attained a far-reaching correction of external and internal imbalances, reversion of capital outflows and the rating prospect was changed to stable. In the meantime, despite unpopular reforms, the government renewed its mandate in the general election.

Source: based on European Central Bank (the 2008, 2010a); European Commission (the 2008a, 2010a); Zespół Roboczy ds. Makroekonomicznych (the 2011a); authors.

6.4 Fiscal criterion

Out of 4 nominal convergence criteria, the fiscal one has definitely gained prominence in the crisis period. In a very critical paper, Darvas (2010) questions the economic sense of the criteria as defined in the Maastricht treaty and emphasizes that the fiscal criterion remains the key one. Moreover, after the outbreak of the crisis, it has probably become the most difficult one to fulfil. At the same time, however, Darvas (2010) points to high business cycle dependence of this criterion (e.g. the deterioration of Slovak fiscal position from positive assessment in 2009 to EDP in 2010 probably did not result from a sudden increase in fiscal irresponsibility).

Also, he points to a striking asymmetry between euro area outsiders and insiders in terms of enforcement. It remains an open issue how the new economic governance procedures will change it.

6.5 Towards the new cost-benefit balance for newcomers

All in all, the membership in the post-crisis euro area should significantly differ from what we imagined so far by observing individual euro area member states and their experience. The following facts should therefore be taken into account when revising the cost-benefit balance of euro adoption, i.a. for Poland.

In the world of refined credit risk perception, deleveraging and protracted fiscal adjustments, there will be not much left of the "halo" effect associated with the euro. In spite of integrated money market, the spreads will probably persist both between sovereign bond yields and private sector debtors in individual countries. In the former case (see Subsection 4.2), differences shall probably exceed the scope that could be explained by mere liquidity issues. Previous estimates of fiscal benefits, resulting from the possibility of low-cost financing of deficits, should definitely be revised.

Instead, the scale of benefits seems now to be much more policy-dependent than before. The financial markets have returned to their disciplining role on the country-level, even in the monetary union, and they have so far been effectively discriminating between reform leaders and laggards (see Subsection 2.2.1). There is nothing new to the statement that "there is no alternative" for flexible markets in a monetary union, but still at the moment we have probably a better feeling for what this "non-existent" alternative means in terms of disorderly sovereign default, deep economic crisis, political tensions and external assistance coupled with far-reaching restrictions on sovereignty.

By adopting the euro, the newcomers will probably take on a far more restrictive fiscal framework than EA countries in the pre-crisis times (see Section 4). It will no longer be the case that any candidate country gives up monetary autonomy while preserving full (or at least extensive) fiscal autonomy. The crisis has shown that such a setup was flawed and not immune to crises (see Section 5) and the European Union seems to have acknowledged this fact.

Further restrictions will come from the new Macroeconomic Imbalance Procedure (see Section 2). Poland and other candidate countries will have to comply with it whether or not they adopt the euro, although the setup does not seem to be perfectly suited for catching-up economies. However, future EA countries will have to observe some more restrictive thresholds in the scoreboard and will have less policy instruments to deal with the rest of them. This also implies that the loss of monetary autonomy under MIP can be more welfare-decreasing than without it.

Recent, crisis-based experience has also increased (rather than decreased) the uncertainties about the fulfilment of some Maastricht criteria. Although nothing was modified here from the formal point of view, one might expect a "wide margin" of discretion in their strict application after the crisis.

On the other hand, the impact of crisis (or a system of interrelated crises) on the cost-benefit balance for Poland and other derogation countries is not necessarily negative. Firstly, the significance of intangible, political benefits from EA participation has definitely risen in the new EU (or EMU) institutional framework. We might expect more benefits from participation in decision-making process and recent developments indicate that the core part of this process is continuously shifting towards euro area countries (see Section 5).

Secondly, some risks related to the euro adoption – like risk of a consumption boom and the subsequent bust episode – can be mitigated under the new, more restrictive supervisory framework (see Section 3). The new perception of risk may help to avoid strong real interest rate procyclicality on the country level and the new EU-wide macroprudential measures may successfully complement the country-level policy tools. It may also be beneficial for the economic stability that agents' expectations about future growth remain more reserved, as opposed to over-optimistic cases of some peripheral EA countries one and a half decade ago.

Finally, the reformed euro area can still be viewed as a shield against the crisis for the countries with sound public finance, high competitiveness and sufficient market flexibility. The literature confirms that it allowed them to avoid sudden competitiveness shifts, firms' exposure to exchange rate risk and less efficient, uncoordinated monetary policy responses. Moreover, the ongoing reforms aim to reinforce the EA stability.

7 Conclusion

There is no single "euro crisis". Since 2008, a number of shocks have hit the euro area as a whole and, more importantly, its individual countries. This coincided with long-lasting policy errors, and the framework of the monetary union has substantially limited the feasible set of solutions. In this context, the main lesson for the derogation countries is that the only way to reap the benefits of the common currency is to implement appropriate reforms to make the economy highly flexible and the public finance – sound.

That, however, is not all the story. The EMU's institutional framework has proven to be vulnerable to crises and designed based on wishful thinking rather than strong rationale, and the crisis only uncovered this fragility. As a result, at the current juncture, the stability of the EMU is being questioned. *The Economist (2011a)* concludes that there is a certain way to save the euro if in exchange for fiscal integration some form of Eurobonds as well as full support by the ECB for the solvent sovereigns would be introduced. The question now, therefore, is not whether the common currency can be saved, but whether European leaders are prepared to pay the price.

In our view, this literature overview leaves behind a number of questions about the implications of the crisis for a euro-candidate country. The most important one regards the sustainability of the euro area, as well as its future composition and mechanics, mainly on the fiscal side. It is possible that future enlargements of the monetary union will also be enlargements of a (deep or shallow) fiscal federation. Once its design becomes clear, it is worth considering whether the constraints imposed there are acceptable, especially for a catching-up economy. The fiscal benefits from the euro adoption also need to be reestimated in the new market context.

Secondly, the issue of external imbalances remains largely unresolved. The functioning of the Macroeconomic Imbalance Procedure needs to be investigated once it is launched, mainly in terms of efficiency, links between instruments and targets, optimum institutional design and the indicators in the scoreboard along with their thresholds. Again, appropriate handling of the real convergence phenomena should be ensured so that catching-up countries avoids the struggle against the thresholds with a limited set of policy instruments.

Thirdly, it remains a challenge to adequately model the monetary-union-specific financial markets. The crisis revealed their imperfections in terms of the geographical risk distribution (which was mainly due to segmentation in retail banking), but their role in handling external imbalances also deserves more investigation. Furthermore, it should be assessed to what extent the possible set-up of pan-European banking supervision, as well as implementation of Basel III, could limit the risk of uncontrolled capital inflow after the ERM II accession.

Fourthly, some issues of particular importance for Poland and other candidate countries emerge. Are the crises in "GIIPS" countries sufficient to say that the endogeneity hypothesis of OCA does not hold, or do they provide empirical material regarding its dynamics and prerequisites? Are massive depreciations of the Center and Eastern European currencies during the crisis an argument for or rather against flexible exchange rate regime, once they are considered in a general rather than partial equilibrium setup? And, finally, are the Maastricht criteria still appropriate, or more difficult to fulfil after the crisis?

The new situation implies some serious shifts in relative importance of euro-costs and euro-benefits for the EA-newcomers, both on the upside and on the downside. It remains an issue for quantitative research to weight their relative impact against each other, but it seems that their conditionality on country-level macroeconomic policy largely exceeds previous assessments. While we argued about benefits, opportunities, threats and costs before, now there are only opportunities and threats that seem to be left.

Nomenclature

CAB	cyclically-adjusted budget balance
CBPP	Covered Bond Purchase Programme
CDS	credit default swap
EA	euro area
EBA	European Banking Authority
EC	European Commission
ECB	European Central Bank
EDP	Excessive Deficit Procedure
EFSF	European Financial Stability Facility
EFSM	European Financial Stabilization Mechanism
EIOPA	European Insurance and Occupational Pensions Authority
EIP	Excessive Imbalance Procedure
EMU	Economic and Monetary Union
EONIA	Euro Overnight Index Average
ESA	European Supervisory Authority
ESM	European Stability Mechanism
ESMA	European Securities and Markets Authority
ESRB	European Systemic Risk Board
EU	European Union
EURIBOR	Euro Interbank Offered Rate
GIIPS	a group of euro area countries: Greece, Ireland, Italy, Portugal and Spain
IMF	International Monetary Fund
MIP	Macroeconomic Imbalance Procedure
MTO	medium term objective
OCA	Optimum Currency Area
OTC	over the counter
RWA	risk weighted assets
SEPA	Single Euro Payments Area
SGP	Stability and Growth Pact
SMP	Securities Market Programme

TARGET	Trans-European Automated Real-time Gross Settlement Express Transfer System
TARP	Troubled Assets Relief Program
TFEU	Treaty on Functioning of the European Union
TFEU	Treaty on the Functioning of the European Union

References

(1969): *The Vienna Convention on the Law of Treaties.*

Aflouk N., Mazier J., Saadaoui J. (2010): *Exchange Rate Misalignments and World Imbalances: A FEER Approach for Emerging Countries*, 7th International Conference Developments in Economic Theory and Policy, Bilbao, 1st-2nd of July 2010, URL http://halshs.archives-ouvertes.fr/docs/00/48/48/08/PDF/AFSE_FEER_2010_2_.pdf.

Alesina A. (2010): *Fiscal adjustments: lessons from recent history*, Prepared for the Ecofin meeting in Madrid April 15 2010, mimeo, URL http://www.economics.harvard.edu/faculty/alesina/files/Fiscal%2BAdjustments_lessons.pdf.

Alesina A., Ardagna S., Trebbi F. (2006): *Who Adjusts and When? The Political Economy of Reforms*, IMF Staff Papers, 53.

Alesina A., Perotti R., Tavares J. (1998): *The Political Economy of Fiscal Adjustments*, Brookings Papers on Economic Activity, (29), 197–266, URL http://www.brookings.edu/~/media/Files/Programs/ES/BPEA/1998_1_bpea_papers/1998a_bpea_alesina_perotti_tavares_obstfeld_eichengreen.pdf.

Alesina A.F., Ardagna S. (2010): *Large changes in fiscal policy: taxes versus spending*, NBER Working Paper Series, 15438, URL http://www.nber.org/papers/w15438.

Andersen T. (2011): *A Flexicurity Labour Market in the Great Recession: The Case of Denmark*, IZA Discussion Paper, 5710, URL http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1849465#.

Annett A. (2006): *Enforcement and the Stability and Growth Pact: How Fiscal Policy Did and Did Not Change Under Europe's Fiscal Framework*, IMF Working Paper, 06/116, URL http://www.imf.org/external/pubs/ft/wp/2006/wp06116.pdf.

Annunziata M. (2010): *Moral hazard in the eurozone: a proposed solution*, UniCredit, Munich, Economics & FI/FX Research, Economic Special, URL http://mediaserver.fxstreet.com/Reports/471ac794-fca7-4224-a6b2-5a8c53fec474/834cb1c0-15e2-4021-bfa4-1a12aad7ee7c.pdf.

Arghyrou M.G., Tsoukalas J.D. (2010): *The Greek Debt Crisis: Likely Causes, Mechanics and Outcomes*, CESIFO Working Paper, 3266, URL http://www.cardiff.ac.uk/carbs/econ/workingpapers/papers/E2010_3.pdf.

Aspachs-Bracons, Rabanal (2011): *The Effects of Housing Prices and Monetary Policy in a Currency Union*, IMF Working Paper, 6, URL http://www.imf.org/external/pubs/ft/wp/2011/wp1106.pdf.

Athanassiou P. (2009): *Withdrawal and expulsion from the EU and EMU:*, ECB Legal Working Papers Series, No. 10.

Auerback M. (**2011**): *What happens if Germany exits the euro?*, Levy Economics Institute of Bard College, Policy Note, 1, URL http://www.levyinstitute.org/pubs/pn_11_01.pdf%20.

Babecký, Komárek, Komárková (**2011**): *Financial integration at times of financial instability*, Czech National Bank Working Paper, URL http://www.cnb.cz/miranda2/export/sites/www.cnb.cz/en/financial_stability/fs_reports/fsr_2009-2010/FSR_2009-2010_article_2.pdf.

Bagliano F.C., Morana C. (**2010**): *The effects of US economic and financial crises on euro area convergence*, Department of Economics and Public Finance "G. Prato" Working Paper Series, 15, URL http://web.econ.unito.it/prato/papers/n15.pdf.

Baldwin R., Gros D. (**2010**): *The euro in crisis - What to do?*, in: Completing the Eurozone Rescue: What more needs to be done?, Centre for Economic Policy Research, 1–23, URL http://www.voxeu.org/reports/EZ_Rescue.pdf.

Barbosa L., Costa S. (**2010**): *Determinants of sovereign bond yield spreads in the euro area in the context of the economic and financial crisis*, Banco de Portugal Working Paper, 22/2010, URL http://www.bportugal.pt/en-US/BdP%20Publications%20Research/wp201022.pdf.

Barnes, Lane, Radziwill (**2010**a): *Minimising Risks from Imbalances in European Banking*, OECD Economics Department Working Paper, 828.

Barnes S. (**2010**): *Resolving and Avoiding Unsustainable Imbalances in the Euro Area*, OECD Economics Department Working Papers, 827.

Barnes S., Lawson J., Radziwill A. (**2010**b): *Current Account Imbalances in the Euro Area: A Comparative Perspective*, OECD Economics Department Working Papers, 826.

Barrios S., Iversen P., Lewandowska M., Setzer R. (**2009**): *Determinants of intra-euro area government bond spreads during the financial crisis*, European Economy. Economic Papers, 388, URL http://ec.europa.eu/economy_finance/publications/publication16255_en.pdf.

Bayoumi T., Harmsen R., Turunen J. (**2011**): *Euro Area Export Performance and Competitiveness*, IMF Working Paper, 11/140.

Bean C. (**1998**): *The Interaction of Aggregate-Demand Policies and Labour Market Reform*, Swedish Economic Policy Review, 5(2).

Bednarek-Sekunda E., Jong-A-Pin R., de Haan J. (**2010**): *The European Economic and Monetary Union and Labour Market Reform*, European Union Politics, 11(1), 3–27.

Beirne, Dalitz, Ejsing, Grothe, Manganelli, Monar, Sahel, Susec, Tapking, Vong (**2011**): *The impact of the Eurosystem's covered bond purchase programme on the primary and secondary markets*, ECB Occasional Paper, 122, URL http://www.ecb.int/pub/pdf/scpops/ecbocp122.pdf.

Belke A. (**2010**a): *The Euro Area Crisis Management Framework. Consequences and Institutional Follow-Ups*, Ruhr Economic Papers, (1076), URL http://en.rwi-essen.de/publikationen/ruhr-economic-papers/308/.

Belke A. (**2010**b): *Reinforcing EU Governance in Times of Crisis: The Commission Proposals and Beyond*, Ruhr Economic Papers, 232, URL http://repec.rwi-essen.de/files/REP_10_232.pdf.

Belke A., Dreger C. (**2011**): *Current Account Imbalances in the Euro Area: Catching Up or Competitiveness?*, Deutsches Institut für Wirtschaftsforschung Berlin Discussion Papers, 1106, URL http://www.diw.de/documents/vortragsdokumente/220/diw_01.c.372921.de/v_2011_belke_current_vfs_dp1106.pdf.

Berger H., Nitsch V. (**2010**): *The Euro's Effect on Trade Imbalances*, IMF Working Paper, 10/226.

Bernoth K., Erdogan B. (**2011**): *Sovereign bond yield spreads: A time-varying coefficient approach*, Journal of International Money and Finance, forthcoming.

Blanchard O., Giavazzi F. (**2002**): *Current account deficits in the euro area: The end of the Feldstein-Horioka puzzle?*, Brookings Papers on Economic Activity, 2.

Blejer M.I., Levy Yeyati E. (**2010**): *Leaving the euro: What's in the box?*, voxeu.org, URL http://www.voxeu.org/index.php?q=node/5326.

Bofinger P., Ried S. (**2010**): *A New Framework for Fiscal Policy Consolidation in Europe*, Intereconomics, (45), URL http://hdl.handle.net/10.1007/s10272-010-0338-3.

Boone P., Johnson S. (**2011**): *Europe on the Brink*, Policy Brief Peterson Institute for International Economics, (PB11-13), URL www.iie.com/publications/pb/pb11-13.pdf.

Bordo M., Markiewicz A., Jonung L. (**2011**): *A Fiscal Union for the Euro: Some Lessons from History*, NBER Working Paper Series, (17380), URL http://www.nber.org/papers/w17380.

Brecht M., Tober S., van Treeck T., Truger A. (**2010**): *Squaring the circle in Euroland? Some remarks on the Stability and Convergence Programmes 2010-2013*, Institut für Makroökonomie und Konjunkturforschung Working Paper, 3/2010, URL http://www.boeckler.de/pdf/v_2010_10_25_van_treeck_truger.pdf.

Brzoza-Brzezina M. (**2005**): *Lending Booms in the New EU Member States. Will Euro Adoption Matter?*, ECB Working Paper, 543, URL www.ecb.int/pub/pdf/scpwps/ecbwp543.pdf.

Buiter W. (**2006**): *The 'Sense and Nonsense of Maastricht' Revisited: What Have we Learnt about Stabilization in EMU?*, Journal of Common Market Studies, 44(4), 687–710.

Buiter W. (**2011**a): *A Greek Exit from the Euro Area: A Disaster for Greece, a Crisis for the World*, Citi, Economics, Global Economics View, 13 September.

Buiter W. (**2011**b): *The terrible consequences of eurozone collapse*, Financial Times, 8 December.

Buiter W., Rahbari E. (**2011**): *The future of the euro area: fiscal union, break-up or blundering towards a 'you break it you own it Europe'*, Citi, Economics, Global Economics View, 9 September.

Burda M.C., Gerlach S. (**2010**): *A credible Stability and Growth Pact: Raising the bar for budgetary transparency*, in: Completing the Eurozone Rescue: What more needs to be done?, Centre for Economic Policy Research, (17.06.2011), 65–68, URL http://www.voxeu.org/reports/EZ_Rescue.pdf.

Bureau of Government Plenipotentiary for Euro Adoption in Poland (**2010**): *Raporty o konwergencji 2010: zmiany w sposobie kalkulacji wartości referencyjnej dla kryterium stabilności cen*, Ministerstwo Finansów, URL http://www.mf.gov.pl/_files_/euro/analizy/inne/notatka_raport_o_konwergencji_2010.pdf.

Bureau of Government Plenipotentiary for Euro Adoption in Poland (**2011**): *Wzrost częstotliwości zmian w zakresie wypełnienia kryterium stopy procentowej po roku 2008: wyjaśnienie*, Ministerstwo Finansów, URL http://www.mf.gov.pl/_files_/euro/analizy/inne/monitor_2011_09_notatka_irc.pdf.

Buti M., Turrin A., den Noord P.V., Biroli P. (**2008**): *Defying the Juncker Curse: Can Reformist Governments Be Re-elected?*, European Economy. Economic Papers, 324.

Caballero R. (**2009**): *Sudden financial arrest*, VoxEU.org, URL http://voxeu.org/index.php?q=node/4216.

Calmfors L. (**2010**): *Fiscal Policy Coordination in Europe*, Institute for International Economic Studies, (765), URL http://su.diva-portal.org/smash/get/diva2:354734/FULLTEXT03.

Camarero M., Carrion-i-Silvestre J., Tamarit C. (**2010**): *External imbalances in a monetary union. Does the Lawson doctrine apply to Europe?*, Working Papers in Applied Economics, Departamento de Estructura Económica (Economía Aplicada II), Facultad de Economía, Universitat de Valencia, 2010-06, URL http://www.aeefi.com/RePEc/pdf/defi10-09.pdf.

Carbó-Valverde, Marqués-Ibánez, Fernández R. (**2011**): *Securitization, bank lending and credit quality – the case of Spain*, ECB Working Paper, 1329, URL http://www.ecb.int/pub/pdf/scpwps/ecbwp1329.pdf.

Cassola, Hortaçsu, Kastl (**2011**): *The 2007 subprime market crisis through the lens of the European Central Bank auctions for short-term funds*, ECB Working Paper, 1374, URL http://www.ecb.int/pub/pdf/scpwps/ecbwp1374.pdf.

Cavallo D. (**2011**): *Looking at Greece in the Argentinean mirror*, VoxEU.org, 15 July 2011, URL http://voxeu.org/index.php?q=node/6758.

Constancio V. (**2010**): *The future of euro governance: how to contain imbalances and preserve financial stability*, Speech at the The ECB and its Watchers Conference, Frankfurt/Main, July 9, URL http://www.ecb.int/press/key/date/2010/html/sp100709_3.en.html.

Corsetti G., Kuester K., Meier A., Mueller G. (**2010**): *Debt Consolidation and Fiscal Stabilization of Deep Recessions*, American Economic Review, (vol. 100(2),), pages 41–45, URL http://www.eui.eu/Personal/Researchers/meier/debt.pdf.

Council of the EU (**2010**): *Council Regulation (EU) No 1096/2010 of 17 November 2010 conferring specific tasks upon the European Central Bank concerning the functioning of the European Systemic Risk Board*, Official Journal of theEuropean Union L, 331, 162–164, URL http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:331:0162:0164:EN:PDF.

Crespo Cuaresma J., Gerŝl A., Slaĉík T. (**2010**): *Global Financial Crisis and the Puzzling Exchange Rate Path in CEE Countries*, Charles University in Prague Institute of Economic Studies Working Paper, 24/2010, URL http://d.repec.org/n?u=RePEc:fau:wpaper:wp2010_24&r=ifn.

Darvas, Pisani-Ferry, Sapir (**2011**): *A Comprehensive Approach to The Euro-Area Debt Crisis*, Working Papers, Corvinus University of Budapest, 1, URL http://www.bruegel.org/download/parent/491-a-comprehensive-approach-to-the-euro-area-debt-crisis/file/988-a-comprehensive-approach-to-the-euro-area-debt-crisis/.

Darvas Z. (**2010**): *The Case for Reforming Euro Area Entry Criteria*, Society and Economy, 32(2), 195–219, URL http://web.uni-corvinus.hu/matkg/working_papers/wp_2010_3_darvas.pdf.

Darvas Z., Kostyleva V. (**2011**): *Fiscal and Monetary Institutions in Central, Eastern and South-Eastern European Countries*, Department of Mathematical Economics and Economic Analysis, Corvinus University of Budapest, (02), URL http://web.uni-corvinus.hu/matkg/working_papers/wp_2011_2_darvas_kostyleva.pdf.

Daseking C., Ghosh A. anf Lane T., Thomas A. (**2004**): *Lessons from the crisis in Argentina*, IMF Occasional Paper, (236), URL http://www.imf.org/external/np/pdr/lessons/100803.htm.

de Grauwe P. (**2005**): *Economics of Monetary Union*, Oxford University Press.

de Grauwe P. (**2006**): *On monetary and political union*, CESifo Workshop "Enlarging the Euro Area", URL http://www.econ.kuleuven.ac.be/ew/academic/intecon/Degrauwe/PDG-papers/Discussion_papers/CESifo%20Forum%202006.pdf.

de Grauwe P. (**2011**a): *Balanced budget fundamentalism*, CEPS Commentaries, URL http://www.ceps.eu/book/balanced-budget-fundamentalism.

de Grauwe P. (**2011**b): *The Governance of a Fragile Eurozone*, CEPS Working Documents, (346), URL http://www.ceps.eu/book/governance-fragile-eurozone.

de Grauwe P. (**2011**c): *A less punishing, more forgiving approach to the debt crisis in the eurozone*, CEPS Policy Brief, Center for European Policy Studies, URL www.ceps.eu/ceps/download/4138.

de Grauwe P. (**2011**d): *Only a more active ECB can solve the euro crisis*, CEPS Policy Brief, 250, URL http://www.ceps.eu/ceps/download/5963.

de Larosiere Group (**2009**): *Report of the high-level group chaired by Jacques de Larosiere on financial supervision in the EU*, URL http://ec.europa.eu/internal_market/finances/docs/de_larosiere_report_en.pdf.

de Macedo J.B. (**2009**): *The Treasury and the Bank 20 Years After*, presentation at the coference "10 Years Of The Euro Adjustment In Capital And Labour Markets", 7-8 May 2009, Braga (Portugal).

De Vincenzo, Freni, Generale, Altimari, Quagliariello (**2011**): *Lessons learned from the financial crisis for financial stability and banking supervision*, Banca d'Italia Occasional Paper, URL http://www.bancaditalia.it/pubblicazioni/econo/quest_ecofin_2/QF_76/QEF_76.pdf.

Delpla J., von Weizsäcker J. (**2010**): *The blue bond proposal*, Bruegel policy brief, (03), URL http://www.bruegel.org/publications/publication-detail/publication/403-the-blue-bond-proposal/.

di Mauro F., Forster K., Lima A. (**2010**): *The global downturn and its impact on euro area exports and competitiveness*, ECB Ocassional Paper Series, 119.

Dor E. (**2011**): *Leaving the euro zone: a user's guide*, IESEG School of Management, Working Paper Series, ECO-06, URL http://my.ieseg.fr/bienvenue/DownloadDoc.asp?Fich=1046781054_2011-ECO-06_Dor.pdf.

dos Santos F.T. (**2008**): *EMU@10. What can we learn from the Portuguese experience?*, referat wygłoszony na konferencji Brussels Economic Forum w maju 2008 r., URL http://ec.europa.eu/economy_finance/events/2008/bef/teixeira-dos-santos_en.pdf.

Dötz N., Fischer C. (**2010**): *What can EMU countries' sovereign bond spreads tell us about market perceptions of default probabilities during the recent financial crisis?*, Deutsche Bundesbank Discussion Paper. Series 1: Economic Studies, 11/2010, URL http://www.bundesbank.de/download/volkswirtschaft/dkp/2010/201011dkp.pdf.

Duval R., Elmeskov J. (**2006**): *The effects of EMU on structural reforms in labour and product markets*, ECB Working Paper Series, 596.

Ehrmann M., Fratzscher M., Guerkaynak R.S., Swanson E.T. (**2011**): *Convergence and anchoring of yield curves in the euro area*, Review of Economics and Statistics, 93(1).

Ehrmann M., Soudan M., Stracca L. (**2010**): *Explaining the fall in citizens' trust in the ECB during the global financial crisis*, ECB, mimeo, URL http://147.142.190.246/joomla/peio/files2011/papers/Ehrmann,%20Soudan,%20Stracca%2029.09.2010.pdf.

European Central Bank (**2005**): *The reform of the Stability and Growth Pact*, Monthly Bulletin, 8, 59–73.

European Central Bank (**2008**): *Convergence Report.*

European Central Bank (**2009**a): *Decision of the European Central Bank of 2 July 2009 on the implementation of the covered bond purchase programme*, ECB/2009/16.

European Central Bank (**2009**b): *The financial crisis and the ECB's response so far*, Keynote address by Mr Jean-Claude Trichet, President of the European Central Bank, at the Chatham House Global Financial Forum, New York, 27 April 2009, URL http://www.ecb.int/press/key/date/2009/html/sp090427.en.html.

European Central Bank (**2009**c): *Financial Integration in Europe April 2009*, URL http://www.ecb.int/pub/pdf/other/financialintegrationineurope200904en.pdf.

European Central Bank (**2010**a): *Convergence Report.*

European Central Bank (**2010**b): *Decision of the European Central Bank of 14 May 2010 establishing a securities markets programme*, ECB/2010/5.

European Central Bank (**2010**c): *Reinforcing economic governance in the euro area*, URL http://www.ecb.int/pub/pdf/other/reinforcingeconomicgovernanceintheeuroareaen.pdf.

European Central Bank (**2010**d): *Report on the lessons learned from the financial crisis with regard to the functioning of European financial market infrastructures*, URL http://www.ecb.int/pub/pdf/other/reportlessonslearnedfinancialcrisis201004en.pdf.

European Central Bank (**2011**a): *Financial Integration in Europe May 2011*, URL http://www.ecb.int/pub/pdf/other/financialintegrationineurope201105en.pdf.

European Central Bank (**2011**b): *Policy rules and institutions in times of crises*, Speech by Lorenzo Bini Smaghi, Member of the Executive Board of the ECB, URL http://www.ecb.europa.eu/press/key/date/2011/html/sp110915.en.html.

European Central Bank (**2011**c): *The reform of ecnomic governance in the euro area - essential elements*, Monthly Bulletin, 3, 99–119.

European Commission (**2006**a): *The EU Economy: 2006 review – Adjustment dynamics in the euro area. Experiences and challenges*, European Economy, 6/2006.

European Commission (**2006**b): *Public Finances in the EMU 2006*, European Economy.

European Commission (**2008**a): *Convergence Report.*

European Commission (**2008**b): *EMU@10. Successes and challenges after 10 years of Economic and Monetary Union*, European Economy.

European Commission (**2010**a): *Convergence Report.*

European Commission (**2010**b): *The Economic Adjustment Programme for Greece*, European Economy. Occasional Papers.

European Commission (**2010**c): *Reinforcing economic policy coordination.*

European Commission (**2011**a): *Assessment of the 2011 national reform programme and stability programme for Greece*, European Commission Staff Working Paper, http://ec.europa.eu/economy_finance/economic_governance/sgp/pdf/20_scps/2011/02_staff_working_paper/el_07-06–2011_swp_en.pdf.

European Commission (**2011**b): *The Economic Adjustment Programme for Ireland*, European Economy. Occasional Papers, 76.

European Commission (**2011**c): *The Economic Adjustment Programme for Portugal*, European Economy. Occasional Papers, 79.

European Commission (**2011**d): *Economic governance: Commission proposes two new Regulations to further strengthen budgetary surveillance in the euro area*, MEMO/11/822, 23 November 2011, URL http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/822.

European Commission (**2011**e): *EU Economic governance "Six-Pack" enters into force*, MEMO/11/898, 12 December 2011, URL http://europa.eu/rapid/pressReleasesAction.do?reference=MEMO/11/898.

European Commission (**2011**f): *European Financial Stability and Integration Report 2010*, URL http://ec.europa.eu/internal_market/economic_analysis/docs/financial_integration_reports/20110412-efsir_en.pdf.

European Commission (**2011**g): *Green Paper; Feasibility of introducing Stability Bonds*, (COM(2011) 818 final), URL http://ec.europa.eu/europe2020/pdf/green_paper_en.pdf.

European Commission (**2012**): *Scoreboard for the Surveillance of Macroeconomic Imbalances*, European Economy – Occasional Papers, 92, URL http://ec.europa.eu/economy_finance/publications/occasional_paper/2012/pdf/ocp92_en.pdf.

European Council (**2011**): *Statement by the euro area heads of state or government*, 9 December 2011, Brussels, URL http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/126658.pdf.

European Council (**2012**): *Agreement on strengthening fiscal discipline and convergence*, press release, 30 January 2012, Brussels, URL http://www.consilium.europa.eu/uedocs/cms_data/docs/pressdata/en/ec/127631.pdf.

European Parliament, Council of the European Union (**2010**a): *Directive 2010/78/EU of the European Parliament and of the Council of 24 November 2010 amending Directives 98/26/EC, 2002/87/EC, 2003/6/EC, 2003/41/EC, 2003/71/EC, 2004/39/EC, 2004/109/EC, 2005/60/EC, 2006/48/EC, 2006/49/EC and 2009/65/EC in respect of the powers of the European Supervisory Authority (European Banking Authority), the European Supervisory Authority (European Insurance and Occupational Pensions Authority) and the European Supervisory Authority (European Securities and Markets Authority)*, Official Journal of the European Union L, 331, 120–161, URL http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:331:0120:0161:EN:PDF.

European Parliament, Council of the European Union (**2010**b): *Proposal for a regulation of the European Parliament and of the Council on OTC derivatives, central counterparties and trade repositories*, COM(2010) 484/5, URL http://ec.europa.eu/internal_market/financial-markets/docs/derivatives/20100915_proposal_en.pdf.

European Parliament, Council of the European Union (**2010**c): *Regulation (EU) No 1092/2010 of the European Parliament and of the Council of 24 November 2010 on European Union macroprudential oversight of the financial system and establishing a European Systemic Risk Board*, Official Journal of theEuropean Union L, 331, 1–11, URL http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:331:0001:0011:EN:PDF.

European Parliament, Council of the European Union (**2010**d): *Regulation (EU) No 1093/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Banking Authority), amending Decision No*

716/2009/EC and repealing Commission Decision 2009/78/EC, Official Journal of theEuropean Union L, 331, 12–47, URL http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:331:0012:0047:PL:PDF.

European Parliament, Council of the European Union (**2010**e): *Regulation (EU) No 1094/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Insurance and Occupational Pensions Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/79/EC*, Official Journal of theEuropean Union L, 331, 48–83, URL http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:331:0048:0083:PL:PDF.

European Parliament, Council of the European Union (**2010**f): *Regulation (EU) No 1095/2010 of the European Parliament and of the Council of 24 November 2010 establishing a European Supervisory Authority (European Securities and Markets Authority), amending Decision No 716/2009/EC and repealing Commission Decision 2009/77/EC*, Official Journal of theEuropean Union L, 331, 84–119, URL http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2010:331:0084:0119:EN:PDF.

European Parliament, Council of the European Union (**2011**a): *REGULATION (EU) No 1174/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 November 2011 on enforcement measures to correct excessive macroeconomic imbalances in the euro area*, Official Journal of the European Union, 23.11.2011, L 306, 8–11, URL http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:306:0008:0011:EN:PDF.

European Parliament, Council of the European Union (**2011**b): *REGULATION (EU) No 1176/2011 OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 16 November 2011 on the prevention and correction of macroeconomic imbalances*, Official Journal of the European Union, 23.11.2011, L 306, 25–32, URL http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=OJ:L:2011:306:0025:0032:EN:PDF.

Fahrholz C., Wójcik (**2011**): *A Positive Framework to Analyze Sovereign Bail-outs withi the EMU*, Working Papers on Global Financial Markets, (15-2011), URL http://www.gfinm.de/images/stories/workingpaper15.pdf.

Farvaque E., Hayat M.A., Mihailov A. (**2011**): *Who Supports the ECB? Evidence from Eurobarometer Survey Data*, University of Reading, Department of Economics, Discussion Papers, 092, URL http://www.reading.ac.uk/web/FILES/economics/emdp2011092.pdf.

Fatás A., Mihov I. (**2010**): *Fiscal policy at a crossroads: The need for constrained discretion*, in: Completing the Eurozone Rescue: What more needs to be done?, Centre for Economic Policy Research, 69–73, URL http://www.voxeu.org/reports/EZ_Rescue.pdf.

Felipe J., Kumar U. (**2011**): *Unit Labor Costs in the Eurozone: The Competitiveness Debate Again*, Levy Economics Institute of Bard College Working Paper Collection, 651, URL http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1773762.

Filipek A.K., Schreiber T. (**2010**): *The Stability and Growth Pact: Past Performance and Future Reforms*, College of William and Mary, Department of Economics, Working Paper, 97, URL http://web.wm.edu/economics/wp/cwm_wp97.pdf.

Fischer J., Jonung L., Larch M. (**2006**): *101 Proposals to reform the Stability and Growth Pact. Why so many? A Survey*, European Economy. Economic Papers, 267.

Gabrieli (**2009**): *The functioning of the European interbank market during the 2007-08 financial crisis*, Centre for Economic and International Studies Research Paper, 158, URL ftp://www.ceistorvergata.it/repec/rpaper/RP158.pdf.

Garcia-Herrero A., Fernández de Lis S. (2008): *The Housing Boom and Bust in Spain: Impact of the Securitisation Model and Dynamic Provisioning*, BBVA Economic Research Department Working Papers, 0806, URL http://serviciodeestudios.bbva.com/KETD/fbin/mult/WP_0806_tcm348-212959.pdf?ts=2512012.

Georgoutsos D.A., Migiakis P.M. (2010): *European sovereign bond spreads: monetary unification, market conditions and financial integration*, Bank of Greece Working Paper, 115, URL http://www.bankofgreece.gr/BogEkdoseis/Paper2010115.pdf.

Geza P., Giurca Vasilescu L. (2011): *Perspectives on Fulfilling the Nominal and Real Convergence Criteria by Romania for the Adoption of Euro Currency*, mimeo, URL http://mpra.ub.uni-muenchen.de/30011/1/MPRA_paper_30011.pdf.

Gros D. (2010): *The implications of a Greek default for the euro*, CEPS Commentary, Center for European Policy Studies, (7 May 2010, updated version), URL http://www.ceps.eu/ceps/download/3257.

Gros D., Mayer T. (2010): *How to deal with sovereign default in Europe: Create the European Monetary Fund now!*, Policy Brief, Centre for European Policy Studies, (202), URL http://www.ceps.eu/book/towards-european-monetary-fund.

Gros D., Mayer T. (2011): *Refinancing the EFSF via the ECB*, CEPS Commentary, Center for European Policy Studies, (14 August 2011), URL http://www.ceps.eu/content/refinancing-efsf-ecb.

Gros D., Roth F. (2010): *The financial crisis and citizen trust in the European Central Bank*, CEPS Working Document, 334, URL http://www.ceps.eu/book/financial-crisis-and-citizen-trust-european-central-bank.

Gwartney J., Hall J., Lawson R. (2011): *2011 Economic Freedom Dataset, published in Economic Freedom of the World: 2010 Annual Report*, Economic Freedom Network, URL http://www.freetheworld.com/2011/reports/world/EFW2011_complete.pdf.

Hallerberg M. (2011): *Fiscal federalism reforms in the European Union and the Greek crisis*, European Union Politics, (12(1)), 127–142, URL http://eup.sagepub.com/content/12/1/127.

Hankel W., A. K., Schachtschneider, Starbatty J. (2009): *Kein Bail-out zur Rettung des Euro-Raums*, Frankfurter Allgemeine Zeitung, (28 March 2009), URL http://www.seiten.faz-archiv.de/faz/20090328/fd2200903282171361.html.

Harashima T. (2011): *A Mechanism of Inflation Differentials and Current Account Imbalances in the Euro Area*, mimeo, URL http://mpra.ub.uni-muenchen.de/28121/.

Hauptmeier S., Sanchez Fuentes J., Schuknecht L. (2010): *Towards expenditure rules and fiscal sanity in the euro area*, European Central Bank Working Paper Series, (1266).

Häde U. (2010): *Legal Evaluation of a European Monetary Fund*, Intereconomics, 45(2), 69–72.

Henning R.C., Kessler M. (2012): *Fiscal federalism: US history for architects of Europe's fiscal union*, Bruegel Essay and Lecture Series, URL http://www.bruegel.org/publications/publication-detail/publication/669-fiscal-federalism-us-history-for-architects-of-europes-fiscal-union/?utm_source=Bruegel+publication+alert&utm_campaign=4490d07820-120112_fiscal_federalism_PA_1_11.

Høj J., Galasso V., Nicoletti G., Dang T. (2006): *The Political Economy of Structural Reform: Empirical Evidence from OECD Countries*, OECD Economics Department Working Papers, 501.

Holm-Hadulla F., Kamath K., Lamo A., Pérez J.J., Schuknecht L. (**2010**): *Public Wages in the Euro Area: Towards Securing Stability and Competitiveness*, European Central Bank Occasional Paper Series, 112.

Iara A., Wolff G.B. (**2010**): *Rules and risk in the euro area: does rules-based national fiscal governance contain sovereign bond spreads?*, European Economy. Economic Papers, 433, URL http://ec.europa.eu/economy_finance/publications/economic_paper/2010/pdf/ecp433_en.pdf.

IMF (**2009**): *Fiscal Rules Anchoring Expectations for Sustainable Public Finances*, International Monetary Fund, Washington DC.

International Monetary Fund (**2010**): *The IMF-FSB Early Warning Exercise. Design and Methodological Toolkit*, IMF, URL http://www.imf.org/external/np/pp/eng/2010/090110.pdf.

International Monetary Fund (**2011**): *Euro Area Policies: 2011 Article IV Consultation – Lessons from the European Financial Stability Framework Exercise*, URL www.imf.org/external/pubs/ft/scr/2011/cr11186.pdf.

Ioannou D., Stracca L. (**2011**): *Have Euro Area and EU Economic Governance worked? Just the facts*, ECB Working Papers Series, 1344.

Issing O. (**2009**): *Why a Common Eurozone Bond Isn't Such a Good Idea*, Center of Financial Studies, White Paper nr III, URL https://www.ifk-cfs.de/fileadmin/downloads/publications/white_paper/White_Paper_No_3_2009_Final.pdf.

Issing O. (**2010**): *A Greek bail-out would be a disaster for Europe*, Financial Times, 16. February 2010.

Issing O. (**2011**): *Slithering to the wrong kind of union*, Financial Times, 8. August 2011.

Jaumotte F., Sodsriwiboon P. (**2010**): *Current Account Imbalances in the Southern Euro Area*, IMF Working Paper, 10/139.

Jeong S.E., Mazier J., Saadaoui J. (**2010**): *Exchange Rate Misalignments at World and European Levels: A FEER Approach*, Économie Internationale, 121, 25–57.

Johnson S. (**2010**): *European Monetary Fund, arriving soon, The Baseline Scenario*, URL http://baselinescenario.com/2010/03/08/european-monetary-fund-arriving-soon/.

Jonung L., Drea E. (**2010**): *It Can't Happen, It's a Bad Idea, It Won't Last: U.S. Economists on the EMU and the Euro, 1989-2002*, Econ Journal Watch, 7(1), 4–52.

Kenen P. (**1969**): *Monetary problems of the international economy*, chapter The theory of optimum currency area: an ecclectic view, University of Chicago Press.

Kiguel M. (**2011**): *Argentine Lessons for Europe: Sovereign Debt and Banking Crises*, VoxEU.org, URL http://voxeu.org/index.php?q=node/6877.

King M. (**2011**): *Do we need an International Monetary System?*, speech at 2011 Economic Summit at the Stanford Institute for Economic Policy Research, 11 March 2011.

Kopits G., Symansky S. (**1998**): *Fiscal Policy Rules*, IMF Occasional Paper No. 162, International Monetary Fund.

Krugman P., Obstfeld M. (**2009**): *International economics – theory and policy*, Pearson.

Kyriacou G., Papageorghiou M. (**2010**): *Assessing the Equilibrium Exchange Rate of the Cyprus Pound at the time of Euro Adoption*, Central Bank of Cyprus Working Paper Series, 2010-6.

Lalinský T. (**2010**): *Business Competitiveness after Euro Adoption in Slovakia*, National Bank of Slovakia Occasional Paper, 3/2010.

Lane P. (**2010**): *Rethinking national fiscal policies in Europe*, in: Completing the Eurozone Rescue: What more needs to be done?, Centre for Economic Policy Research, (17.06.2010), 59–63, URL http://www.voxeu.org/reports/EZ_Rescue.pdf.

Lane P. (**2011**): *The Irish Crisis*, Institute for International Integration Studies Discussion Paper, 356, URL http://www.tcd.ie/iiis/documents/discussion/pdfs/iiisdp356.pdf.

Langedijk S., Roeger W. (**2007**): *Adjustment in EMU: a model-based analysis of country experiences*, European Economy – Economic Papers, Directorate General Economic and Monetary Affairs, European Commission, 274, URL http://ec.europa.eu/economy_finance/publications/economic_paper/index_en.htm.

Larch M., van den Noord P., Jonung L. (**2010**): *The Stability and Growth Pact: Lessons from the Great Recession*, European Economy. Economic Papers, 429.

Layard R., Nickell S., Jackman R. (**2005**): *Unemployment. Macroeconomic Performance and the Labour Market*, Oxford University Press.

Lewis J., Staehr K. (**2010**): *The Maastricht Inflation Criterion: What is the Effect of European Union Enlargement?*, Journal of Common Market Studies, 48(3), 687–708.

Lopez C., Papell D.H. (**2011**): *Convergence of Euro Area Inflation Rates*, Banque de France Document de Travail, 326.

Martinez-Mongay C., Lasierra L.A.M. (**2009**): *Competitiveness and growth in EMU: The role of the external sector in the adjustment of the Spanish economy*, European Economy. Economic Papers, 355.

Marzinotto B., Pisani-Ferry J., Sapir A. (**2010**): *Two crises, two responses*, Bruegel Policy Brief, 01, URL http://www.bruegel.org/publications/publication-detail/publication/392-two-crises-two-responses/.

Marzinotto B., Sapir A., Wolff G.B. (**2011**): *What kind of fiscal union?*, Bruegel Policy Brief, (06), URL http://www.bruegel.org/publications/publication-detail/publication/646-what-kind-of-fiscal-union/.

Mayer T. (**2010**): *What more do European governments need to do to save the Eurozone in the medium run?*, in: Completing the Eurozone Rescue: What more needs to be done?, Centre for Economic Policy Research, 49–53, URL http://www.voxeu.org/reports/EZ_Rescue.pdf.

McKay D. (**2005**): *Economic logic or political logic? Economic theory, federal theory and EMU*, Journal of European Public Policy, 12(3), 528–544.

McKinnon R.I. (**1963**): *Optimum Currency Areas*, The American Economic Review, 53(4), 717–725.

Micossi S. (**2011**): *Eurozone crisis: Are we losing the patient?*, VoxEU.org, URL http://voxeu.org/index.php?q=node/6883.

Mundell R. (**1961**): *A theory of optimum currency areas*, American Economic Review, 51(657-665).

Narodowy Bank Polski (**2004**): *Raport na temat korzyści i kosztów przystąpienia Polski do strefy euro*, Narodowy Bank Polski, URL www.nbp.pl.

National Bank of Poland (**2009**): *Report on full membership of the Republic of Poland in the third stage of the EMU*, URL www.nbp.pl.

National Bank of Poland – Monetary Policy Council (2011): *Inflation Report – November 2011*, NBP, URL http://www.nbp.pl/en/publikacje/raport_inflacja/iraport_november2011.pdf.

Neumann M.J. (2010): *Imbalances and Sustainability: Who Should Adjust? New Rules and More Cooperation?*, presentation at the coference conference "The ECB and Its Watchers" XII, 9 July 2010, Frankfurt am Main (Germany), URL https://www.ifk-cfs.de/fileadmin/downloads/events/ecbwatchers/20100709ecb_neumann.pdf?PHPSESSID=901e2694cfa9ee4f6b6c299a9e95537b.

OECD (2009): *Addressing the labour market challenges of the economic downturn: a summary of country responses to the OECD-EC questionaaire*, OECD.

OECD (2010): *Going for Growth. Economic Policy Reforms 2010*, OECD.

OECD (2011a): *Economic Surveys: Spain*, OECD.

OECD (2011b): *Going for Growth. Economic Policy Reforms 2011*, OECD.

OECD (2011c): *OECD Economic Outlook 2011*, OECD.

Palley T.I. (2011): *Monetary Union Stability: The Need for a Government Banker and the Case for a European Public Finance Authority*, Institut für Makroökonomie und Konjunkturforschung Working Paper, 2, URL http://www.boeckler.de/pdf/p_imk_wp_2_2011.pdf.

Pisani-Ferry J. (2011a): *The eurozone and the streetlamp syndrome*, Bruegel, commentary, URL http://www.bruegel.org/publications/publication-detail/publication/656-the-eurozone-and-the-streetlamp-syndrome/.

Pisani-Ferry J. (2011b): *Eurozone is one the way to fiscal union*, Bruegel, URL http://www.bruegel.org/publications/publication-detail/publication/650-eurozone-is-on-the-way-to-fiscal-union/.

President of the European Council (2011): *Remarks by Herman Van Rompuy, President of the European Council following the first session of the European Council*, 9 December 2011, Brussels, URL http://europa.eu/rapid/pressReleasesAction.do?reference=PRES/11/484&type=HTML.

Regling K., Deroose S., Felke R., Kutos P. (2010): *The Euro After Its First Decade: Weathering the Financial Storm and Enlarging the Euro Area*, ADBI Working Paper, 205, URL http://www.adbi.org/files/2010.03.15.wp205.euro.after.first.decade.pdf.

Reinhart C., Rogoff K. (2008): *This Time is Different: A Panoramic View of Eight Centuries of Financial Crises*, NBER Working Paper, URL http://www.nber.org/papers/w13882.pdf.

Rodrik D. (1996): *Understanding economic policy reform*, Journal of Economic Literature, 34(1), 9–41.

Roth F. (2009a): *The Effect of the Financial Crisis on Systemic Trust*, Intereconomics, July/August(4), 203–208.

Roth F. (2009b): *Who can be trusted after the financial crisis?*, CEPS Working Document, 322, URL www.ceps.eu/ceps/download/2337.

Roth F., D. F.N.L., Otter T. (2011a): *Has the financial crisis shattered citizens' trust in national and European governmental institutions? Evidence from the EU member states, 1999-2010*, CEPS Working Document, 343, URL www.ceps.eu/ceps/download/4159.

Roth F., Gros D., Nowak-Lehmann F. (2011b): *Has the Financial Crisis eroded Citizens' Trust in the European Central Bank? Evidence from 1999-2010*, Center for European, Governance and Economic Development Research, University of Goettingen (Germany), Discussion Papers, 124, URL http://wwwuser.gwdg.de/~lstohr/cege/Diskussionspapiere/124{_}Roth.pdf.

Roubini N. (2011): *Why Greece should default and abandon the euro*, Financial Times, (19 September 2011).

Schuknecht L., Moutot P., Rother P., Stark J. (2011): *Stability ang Growth Pact. Crisis and Reform*, ECB Occasional Paper Series, 129.

Schwarz K. (2010): *Mind the Gap: Disentangling Credit and Liquidity in Risk Spreads*, University of Pennsylvania Working Paper, URL http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1486240.

Siregar R. (2011): *The Concepts of Equilibrium Exchange Rate: A Survey of Literature*, mimeo, URL http://mpra.ub.uni-muenchen.de/28987/1/MPRA_paper_28987.pdf.

Soukiazis E., Cerqueira P., Antunes M. (2011): *Growth rates constrained by internal and external imbalances: a demand orientated approach*, Estudos do GEMF, Faculdade de Economia da Universidade de Coimbra, 12, URL http://gemf.fe.uc.pt/workingpapers/pdf/2011/gemf_2011-12.pdf.

Steinherr A. (2011): *Toward Two European Monetary Unions*, The Globalist, URL http://www.theglobalist.com/StoryId.aspx?StoryId=9250.

Tamborini R. (2011): *The new rules of the Stability and Growth Pact. Threats from heterogeneity and interdependence*, University of Trento, Department of Economics Working Papers, 1104, URL http://www.unitn.it/files/download/15312/04_11_tamborini.pdf.

The Economist (2011a): *A comedy of euros*, The Economist, (17 December 2011).

The Economist (2011b): *Damned with faint plans*, The Economist, (17 December 2011).

The World Bank (2011): *Doing Business. Business Reforms in OECD high income*, URL http://doingbusiness.org/reforms/overview/region/oecd.

Tompson W. (2009): *The Political Economy of Reform. Lessons from pensions, product markets and labour markets in ten OECD countries*, OECD.

Torój A. (2012): *Excessive Imbalance Procedure in the EU: a Welfare Evaluation*, Ministry of Finance in Poland, MF Working Papers, 10/2012, URL http://www.mf.gov.pl/dokument.php?const=1&dzial=2911&id=283224.

Torój A., Osińska J. (2011): *Greek ricochet? What drove Poles' attitudes to the euro in 2009-2010*, Ministry of Finance in Poland, MF Working Papers, (09), URL http://www.mf.gov.pl/_files_/euro/publikacje_naukowe/working_papers/mf_wp_9.pdf.

Trichet J. (2011): *Building Europe, building institutions*, speech on receiving the Karlspreis, 2 June 2011, Aachen (Germany), URL http://www.ecb.int/press/key/date/2011/html/sp110602.en.html.

Valiante D. (2011): *The Eurozone Debt Crisis: From its origins to a way forward*, CEPS Policy Brief, Center for European Policy Studies, (251), URL http://www.ceps.eu/book/eurozone-debt-crisis-its-origins-way-forward.

Van der Zwet (2011): *Crisis management tools in the EU: what do we really need?*, De Nederlandsche Bank Occasional Studies, 9, URL http://www.dnb.nl/binaries/os0902_tcm46-249429.pdf.

Wälti S. (2011): *Trust no more? The impact of the crisis on citizens' trust in central banks*, Journal of International Money and Finance, forthcoming.

Waysand C., Ross K., de Guzman J. (**2010**): *European Financial Linkages: A New Look at Imbalances*, IMF Working Paper, 10/295.

Wyplosz C. (**2010**a): *The Eurozone in the Current Crisis*, ADBI Working Paper Series, 207, URL http://www.adbi.org/files/2010.03.26.wp207.eurozone.current.crisis.pdf.

Wyplosz C. (**2010**b): *The Greek bailout won't work*, BusinessSpectator, URL http://www.businessspectator.com.au/bs.nsf/article/greek-crisis-eurozone-greece-ecb-debt-pd20100504-55ceq?opendocument&src=blb&.

Wyplosz C. (**2011**): *They still don't get it*, VoxEU.org, URL http://voxeu.org/index.php?q=node/6845.

Zemanek H., Belke A., Schnabl G. (**2009**): *Current Account Imbalances and Structural Adjustment in the Euro Area: How to Rebalance Competitiveness*, Deutsches Institut für Wirtschaftsforschung Discussion Paper, 895, URL http://papers.ssrn.com/sol3/papers.cfm?abstract_id=1400645#.

Zespół Roboczy ds. Makroekonomicznych (**2011**a): *Przegląd doświadczeń innych państw związanych z wprowadzeniem euro: wypełnienie kryterium stabilności kursowej*, Europracowania, 4, URL http://www.mf.gov.pl/_files_/euro/analizy/euroopracowania/4_wypelnienie_kryterium_stablinosci_kursowej.pdf.pdf.

Zespół Roboczy ds. Makroekonomicznych (**2011**b): *Źródła narastania akcji kredytowej w warunkach integracji walutowej. Przyczyny boomów kredytowych w Irlandii, Hiszpanii i Portugalii*, Euroopracowania, 13, URL http://www.mf.gov.pl/_files_/euro/analizy/euroopracowania/13_zrme_knf_zrodla_narastania_akcjii_kredytowej.pdf.