The Crisis in Retrospect: Causes, Effects and Policy Responses

Fritz Breuss

Fritz.Breus@wu.ac.at
Fritz.Breuss@wifo.ac.at

Part VI. The Crisis
Chapter 22
In:
Harald Badinger and **Volker Nitsch** (editors)
Routledge Handbook of the Economics of European Integration
Routledge, London and New York, 2016, pp. 331-350.

23 October 2015

Abstract

The Euro area has been hit by two crises. The first, the global financial crisis (GFC) had external (U.S.) origin and has caused the Great Recession with large drops in GDP around the industrial world. The second, the Euro crisis was homemade. It is the result of systemic failures of EMU's policy design. Due to the economic heterogeneity of the Euro area the shocks were felt more severely in the peripheral Member States than in the core leading to an economic and political split of the Euro zone. As a consequence the political architecture of EMU was reformed step by step in order to fight the trinity of crisis: first, the fiscal policy coordination was strengthened by reforming the Stability and Growth Pact and additional agreements (Fiscal Compact); second, the macroeconomic imbalances are now monitored by a new procedure; third, to stabilize the financial (banking) sector many surveillance institutions have been installed and finally the European Banking Union should help to monitor and resolute banks in a more systematic way as before the crisis, switching from "bail-out" to "bail-in" and hence breaking the vicious circle of bank failure and public debt accumulation.

Keywords: Economic and Monetary Union, Eurozone, European Integration, EU.
JEL Classification: E42, E61, F15, F33, F41, F53

Contents

"Why No One Predicted the Crisis?"
Her Majesty The Queen
at a visit to the LSE, London,
5 November 2008

1. Introduction

In recent years we witnessed not only "the crisis" but a sequence of crises: the U.S. subprime and banking crises triggered the global financial crisis (GFC) in 2008/09 which in turn caused the "Great Recession"[1] in 2009 with the biggest drop in GDP since World War II in the industrialized world. The Euro area has been hit by two crises. The first, the GFC had external (U.S.) origin and caused a deep recession. The second, the "Euro crisis" was homemade. It is the result of systemic failures of EMU's policy design and due to the lack of the necessary structural adjustments.

2. The Global Financial Crisis

It seems to be the peculiarity of great events that – although the facts are clear – the narrative of the reasons are manifold[2]. This was true in explaining the reasons of the "Great Depression" in the 1930s and it happens again in the case of the "Global Financial Crisis" (GFC), starting in 2008, followed by the "Great Recession" in 2009 (e.g. see Lo, 2012).

2.1 The causes

The best and most compact summary of the description of the causes and the emergence of the GFC is provided by the "Financial Crisis Inquiry Commission" (2011, p. XVI): *"It was the collapse of the housing bubble - fuelled by low interest rates[3], easy and available credit, scant regulation, and toxic mortgages - that was the spark that ignited a string of events, which led to a full-blown crisis in the fall of 2008. Trillions of dollars in risky mortgages had become embedded throughout the financial system, as mortgage-related securities (CDOs) were packaged, repackaged, and sold to investors around the world. When the bubble burst[4], hundreds of billions of dollars in losses in mortgages and mortgage-related securities shook markets as well as financial institutions that had significant exposures to those mortgages and had borrowed heavily against them. This happened not just in the United States but around the world. The losses were magnified by derivatives such as synthetic securities.*

---

[1] Krugman (2009) named it so in contrast to the "Great Depression" in the 1930s.

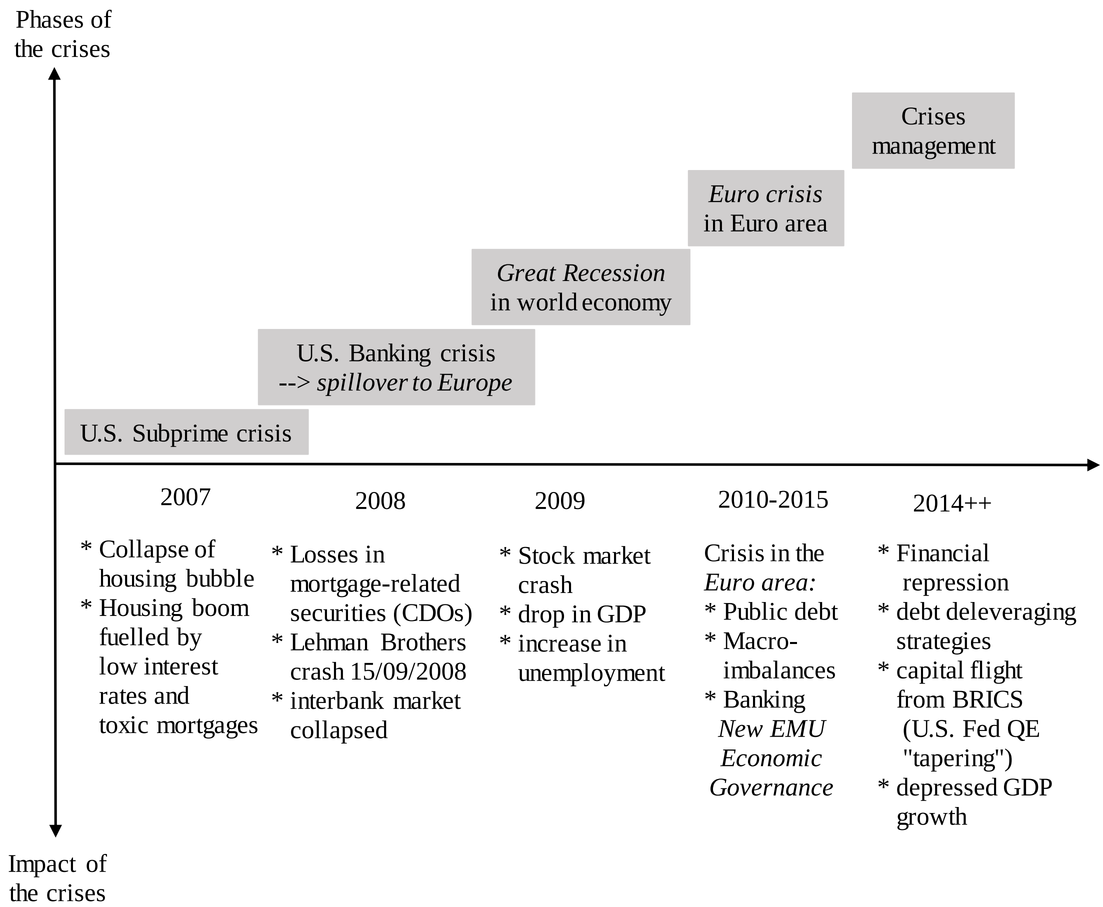
[2] Claessens and Kose (2013) offer a classification of financial crises.

[3] Advocates of the low interest rates story as the trigger for the GFC (*Greenspan's overheating* during 2002 and 2005) are Taylor (2009) and Breuss (2011A).

[4] For Shiller (2008) the crisis was principally about the unravelling of a bubble in US housing prices (*subprime crisis*) which peaked in approximately 2005-2006. He called the real estate boom in an earlier book *Irrational Exuberance.*

The crisis reached seismic proportions in September 2008 with the failure of Lehman Brothers and the impending collapse of the insurance giant American International Group (AIG). Panic fanned by a lack of transparency of the balance sheets of major financial institutions, coupled with a tangle of interconnections among institutions perceived to be "too big to fail," caused the credit markets to seize up. Trading ground to a halt. The stock market plummeted. The economy plunged into a deep recession." Figure 1 summarizes this story of the evolution of the multiple crises.

Figure 1: The evolution of the global financial and economic crises



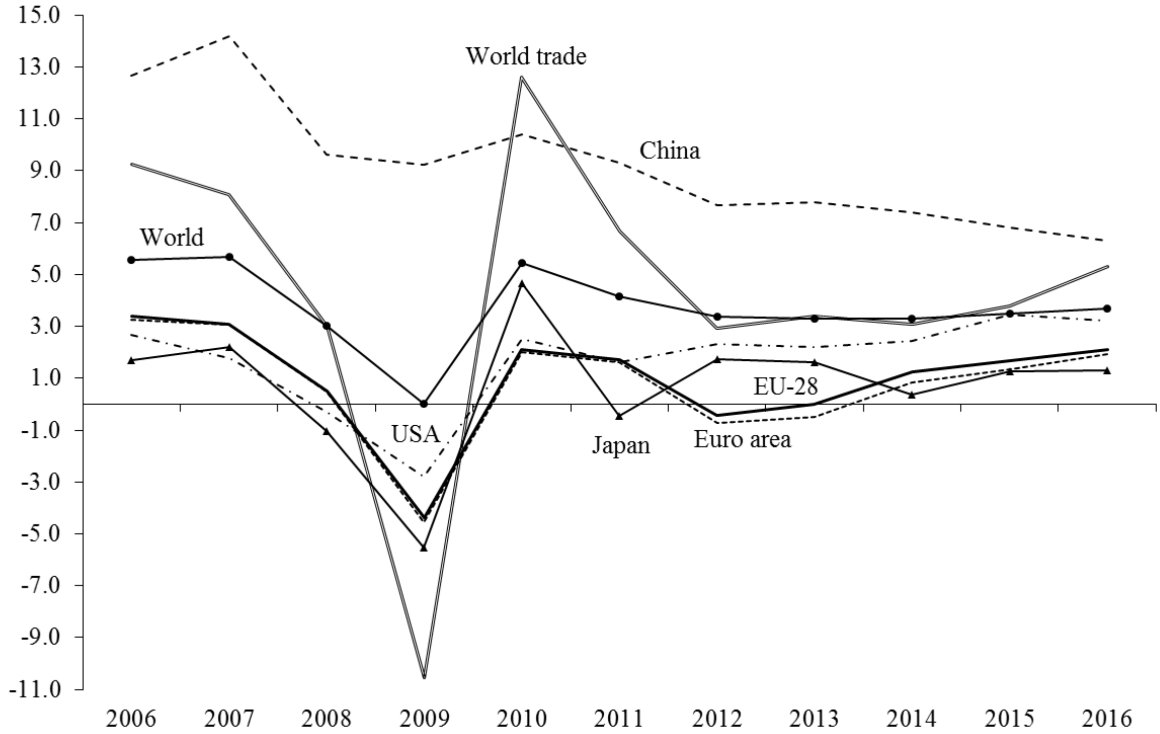
2.2 The Great Recession

Financial crises have large economic costs. The "Great Recession" in 2009 caused the biggest drop in real GDP[5] in the USA and in Europe (see Figure 2). Although the Great Recession

[5] Ball (2014) measures the damage of the Great Recession in terms of losses of potential output. The losses in potential output range from almost nothing in Australia and Switzerland to more than 30% in Greece (-35%), Hungary (-31%), and Ireland (-34%); Czech Republic and Spain -22%; Portugal -14%; U.S. -5%; Austria -7%. During the GFC (2007-2011) also the inequality of disposable income increased by 1 percentage point or more in most OECD countries (see OECD, 2014B). The hypothesis, however, that the increasing income/wealth inequality has caused the GFC (postulated e.g. by Stockhammer, 2011; Cynamom and Fazzari, 2014) can

was associated with the greatest slump of GDP since World War II, in comparison with the Great Depression, however, the downturn of world trade and real GDP was much shorter and the recovery started already in 2009/2010, faster in the USA than in Europe (see Eichengreen and O'Rourke, 2012; Aiginger, 2010[6]).

Figure 2: GDP and world trade during and after the "Great Recession 2009"
(Real GDP and world trade volume of goods and services; % changes)



Sources: European Commission (2015) and IMF (2014B and 2015) for China, world GDP and world trade.

2.3 Lessons learnt

Keynes reloaded and unconventional monetary policy

The main reason why the GFC did not trigger a crash as serious as the Great Depression is that this time the governments and central banks of the industrial countries did not allow the financial system to collapse. The Great Depression, hence was the grand master concerning crisis policy in many areas: fiscal policy acted anti-cyclically à la Keynes[7], monetary policy reacted very quickly and supportive with conventional (sharp drop of the key policy rates) and unconventional measures (e.g. quantitative easing (QE) by the Fed[8] and non-standard

empirically not be confirmed (see Aiginger and Guger, 2013). Cingano (2014) finds in an econometric study for OECD countries that income inequality has a negative impact on economic growth

[6] Reinhart and Rogoff (2009) seek the similarities of the present crisis not only with those of the 1930ies but over a period of eight centuries. For them "this time is not different".

[7] See European Commission (2009A), OECD (2009A, 2009B), Breuss et al. (2009).

[8] See Habermeier et al. (2013).

measures by the ECB[9]) and protectionism – due to WTO commitments – were largely avoided[10]. All together this helped to mitigate the recession in 2009 and enabled a relatively quick recovery.

The need for a new macroeconomics

Most of the economic profession were unable to foresee the consequences of the financial crash after the failure of Lehman Brothers and also could not forecast the full depth of the Great Recession in 2009[11]. The "Great Recession" in 2009 is largely considered to be caused by financial shocks (or restrictions) and not by a technology shock as postulated by the pure real business cycle (NK) models. A "new macroeconomics" is necessary with a more adequate modelling of the financial-real sector nexus. Beside private initiatives (e.g. George Soros sponsors the project "Institute of New Economic Thinking" (NET[12])) also much academic endeavour is put into this project (see e.g. Blanchard et al, 2010; Brunnermeier and Sannikov, 2014; Kollmann et al., 2013, Breuss et al., 2015).

3. The Euro Crisis

The GFC, triggered by the U.S. subprime and banking crisis (the failure of Lehman Brothers) acted like an asymmetric external shock to the Euro area (now with 19, at the outbreak of the crisis only with 12 member states) which consists of highly heterogeneous economies lacking a "European business cycle". The economically weakest countries in the periphery (the PIIGS[13] countries) suffered the most from the asymmetric external shocks[14]: Ireland and Spain were hit by a housing crisis, combined with a banking crisis. In Greece and Italy, less so in Portugal and Spain primarily the increasing public debt became unsustainable. The yield rates of their sovereign bonds increased dramatically (see Figure 3).

Whereas the U.S. economy relative quickly recovered from the Great Recession (see Figure 2), Europe and in particular the Euro area is stuck in a crisis of its own since 2010, which was named "Euro crisis". The Euro crisis, however, is not a crisis of the Euro as a currency but an economic crisis in some parts (in the peripheral countries) of the Euro area.

---

[9] See Cour-Thimann and Winkler (2013).

[10] However, in a report to the G-20, the WTO OMC (2014) states that the stock of restrictive trade measures introduced by G-20 economies since 2008 continues to rise despite the pledge to roll back any new protectionist measures that may have arisen.

[11] In a post mortem analysis the OECD (2014A) revealed the considerable forecasting errors across 2007-2012 by 2 ½ percentage points. Also the European Commission (2009B, p. 8) documented the forecast failures in 2009.

[12] See: http://ineteconomics.org/

[13] PIIGS = Portugal, Ireland, Italy, Greece and Spain.

[14] The Euro crisis convincingly confirms ex post findings of the ex-ante shock-analysis by Bayoumi and Eichengreen (1994) who considered the PIIGS countries as not suitable as members of a monetary union.

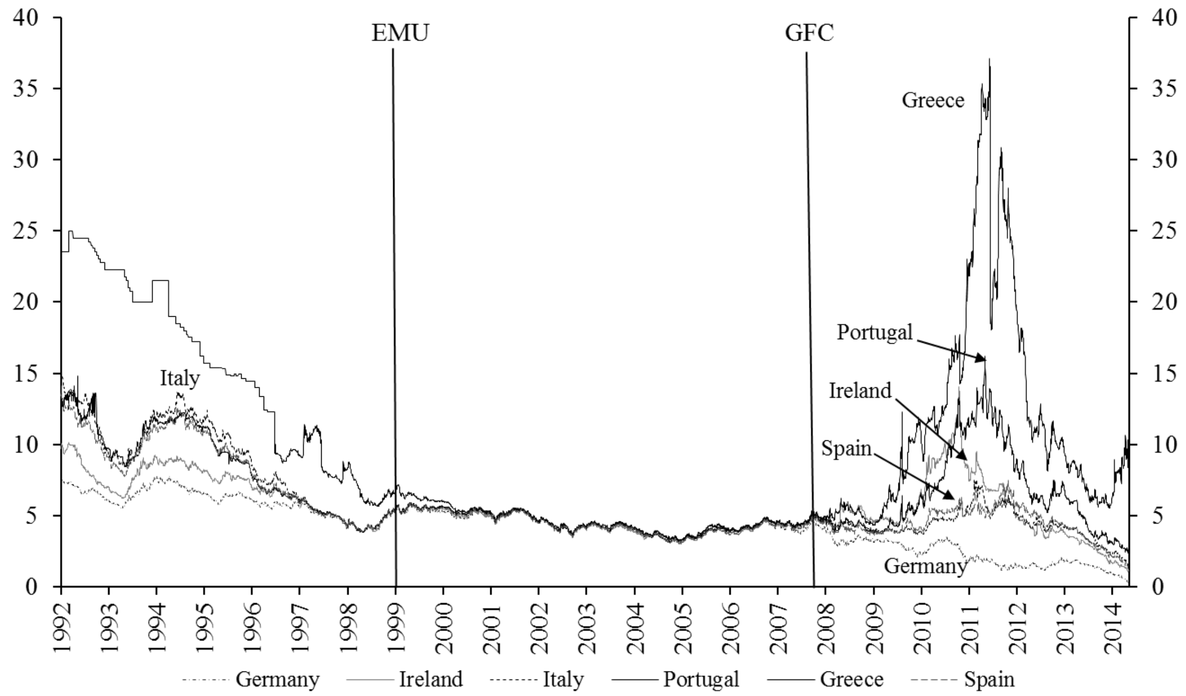
3.1 Systemic weakness of EMU's governance

One reason why the Euro area suffered most from the "Great Recession" and run into the "Euro crisis" after the external shock of the GFC is due to the imperfect political architecture of the European Monetary Union (EMU)[15]. The asymmetric policy design of EMU with a centralized monetary policy by the ECB paired with a decentralized (and only co-ordinated) fiscal policy by the Member States worked well in the nice weather period 1999 to 2008 but lacks a crisis-proven framework.

Misperception of sovereign default risks

One precondition of a monetary union with a centralized monetary policy is the harmonization of short-term interest rates. Before entering EMU the high rates of the PIIGS countries had to be adjusted downwards to the lower-level rates of the Euro area which were greatly determined by the German rates. This discretionary monetary policy created an "interest rate" bonus for their economies. The downward trend in short-term interest rates also translated into the long-term lending rates and created an artificial "harmonization" of government bond yields (see Figure 3).

Figure 3: Misperception of Sovereign Default Risks in the Euro area
(Government bond yields, 10 years, in %)



Source: MACROBOND

[15] However, the design failures of EMU were discussed already earlier to the Euro crisis but in the "nice weather" period up to 2008 there was no need to adjust the EMU governance (see James, 2012; Mourlon-Druol, 2014 and Sinn, 2014).

The interest rate bonus in the PIIGS led to a misallocation of resources by private households and governments. This triggered the accumulation of debt[16]. The artificially harmonized government bonds yields induced a misperception of sovereign default risks in the Euro area. Rating agencies believed that government bonds of periphery countries would be equally non-risky as German bonds. They believed into the "no-bail-out" lie[17]. Only after the outbreak of the Euro crisis early in 2010 rating agencies estimated the risks of the PIIGS countries more realistically than before.

Diverging competitiveness

Since the inception of EMU the Euro area witnessed a divergence in competitiveness (measured by relative unit labour costs) between the Euro area core countries like Germany and Austria and the periphery PIIGS countries (see Table 1). This secular trend in competitive heterogeneity (with rising macroeconomic and current account imbalances) was another reason why the PIIGS countries were hit the most by the GFC and the Great Recession.

No crisis-proven instruments in EMU

The succession of the crises since 2008/09 has brutally revealed the weaknesses of the policy design of EMU. The EU Treaty had no crisis instruments at hand when the Euro crisis broke out. Only step by step – firstly intergovernmental, then by the Community method – rescue instruments (ESM) and new governance structures were implemented.

Revenge of the Optimum Currency Area

The crises since 2008 exhibited clearly that the Euro area is not (yet) an Optimum Currency Area (OCA) in the sense of Mundell (1961) and Kenen (1969). The Euro area is inadequately designed for external asymmetric shocks. There are many suggestions how to make the Euro area more consistent with a functioning OCA (see e.g. Breuss, 2011B, 2013C; De Grauwe, 2011; Krugman, 2012; Sinn, 2014).

[16] Via "Target2", the real-time gross settlement (RTGS) system owned and operated by the Eurosystem financial transactions (capital in and out flows between Euro area member states are registered (**TARGET** stands for **T**rans-European **A**utomated **R**eal-time **G**ross settlement **E**xpress **T**ransfer system; see: https://www.ecb.europa.eu/paym/t2/html/index.en.html). According to Sinn (2012) the Euro crisis has created huge disequilibria between capital creditors (e.g. Germany) and capital debtors (e.g. Greece).

[17] Rating agencies believed (wrongly) that the "no-bail out" clause of Article 125 TFEU will never be applied. It says that an EU Member State shall not be liable for commitments (debts) of governments of other Member States.

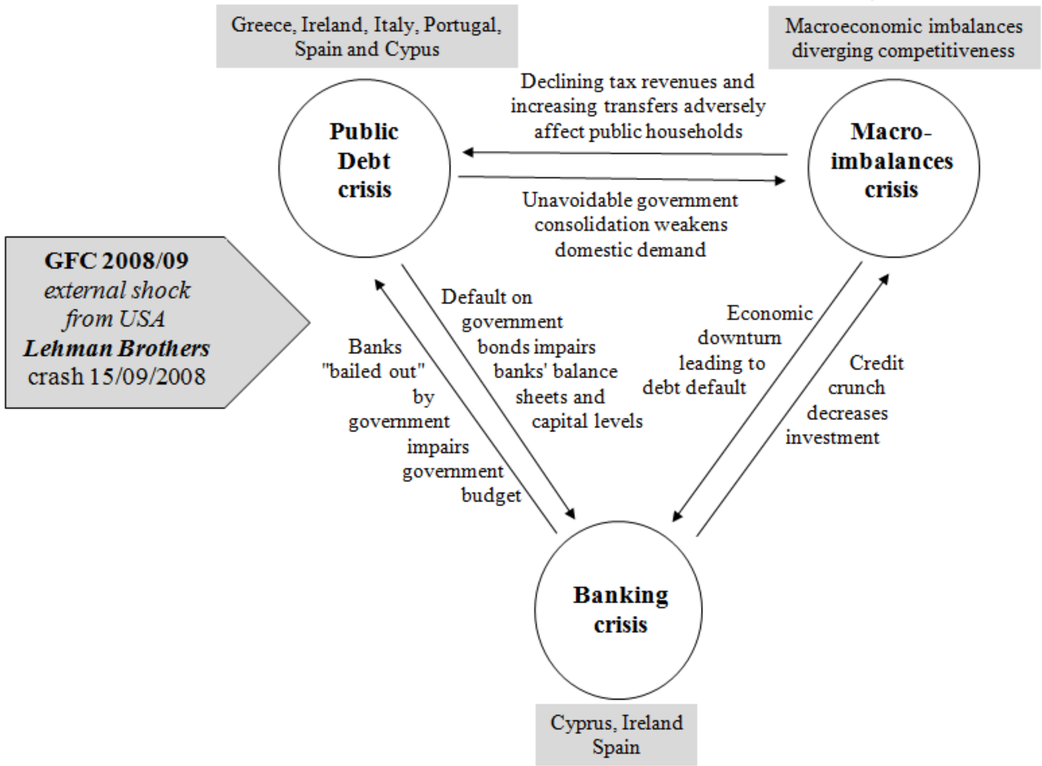
3.2 A Trinity of Causes

In his State of the Union 2012 Address to the European Parliament on 12 September 2012, José Manuel Durão Barroso (2012), the then President of the European Commission identified three main causes for the GFC and the following Euro crisis:

- Unsustainable public debt (*public debt crisis*);
- A lack of competitiveness in some Member States (*macro-imbalances crisis*), and also
- Irresponsible practices in the financial sector (*Banking crisis*).

The different ingredients of the Euro crisis are summarized in Figure 4.

Figure 4: The "Euro crisis" consisting of multiple crises in the Euro area
(Vicious circle of debt, macroeconomic imbalances, and banking crises)



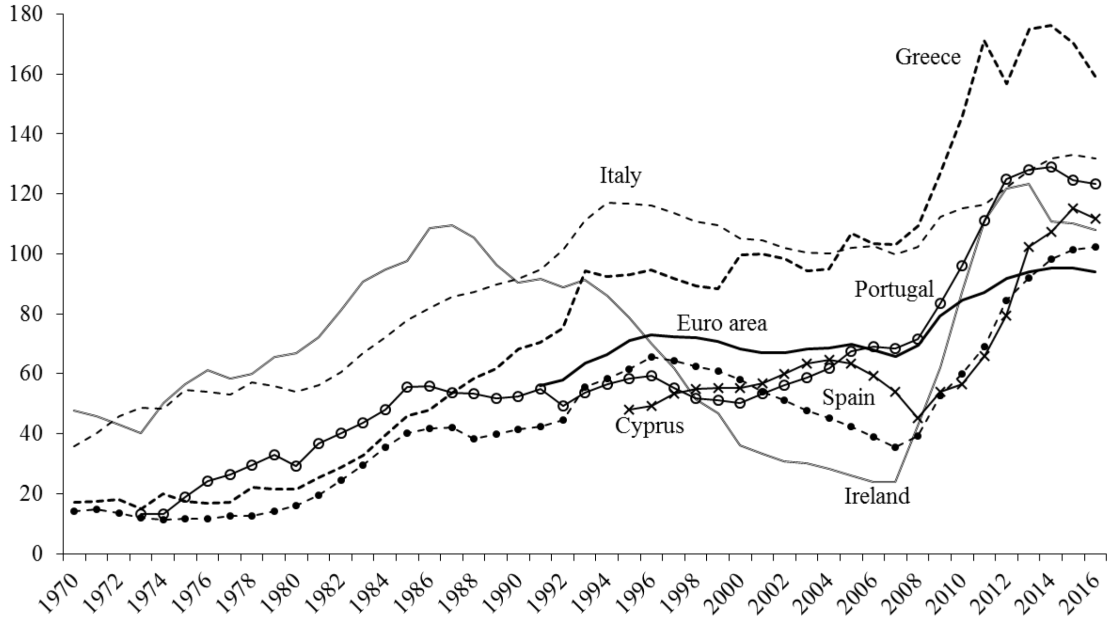
Source: German Council of Economic Experts (2012), p. 1 plus own amendments

3.2.1 Public debt crisis

Most Euro area countries were able to stabilize their public debt dynamics before the outbreak of the Euro crisis. However, the peripheral PIIGS countries (with the exception of Ireland, Portugal and Spain) started into the crisis with levels much above the Maastricht target of 60% of GDP (see Figure 5).

When the newly elected government in Greece in late 2009 "discovered" that the fiscal position of its country was much worse than previously reported to Eurostat the "Greek crisis" broke out and triggered the Euro crisis[18]. The Greek public debt was unsustainable high and the interest rates for governments bond rose much above the "death zone" of 7% (see Figure 3) so that the country could no longer finance its debt on the capital market. The Euro area partner countries had to intervene despite the "no-bail out" provisions in the Article 125 of the TFEU.

Figure 5: Public Debts in the Euro area periphery
(Gross public debt in % of GDP)



Source: European Commission (2015), AMECO database

3.2.2 Macro-imbalances crisis

In the run-up to the crisis most of the PIIGS countries did not completely realize that the loss of the exchange rate instrument requires adjustments in the wage policy towards a more productivity oriented path. As a consequence since the inception of the EMU in 1999 competitiveness within the Euro area diverged continuously: the core countries – in particular Germany and Austria – improved steadily their unit labour costs relative to their competitors (e.g. they devalued their real exchange rate – REER), whereas the countries in the periphery (the PIIGS) and also those in the rest of the Euro area (in particular the Baltic States and Slovakia) lost continuously ground.

[18] In spring 2009 the European Commission forecasted for Greece for the year 2010 (each in % of GDP): budget deficit -5.7%; public debt 108%; in autumn 2010 the forecasts were: budget deficit -9.6%, public debt 140.2%. Finally, in 2010 the realized figures were: budget deficit -11.1%, public debt 146% (see European Commission, 2015).

Table 1: Macroeconomic imbalances in the Euro area

	REER			Current account balance		
	1999 - 2008	2009 - 2016	1999/08 - 2009/16 Change	1999 - 2008	2009 - 2016	1999/08 - 2009/16 Change
		% p.a.			% of GDP	
Belgium	0.59	-0.37	-0.96	3.97	0.30	-3.67
Germany	-1.35	0.47	1.82	2.80	6.94	4.14
Estonia	5.01	0.18	-4.83	-10.22	-0.15	10.07
Ireland	3.26	-3.57	-6.83	-2.52	1.78	4.30
Greece	1.44	-1.95	-3.39	-10.98	-5.79	5.19
Spain	1.95	-2.05	-4.01	-6.01	-1.17	4.84
France	0.51	-0.57	-1.09	0.47	-1.87	-2.34
Italy	1.36	-0.27	-1.63	-0.80	-0.14	0.66
Cyprus	0.75	-1.67	-2.43	-5.47	-3.86	1.61
Latvia	5.36	-1.92	-7.29	-12.02	-0.85	11.16
Luxembourg	1.68	1.02	-0.66	9.77	5.56	-4.21
Malta	1.42	0.52	-0.89	-5.13	-0.55	4.58
Netherlands	0.90	-0.13	-1.03	5.99	7.75	1.77
Austria	-0.47	0.52	0.99	1.43	2.49	1.06
Portugal	0.89	-1.44	-2.33	-9.85	-3.52	6.33
Slovenia	0.26	-0.19	-0.46	-2.64	3.20	5.84
Slovakia	4.24	0.43	-3.81	-6.25	-1.03	5.22
Finland	0.26	0.58	0.32	5.49	-0.57	-6.05
Euro area (18)	**0.67**	**-0.60**	**-1.27**	**0.19**	**1.83**	**1.64**
PIIGS (5)	1.78	-1.86	-3.64	-6.03	-1.77	4.26
CORE (6)	0.07	0.08	0.01	3.36	2.51	-0.85
Rest-EA (7)	2.67	-0.23	-2.91	-4.56	0.33	4.90

REER = Real effective exchange rate, based on ULC relative to the rest of 37 industrial countries
ULC = unit labour costs of the total economy; PIIGS = Portugal, Ireland, Italy, Greece and Spain.
CORE = Belgium, Germany, France, Netherlands, Austria and Finland.
Rest-EA = Estonia, Cyprus, Latvia, Luxembourg, Malta, Slovenia and Slovakia.
Source: European Commission (2015); AMECO data base.

In the pre-crisis period 1999 to 2008, Germany and Austria were the only Euro are members with declining real exchange rates. In the PIIGS on average competitiveness deteriorated in this period by 1.8 percentage points per annum, whereas it stagnated in the core more or less (in the rest Euro area countries +2.7%). During the Euro crisis and also due to the austerity commitments ordered by the Troika a considerable adjustment of unit labour costs (the necessary “internal devaluations”) took place in the PIIGS (-1.8% in the period 2009-2016). This helped to diminish the macro-imbalances, measured by the balances of current account. The strong negative relationship (R^2 = 0.57) between the change of the current account balances (last column in Table 1) and the change of the real exchange rate (RERR; 4th column in Table 1) from the pre- to the post-crisis period demonstrates this improvement.

3.2.3 Banking crisis

The U.S. banking crisis was contagious for the European banking sector (e.g. in Cyprus, Ireland and Spain). The IMF (2013: 17), when analyzing the European banking sector came to the conclusion that the banking sector of the Euro area periphery needs urgent adaptation (the banking sector is too big; banks have too much non-performing loans (NPLs) and many other failures). On both side of the Atlantic the “Too-big-to-fail” (TBTF) problem is still far away of being solved.

During the European banking crisis European States played the role of the “lender of last resort” causing high public debt through bank bailouts. The government interventions to repair the banking sector since the onset of the GFC in 2008/09 has reached dramatic proportions. According to Eurostat (Baciulis, 2013) the net cost of the bank bailout programs are reflected in a cumulative increase in the national debt by 2012 to 690 billion euros in EU-27 (or 5.2% of GDP) and around 520 billion euro in the Euro zone (or 5.5% of GDP). They increased the budget deficit of the EU-27 by 0.5% of GDP in 2010 (peak) and amounted in 2012 still 0.4% (0.7% and 0.6%, respectively in the Euro area). Due to the nationalization of the banks the overall deficit of Ireland jumped to 30% in 2010, including 20% of GDP by the bank nationalization. In Portugal, the budget deficit in 2010 rose to 10% of GDP, the share of bank rescue was relatively low at 1%. In 2012, the contribution of the bank bailout in Greece was particularly large, leading to an increase of the budget deficit by 4 percentage points of GDP; this was followed by Spain with 3.6 percentage points. In other EU countries (Belgium, Latvia, Austria, Portugal and Cyprus - not counting the bailout of March 2013), the cost of the bank bailout increased the budget deficit by 0.2 percentage points.

3.3 Economic and political effects

The Euro crisis since early 2010 caused not only a severe economic setback for some of its Member States but the whole euro project has been questioned politically. The exit of Greece (“Grexit”) could have caused the break-up of the whole Euro zone.

3.3.1 Deep economic impact

In the “Great Recession” all Euro area members experienced a drop in real GDP (see Table 2), the deepest recession was exhibited in the Baltic States Estonia and Latvia, followed by Finland, Slovenia and Ireland. On average, in 2009 Euro area’s real GDP dropped by 4.5%

and hence with the same rate as in EU-28. Poland was the only EU country which suffered no drop in GDP. In the United States where the GFC had its origin, the drop in real GDP was only 2.8% in 2009.

Table 2: The Great Recession 2009 and its overcoming in Europe and selected countries (Real GDP, % change)

	1999-2008 Pre crisis % p.a.	**2009** Great Recession % p.a.	**2010-2016** Post crisis % p.a.	**2016** GDP above pre crisis 2008 level in %
EU-28	2.33	-4.39	1.20	3.93
EU-15	2.20	-4.46	1.12	3.28
EUR-18	2.10	-4.51	0.92	1.84
PIIGS	3.01	-4.56	-0.09	-4.76
		Euro area countries		
Belgium	2.25	-2.62	1.15	5.50
Germany	1.58	-5.64	1.87	7.42
Estonia	5.70	-14.74	3.43	7.94
Ireland	5.13	-6.37	2.01	7.61
Greece	3.51	-4.39	-2.63	-20.69
Spain	3.57	-3.57	0.31	-1.43
France	2.04	-2.94	1.12	4.91
Italy	1.23	-5.48	-0.08	-6.02
Cyprus	4.12	-2.04	-1.01	-8.73
Latvia	6.70	-14.19	2.86	4.52
Luxembourg	4.39	-5.33	2.56	13.01
Malta	2.99	-2.46	2.88	18.97
Netherlands	2.49	-3.30	0.60	0.80
Austria	2.40	-3.80	1.21	4.68
Portugal	1.62	-2.98	-0.05	-3.29
Slovenia	4.32	-7.80	0.69	-3.24
Slovakia	5.02	-5.29	2.66	13.79
Finland	3.29	-8.27	0.72	-3.56
		Non-Euro area countries		
Bulgaria	4.50	-5.01	1.04	2.15
Czech Republic	4.04	-4.84	1.43	5.10
Denmark	1.72	-5.09	0.89	0.95
Croatia	3.71	-7.38	-0.63	-11.38
Lithuania*)	6.21	-14.81	3.46	8.10
Hungary	3.38	-6.55	1.46	3.41
Poland	4.08	2.63	3.11	27.21
Romania	5.39	-7.07	1.83	5.51
Sweden	2.98	-5.18	2.32	11.34
United Kingdom	2.68	-4.31	1.94	9.43
		Third countries		
Turkey	3.80	-4.83	4.92	33.19
Norway	2.19	-1.62	1.48	9.03
Switzerland	2.34	-2.13	1.80	10.90
United States	2.55	-2.78	2.54	15.90
Japan	1.08	-5.53	1.49	4.80

PIIGS = Portugal, Ireland, Italy, Greece and Spain (unweighted averages).
*) As of 1 January 20015 Lithuania became the 19th member of the Euro area.
Source: European Commission (2015); AMECO data base.

Not all industrial countries – inside and outside the EU - managed the crises so that their real GDP levels in 2016 come to lie above those of the pre-crisis year 2008. In the Euro area (EUR-18) only half of the member states succeed in this respect. Greece – with -21% - is lagging the most behind this target, followed by Cyprus, Italy, Portugal, Slovenia, Finland, Spain, Ireland and Latvia.

Whereas the U.S. economy recovered without interruption since 2009/2010, the Euro area's recovery was interrupted by the double-dip recession (2012 to 2014). The burden of the Euro crisis is manifested in rising unemployment and high public debt. The highest unemployment rates in 2016 will still be recorded in Greece (22%), Spain (21%), Portugal and Italy (13) and Ireland (9%).

According to forecasts by the European Commission (2015), in 2016, the unemployment rate in EU-28 will be 9.3% (USA only 5%) and in the Euro area 10.6%. That corresponds to 24.8 Million in EU-28 and 18.5 Million in the Euro area. Much more explosive is the high rate of youth unemployment. In 2014 the youth unemployment rate was 53.2% in Spain, 52.4% in Greece, 23.9% in Ireland, 42.7 in Italy and 34.73% in Portugal (Euro area 23.8%).

The still highest handicap for growth in the Euro area is the high public debt. The deleverage processes (austerity policy, "financial repression"[19]) impede a quick upswing in the Euro area. According to Reinhart and Rogoff (2010) – although contested by other authors[20] - public debt above the benchmark of 90% of GDP can reduce growth perspectives. According to forecasts by the European Commission (2015), the Euro area on average will consolidate its debt-to-GDP ratio at around 93% in 2016 with some member states much above this level (Greece 159%, Italy 132%, Portugal (124%), Cyprus (112%), Ireland (108%) and Spain (103%). This might explain why one must assume that the growth rates in the Euro area in the medium-term will be around one percentage point below that of the USA (see IMF, 2014A).

Unequal burden of the Euro crisis and danger of deflation

The economic and social burden of the Euro crisis is unequally distributed in the Euro area. The periphery countries (the PIIGS) suffered the most in terms of GDP loss, unemployment, current account deficit and public debt. This unequal impact of the Euro crisis led to a split in the Eurozone with a less successful South and a more successful North. Additionally,

---

[19] See Reinhart et al. (2011). "Financial repression" means reduction (deleveraging; see also IMF, 2014B) of debts via low interest rates. These low interest rates has asymmetric implications for savers and debtors. The latter are favoured, the former are discriminated.

[20] See the collection of arguments and counter-arguments of Reinhart-Rogoff's thesis in Wikipedia "Growth in a Time of Debt" (http://en.wikipedia.org/wiki/Growth_in_a_Time_of_Debt).

according to estimates by the European Commission (2015), the peripheral countries are close to or already in a phase of *deflation* (e.g. Greece -1.4% HICP in 2015) and also in the core countries the inflation rate hovers between zero and 1% (Euro area -0.1%). This is already below of ECB's own target of 2% or near below it.

3.3.2 Eurozone breakup?

Shortly after the outbreak of the Euro crisis in 2010 a deep political split occured in the Euro zone. Starting with Greece, step by step the periphery countries of the Euro area needed support either to finance its public debt (Ireland and Portugal) or to bail-out their banks (Cyprus and Spain).

At the beginning of the Euro crisis (in 2010 to 2012) many experts believed that an exit of Greece from the Eurozone would be unavoidable. Many economists began to calculate the costs of such a "Grexit" for Greece and the partners of the Euro area[21]. But also the economic and political costs of averting the Eurozone breakup were tremendous. Several governments had to resign and were substituted by a government of experts (Greece and Italy). The very strong conditions to stabilize the economy (austerity policy with the need of structural change in labour markets and tax collection) provoked political protest. Strongest movements in this direction were seen in Greece, Portugal and Spain. The election of the European Parliament on 23-25 May 2014 awakened many extremist political movements towards the right (in France) or to the left (in Greece) and saw a strengthening of anti-EU anti-Euro parties (e.g. in Germany the AfD; in the UK the UKIP). These new anti-Europe movements may also be the reaction to the Euro crisis management at EU level. At the beginning of the Euro crisis nearly the whole rescue operations were done intergovernmental by the EU/Euro area member states. The European Parliament were rarely involved. In the Euro crisis intergovernmentalism (the EU member states decide alone) dominated the Community method (based on EU law mechanism involving all EU institutions: European Commission, Parliament and Council). Some authors, like Sinn (2014) advocate more flexibility in leaving and entering the Euro area. Breuss (2013C) suggested an amendment to the TFEU, namely in addition to the Article 50, ruling the exit of an EU member state also an Article 50a, ruling the exit of only the Euro area. This would allow Euro area members to leave the Eurozone temporarily to gain competitiveness via devaluating their currency and to re-enter afterwards.

---

[21] Based on model simulations of Oxford Economics (2012) several scenarios of a "Grexit" were presented for Greece and selected Euro area member states in Breuss (2012A, pp. 92-93). Bootle (2012) even won the Wolfson Economics Prize 2012 for his study "Leaving the Euro: A Practical Guide". Further studies on this topic are surveyed in Breuss (2012A). After the parliamentary elections in Greece in January 2015 and after the building of a left-right coalition government, the discussion about a possible "Grexit" got again momentum.

3.4 New EMU Economic Governance

The Great Recession of 2009 and more so the Euro crisis made it clear that the policy design of EMU and hence its Economic Governance had to be overhauled (see Breuss, 2013A; Juncker et al., 2015). The European Commission (2008) in its report on "EMU@10 - Successes and challenges after 10 years of Economic and Monetary Union" identified already before the outbreak of the GFC 2008/09 the necessary areas of reforms. Since 2010 the EU by EU law (community method) and partly only the Euro area member states (intergovernmental) have developed new instruments for a "New Economic Governance" of EMU which can be grouped into measures in the context of the (A) *"European Semester"* and (B) *"Rescue measures"* for states and banks (see the overview in Figure 6).
The New Economic Governance of EMU aims at targeting and solving the problems of the three forms of the Euro crisis (see Figure 4).

Figure 6: New Economic Governance of EMU since 2010
("EU Economic Government")

European Semester			**Rescue of States and Banks**	
"Six-Pack" *Fiscal policy coordination* **SGP-III** **Macro-economic imbalances** **"Two-Pack"** additional national budget monitoring	**"Fiscal Compact"** (TSCG) * medium-term benchmark of structural budget deficit is 0.5% of GDP * ***"Debt brakes"*** in national law ***Euro Plus Pact*** * Competitiveness * Employment * Financial market stable	**Europe 2020** ***Growth & Job programme*** * smart * sustainable * inclusive growth ***Single Market Act***	**Rescue Measures** *Member States* (Greece, Ireland, Portugal, Spain, Cyprus) **EFSF** (2010-2012) **ESM** (2012+)	**Financial Supervision System** *** ESFS** **ESRB - ECB** *3 agencies:* * EBA London * EIOPA Frankfurt * ESMA Paris **European Banking Union (EBU)** (2014 +)

SGP = Stability and Growth Pact; EFSF = European Financial Stability Facility; ESFS = European System of Financial Supervision; ESM = European Stability Mechanism; ESRB = European Systemic Risk Board; EBA = European Banking Authority; EIOP = European Insurance and Occupational Pension Authority; ESMA = European Securities and Markets Authority; TSCG = Treaty on Stability, Coordination and Governance in the EMU ("Fiscal Compact").

(A) European Semester

The European Semester[22] is now the major instrument of economic policy coordination for short-term (fiscal policy of EU member states) and medium-term issues (the "growth and job

[22] For further details see the website of the European Commission (Economic and Financial Affairs): "The European Semester":
http://ec.europa.eu/economy_finance/economic_governance/the_european_semester/index_en.htm;
The *European semester* is one of the first key initiatives to emerge from a Task Force on economic governance set up at the request of the European Council in March 2010 and chaired by the President of the European Council, Herman Van Rompuy.

programme" of "*Europe 2020*" [23]; see European Commission, 2010). It is a six-month cycle of economic policy coordination in the first half of each year (it started in spring 2011) which covers all 28 EU Member States. It relates to a procedure for the *ex-ante* assessment of Member States' structural reforms, budget plans, and macroeconomic imbalances. The main innovation introduced by the European Semester is that the enforcement of economic policy coordination is now being extended right through to the budgetary process of all the Member States. The tools of the European Semester are firmly rooted in the jointly agreed Europe 2020 Strategy and in the reformed Stability and Growth Pact.

- The *public debt crisis* is being fought by a reform of the fiscal policy coordination mechanism: the Stability and Growth Pact (SGP-III) within the legal framework of the "Six-Pack[24]" and additionally an early monitoring of Euro area countries in the "Two-Pack" arrangements. An intergovernmental treaty, the "Fiscal Compact" complements the reform of the SGP in targeting a reduction of the structural budget deficits and in slowing down the public debt dynamic by installing a "debt break".
- The *macro-imbalances crisis* (the diverging development of competitiveness and performance in the current account) is for the first time monitored by a Macroeconomic Imbalance Procedure[25].

(B) Rescue of States and Banks

The EMU policy design did not foresee any rescue measures for Member States in danger of insolvency because of over indebtedness. In contrast, Article 125 of the TFEU prohibits Member States of the EU/Euro area to bail-out other Member States. This "no-bail out" clause had to be overruled during the Euro crisis, starting with the Greek crisis in 2010. New rescue instruments had to be created (EFSF and the permanent ESM[26]) to help failed Euro area

[23] The first stock-taking in March 2014 revealed many shortfalls in reaching the targets (see European Commission, 2014B).

[24] The "Six-Pack" consists of 5 Regulations and 1 Directive and entered into force on 13 December 2011. A subgroup of 3 Regulations and 1 Directive concern the reform of the "SGP"; 2 new Regulations concern the macroeconomic surveillance under the new Macroeconomic Imbalance Procedure. See further details on the Commissions website: http://ec.europa.eu/economy_finance/articles/governance/2012-03-14_six_pack_en.htm

[25] See for more details on the Commissions website: http://ec.europa.eu/economy_finance/economic_governance/macroeconomic_imbalance_procedure/index_en.htm

[26] The ESM – signed on 11 July 2011, renegotiated and signed again on 2 February 2012 by the heads of state or government of the Euro area member states - is a permanent crisis resolution mechanism for the countries of the euro area. It was established on 27 September 2012 and is located in Luxembourg; it has been operating since 8 October 2012. Since 13 July 2013, the ESM is the sole mechanism for responding to requests for financial assistance by euro area Member States. In order to make the ESM in conformity of EU law Article 136 of the TFEU was amended by two lines (*"The member states whose currency is the euro may establish a stability mechanism to be activated if indispensable to safeguard the stability of the euro area as a whole. The granting of any required financial assistance under the mechanism will be made subject to strict conditionality"*). It was signed by 27 EU member states on 25 March 2011. See the website of the European Stability Mechanism: http://www.esm.europa.eu/

members (see Breuss, 2013A). Furthermore, the financial sector, one of the originator of the crisis had to be stabilized.

The *banking crisis* is addressed by the installation of a financial supervision system (ESFS with three agencies since 2011; see Figure 6). Finally the banking sector should be better supervised and in case of failure more efficiently liquidated within the framework of the "European Banking Union" (EBU; see Breuss, 2012B, 2014; Breuss et al., 2015). By switching from the principle of "bail-out" to "bail-in" one hopes to break the vicious circle of bank failures and public intervention at the expense of the taxpayer.

"More Europes" or "More Europe"?

The Euro crisis has led to a diversification of the EU in several respects: (i) the burden of the Euro crisis was shouldered solely by the Euro Member States (primarily by the core countries); (ii) most of the new crisis instruments (EMS) and the main elements of the new EMU governance (Fiscal Compact; EBU) refer only to members of the Euro zone. In this sense the Euro crisis has further enhanced the already existing EU as a "Europe à la carte" (ins and outs of the Euro and Schengen). This raises the question whether we may live furthermore in an EU with "more Europes" or whether not more Europe, a further centralization towards the "United States of Europe" is needed (see Breuss, 2013B).

3.5 Saving the Eurozone and the Euro

Shortly after the outbreak of the Euro crisis, triggered by the Greek public debt crisis the break-up of the Euro zone stood at the brink. The no-bail out clause of the Lisbon Treaty (Article 125 TFEU) was thought to be enough to avoid an insolvency of a Euro area Member State. The succession of crises (GFC, Great Recession) which led to the Euro crisis taught the opposite. But the EMU envisaged no rescue instruments and no procedure to bail-out a failing country. Step by step new rescue instruments were created, firstly only on a bilateral basis (EFSF), later the ESM (see Figure 6). With these new instruments the Euro area partner countries could stabilize the debt crisis in Greece, Ireland and Portugal. Later Cyprus and Spain was supported in their banking crises (see the overview in Table 3). Greece is still at the brink of insolvency.

The rescue operations started first for Greece, then followed by those for Ireland, Portugal, Cyprus and Spain, each under different targets, either to avoid sovereign default (Greece, Ireland and Portugal) or to rescue the banking system (Cyprus and Spain). The biggest bail-out was executed for Greece (€245.6), followed by Portugal, Ireland, Spain and Cyprus (see Table 3). In the case of Greece the second rescue package was mixed with a 50% haircut of

PSIs. In the case of Cyprus for the first time the rescue operation changed from a pure "bail-out" to a "bail-in" with a cascade of "haircuts". The Cyprus case was then the model for the "bail-in" procedure foreseen in the case of the operation of the European Banking Union in case of future bank failures.

Table 3: Euro area rescue measures, 2010-2013

	Object	**Time span**	**EFSM**	**EFSF**	**ESM**	**GLF**	**IMF**	**Bila-teral**	**Bailout total**
Greece 1	SD	5/2010 - 2/2015				52.9	28.3		81.2
Greece 2	SD	3/2012 - 3/2016		144.6			19.8		164.4
Greece 1+2			*50% haircut of PSI: 100.0*						245.6
Ireland	SD	11/2010 - 12/2013	22.5	17.7			22.5	4.8	67.5
Portugal	SD	5/2011 - 5/2014	26.0	26.0			26.0		78.0
Spain	Bank	12/2012 - 12/2013			41.4				41.4
Cyprus	Bank	5/2013 - 3/2016			9.0		1.0		10.0
	+ SD		*Laiki bank closed; Bank of Cyprus (BoC) - "haircut": shareholder capital written off; uninsured deposits above €100.000 lost*						
Total									**442.5**

SD = Sovereign default; PSI = Private Sector Involvement (Banks and private financiers); EFSM = European Financial Stabilisation Mechanism, administered by the European Commission (EU budget: €60 bn); EFSF = European Financial Stability Facility (June 2010 – June 2013; remains active in programmes for Portugal and Greece); ESM = European Stability Mechanism, inaugurated 8 October 2012 (since 1 July 2013 sole rescue instrument: €80 bn payed-in capital; lending capacity €500 bn; capital stock €700 bn); GLF = Greek Loan Facility – bilateral loans pooled by the European Commission.
Source: ESM Website: http://www.esm.europa.eu/

When the cost of debt financing climbed prohibitive (because of interest burden above 7% for 10 years government bonds) some peripheral countries were cut off from the capital market and would need support by its partners in the Euro zone. This was the case for Greece, Ireland, Portugal, Cyprus and Spain for their banks. After three years Ireland debarked from the rescue programme of the Troika in December 2013, Portugal followed in May 2014. Spain's support for its banks ended in December 2013. Ireland was the first of the programme countries which could come back to the capital market and place a government bond. Portugal followed in June 2014. Even Greece dived back on the bond market on April 2014, Cyprus in June 2014.

Whereas the rescue programmes were successful in stabilizing the economies of Ireland, Portugal and Spain, Greece[27] is still the problem country in the Euro area because it is hesitant in implementing the structural changes asked for by the Trokia[28].

The rescue operation for the PIIGS and three important political statements stopped the expectation that the Euro zone could break. Commissions President José Manuel Barroso (in November 2011) and German Chancellor Angela Merkel (in August 2012) declared to do whatever they can do to keep the Euro area in its present dimension of 19 Member States. These commitments and the most important message by ECB President Mario Draghi made more or less off the record in his speech at the Global Investment Conference in London, 26 July 2012 (*"Within our mandate, the ECB is ready to do whatever it takes to preserve the euro". "And believe me, it will be enough")* helped to reduce the probability of a breaking-up of the Eurozone. After Draghi's statement the ECB announced the program of Outright Monetary Transactions (OMT[29]). In order to fight "deflation" the ECB, starting on 1 March 2015 will embark into a euro-style programme of quantitative easing (QE). It will purchase assets each month amounting to €60 billion until September 2016 (in total €1.1 trillion)[30]. Both actions were able to stabilize the upward trend in the spreads of sovereign bonds of the periphery countries. The interest rates of their bonds declined considerably since autumn 2012. And the Euro revaluated since July 2012 up to May 2014 continuously by 13%[31]. The

---

[27] In an interview on June 2014, Poul Thomsen, head of the IMF's Greece team see only "ground for cautious optimism" (see: http://www.imf.org/external/pubs/ft/survey/so/2014/car060914a.htm)

[28] The Troika is a team of experts from the ECB, the IMF (see factsheet „The IMF and Europe": http://www.imf.org/external/np/exr/facts/europe.htm) and the European Commission which has the task to negotiate with problem countries of the Euro area to avoid their sovereign default. This group has been created ad hoc by the Euro area member states when the Greek crisis broke out in May 2010. The Troika was heavenly criticized by the European Parliament (see the Troika Report by the European Parliament, Rapporteur: Othmar Karas, Liem Hoang Ngoc: http://www.europarl.europa.eu/meps/en/4246/OTHMAR_KARAS_activities.html) because of its lack of democratic legitimacy and legal basis. The EP wants to finish the work of the Troika and sees the future of the Troika could in the following three variants: (i) The IMF makes the task alone; (ii) The European Commission makes the job alone; or (iii) The ESM will be transferred into a European Monetary Fund (EMF). The new Greek government since January 2015 even refuses to cooperate with the Troika.

[29] Since June 2013, the OMT programme is a legal case at the German *Federal Constitutional Court* in Karlsruhe (Bundesverfassungsgericht) because many German experts brought a complaint to the court. In a preliminary ruling as of 7 February 2014 the German Court of Justice came to the conclusion that the OMT programme has two legal caveats: (1) it is an infringement of Article 123 TFEU (although the ECB would buy government bonds only on the secondary market); and (2) it would intermingle monetary and fiscal policy by the ECB (its objective is only "price stability"). The Court pronounced the referral for a preliminary ruling to the Court of Justice of the European Union (ECJ). A decision is still open.

[30] See the ECB announcement of the QE (or "Expanded asset purchase") programme" on 22 January 2015: https://www.ecb.europa.eu/press/pr/date/2015/html/pr150122_1.en.html.

[31] Because of the already too strong Euro and the danger of a "deflation" in the Euro zone in light of the failure to reach its own targets of an inflation of 2% or near to it, on 5 June 2014 the ECB announced important monetary policy decisions (cut of the main refinancing rate to 0.15%; for the first time the deposit rate was set at -0.1%; conduct of three-month longer-term refinancing operations (LTROs)) in order to enhance the

weak economic perspectives (with the fear of a "secular stagnation"[32]) due to the Ukraine-Russia conflict, the unresolved Greek debt crisis weakened again the Euro.

4. Conclusions

Since 2007/08 the industrial world suffered from a sequence of crises: first the GFC 2008, followed by the Great Recession 2009 and – a specialty of Europe – the Euro crisis since 2010. Each crisis has a typical causal structure. The GFC was triggered by the housing bubble (subprime crisis) in connection with risky banking activity leading to a banking crisis in the United States. The consequence was a Great Recession in the U.S. and because of its spill-over to Europe also a considerable drop in GDP in Europe. The GFC and the Great Recession acted as asymmetric shocks to the Member States of the Euro area leading to the Euro crisis. As was already forecast ex ante to the introduction of the Euro, countries which were not able to adjust by "internal devaluation" (because of the loss of the instrument of its own exchange rate changes) suffered the most. The Euro crisis was homemade and the outcome of a trinity of causes (debt, banking, macro-imbalances), which interacted in a vicious circle together. The major lesson from the Euro crisis was that the asymmetric policy design of the EMU was not crisis-proven. Therefore a whole range of measures were implemented to make the Euro area fitter for future crises. The fiscal policy coordination was strengthened, new rescue instruments (ESM) were introduced, which did not exist before the crisis and the banking sector should be organized by the European Banking Union with the target to break the vicious circle of bank bail-out and public debt accumulation.

5. References

Aiginger, K. (2010): "The Great Recession vs. The Great Depression: Stylized Facts on Siblings That Were Given Different Foster Parents", *Economics*, The Open-Access, Open-Assessment E-Journal, Vol. 4, No. 2010-18, May 25, 2010 (http://www.economics-ejournal.org/economics/journalarticles/2010-18).

Aiginger, K., Guger, A. (2013): "Stylized Facts on the Interaction between Income Distribution and the Great Recession", *Economics*, The Open-Access, Open-Assessment E-Journal, Discussion Paper, No. 2013-25, March 22, 2013 (http://www.economics-ejournal.org/economics/discussionpapers/2013-25)

Baciulis, M. (2013): "Support for financial institutions increases government deficits in 2012. Upward impact of 0.4 pp GDP in the EU and 0.6pp in the euro area", *Statistics in Focus*, Eurostat. 10/2013, 22. April 2013.

functioning of the monetary policy transmission mechanism and to curb credit supply (see ECB website: http://www.ecb.europa.eu/press/pr/date/2014/html/pr140605_2.en.html).

[32] Recently, Summers (2013, 2014) came up with the pessimistic view of a "secular stagnation" in the context of the weak development of the industrial world. In Teulings and Baldwin (2014) several authors dealt with the explanation of this old notion invented by Alvin Hansen in 1938.

Ball, L.M. (1014): "Long-Term Damage from the Great Recession in OECD Countries", *NBER Working Paper*, No. 20185, May 2014.

Barroso, José Manuel Durão (2012): State of the Union 2012 Address. European Parliament, 12 September 2012.

Bayoumi, T., Eichengreen, B. (1994): "*One Money or Many? Analyzing the Prospects for Monetary Unification in Various Parts of the World*, Princeton Studies in International Finance, No. 76, September 1994.

Blanchard, O., Dell'Ariccia, G., and Mauro, P. (2010): "Rethinking Macroeconomic Policy," *IMF Staff Discussion Note* 10/03.

Bootle, R. (2012): "Leaving the Euro: A Practical Guide", Wolfson Economics Prize, 2012.

Breuss, F. (2011A): "Global financial crisis as a phenomenon of stock market overshooting", *Empirica – Journal of European Economics*, Vol. 38, No. 1, February 2011: 131-152.

Breuss, F. (2011B): "Downsizing the euro zone into an OCA or entry into a fiscal transfer union", *CESifo Forum*, Vol. 12, No. 4, Winter 2011: 5-12.

Breuss, F. (2012A): *EU-Mitgliedschaft Österreichs - Eine Evaluierung in Zeiten der Krise*, WIFO-Studie, Wien, Oktober 2012.

Breuss, F. (2012B): "European Banking Union: Necessary, But Not Enough to Fix the Euro Crisis", *CESifo Forum*, Vol. 13, No. 4, Winter 2012, pp. 26-32.

Breuss, F. (2013A): "Towards a New EMU", *WIFO Working Papers*, No. 447, March 2013 (published as Kindle eBook: http://www.amazon.com/Towards-New-EMU-Fritz-Breuss-ebook/dp/B00CBZBNLM).

Breuss, F. (2013B): "Towards United States of Europe", in: *Visions for Economic Policy Coordination in Europe*, Federal Ministry of Economy, Family and Youth, Vienna, June 2013: 27-47.

Breuss, F. (2013C): "Euro crisis as a chance for a restart of the European Union", in: *European economic governance in an international context*, Proceedings of the Global Jean Monnet Conference 2011, 24-25 November 2011, European Commission, Directorate-General for Education and Culture, Brussels, 2013, 168-180.

Breuss, F. (2014): "European Banking Union: The last building block towards a new EMU?", in: A. Bosco (ed.): *The Euro and the struggle for the creation of a new global currency. Problems and perspectives in the building of the political, financial and economic foundations of the European Federal Government*, Florence, forthcoming, 2014.

Breuss, F., Roeger, W., in't Veld, J. (2015): *"The stabilising properties of a European Banking Union in case of financial shocks in the Euro Area",* European Economy – Economic Papers, No. 543, February 2015.

Breuss, F., Kaniovski, S., Schratzenstaller, M. (2009): „Macro-economic Effects of the Fiscal Stimulus Measures in Austria", *Austrian Economic Quarterly*, *4/2009* (Volume 14): 205-216

Brunnermeier, M.K.,Sannikov, Y. (2014). "A Macroeconomic Model with a Financial Sector." The American Economic Review, Vol. 104, No. 2, February 2014: 379-421.

Cingano, F. (2014): "Trends in Income Inequality and its Impact on Economic Growth", OECD Social, Employment and Migration Working Papers, No. 163, Paris, 2014.

Claessens, St., Kose, M.A. (2013): "Financial Crises: Explanations, Types, and Implications", *IMF Working Paper*, WP/13/28, January 2013.

Cour-Thimann, Ph., Winkler, B (2013): "The ECB's Non-Standard Monetary Policy Measures The Role of Institutional Factors and Financial Structure*", ECB Working Paper Series*, No. 1528, April 2013.

Cynamon, B.Z., Fazzari, S.M. (2014): *„Inequality, the Great Recession, and Slow Recovery",* Federal Reserve Bank of Saint Louis and Washington University in St. Louis: March 19, 2014 (http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2205524).

De Grauwe, P. (2011): "Managing a fragile Eurozone", *CESifo Forum*, Vol. 12, No. 2, Summer 2011: 44-45.

Eichengreen, B., O'Rourke, K.H. (2012): "A tale of two depressions redux", *VoxEU*, 6 March 2012 (updates of earlier articles in VoxEU, starting with: "A Tale of Two Recessions", *VoxEU*, 6 April 2009; "What do the new data tell us?, *VoxEU*, 8 March 2010 (http://www.voxeu.org/article/tale-two-depressions-redux)

European Commission (2008): "EMU@10 - Successes and challenges after 10 years of Economic and Monetary Union", *European Economy*, No. 2, June 2008.

European Commission (2009A): "The EU's Response to Support the Real Economy During the Economic Crisis: An Overview of Member States' Recovery Measures", Brussels: *European Economy, Occasional Papers*, 511, July 2009.

European Commission (2009B): *"European Economic Forecast Autumn 2009"*, Brussels: European Economy 10/2009.

European Commission (2010): *"Europe 2020: A strategy for smart, sustainable and inclusive growth"*, Communication from the Commission, Brussels, COM(2010) 2020 final, 3.3.2020.

European Commission (2014): *"Taking stock of the Europe 2020 strategy for smart, sustainable and inclusive growth"*, Communication from the Commission to the European Parliament, the Council, the European Economic and Social Committee and the Committee of the Regions, corrected version, Brussels: COM(2014) 130 final/2, 19.3.2014.

European Commission (2015): *"European Economic Forecast Winter 2015"*, Brussels: European Economy 1/2015.

Financial Crisis Inquiry Commission (2011): *Crisis Inquiry Report*, Final Report of the National Commission on the Causes of the Financial and Economic Crisis in the United States, Official Government Edition, Washington, D.C., January 2011 (http://fcic-static.law.stanford.edu/cdn_media/fcic-reports/fcic_final_report_full.pdf).

German Council of Economic Experts (2012): *"After the Euro Area Summit: Time to Implement Long-term Solutions"*, Special Report, Wiesbaden: 30 July 2012.

Habermeier K. et al (2013): *"Unconventional Monetary Policies – Recent Experience and Prospects"*, IMF, Washington D.C: April 18, 2013.

IMF (2013): *"Global Financial Stability Report: Old Risks, New Challenges"*, Washington D.C.: April 2013.

IMF (2014A): *"Global Financial Stability Report: Moving from Liquidity to Growth-Driven Markets"*, Washington D.C.: April 2014.

IMF (2014B): *World Economic Outlook October 2014: Legacies, Clouds, Uncertainties,* International Monetary Fund, Washington, D.C.: October 2014.

IMF (2015): *World Economic Outlook: Update,* International Monetary Fund, Washington, D.C.: 19 January 2015.

James, H. (2012): Making the European Monetary Union, Bank for International Settlement, Basel, 2012.

Juncker, J.C., Tusk, D., Dijsselbloem, D., Draghi, M., Schulz, M. (2015), *Completing Europe's Economic and Monetary Union*, European Commission, Brussels, 22 June 2015.

Kenen, P. (1969): "The Theory of Optimum Currency Areas: An Eclectic View" in R.A. Mundell and A.K. Swoboda (eds) (1969): *Monetary Problems of the International Economy*, The University of Chicago Press, 1969: 41-60.

Kollmann, R., Ratto, M., Roeger, W, in't Veld, J. (2013): "Fiscal Policy, Banks and the Financial Crisis", *Journal of Economic Dynamics and Control*, Vol. 37, No. 2, January 2013, 387.403.

Krugman, P.A. (2009): "The Great Recession versus the Great Depression", *The New York Times* (Online Edition), 20 March 2009.

Krugman, P.A. (2012): “Revenge of the Optimum Currency Area”, *The New York Times* (Online Edition), 24 June 2012.

Lo, A.W (2012): "Reading about the Financial Crisis: A Twenty-One-Book Review." *Journal of Economic Literature*, Vol. 50, No 1, March 2012: 151-78.

Mourlon-Druol, E. (2014), “Don’t Blame the Euro: Historical Reflections on the Roots of the Eurozone Crisis”, *West European Politics*, Vol. 37, Issue 6, 1282-1296.

Mundell, R. (1961): “A theory of Optimum Currency Areas”, *The American Economic Review*, Vol. 51, No. 4, September 1961: 657-665.

OECD (2009A): *Fiscal Packages Across OECD Countries: Overview and Country Details*, Paris, 2009.

OECD (2009B): *Policy Responses to the Economic Crisis: Investing in Innovation for Long-term Growth*, Paris, 2009.

OECD (2014A): *“OECD forecasts during and after the financial crisis: a post mortem”*, OECD Economics Department Policy Note, No. 23, Paris, February 2014.

OECD (2014B): *“Income Inequality Update: Rising inequality: youth and poor fall further behind”*, Insights from the OECD Income Distribution Database, OECD: Directorate for Employment, Labour and Social Affairs Statistics Directorate, Paris, June 2014 (http://www.oecd.org/social/OECD2014-Income-Inequality-Update.pdf)

Oxford Economics (2012): “Eurozone breakup. Macroeconomic implications using Oxford Economics' Global Macro Model”, Oxford, Juni 2012 (Update August 2012).

Reinhart, C., Kirkegaard, K. Sbrancia, B. (2011): „Financial repression redux”, *Peterson Institute for International Economics*, June 2011(http://mpra.ub.uni-muenchen.de/31641), MPRA Paper No. 31641

Reinhart, C.M., Rogoff, K.S. (2009): *This Time is Different: Eight Centuries of Financial Folly*, Princeton and Oxford: Princeton University Press, 2009.

Reinhard, C.M. Rogoff, K.S. (2010): „Growth in a Time of Debt“, *The American Economic Review*, Vol. 100, No. 2, May 2010: 573-78.

Shiller, R.J. (2008): *The Subprime Solution: How Today’s Global Financial Crisis Happened, and What to Do about It*, Princeton and Oxford: Princeton University Press: 2008.

Sinn, H.-W. (2012): *Die Target-Falle – Gefahren für unser Geld und unsere Kinder*, Carl Hanser Verlag, München, 2012.

Sinn, H.-W. (2014): *The Euro Trap – On Bursting Bubbles, Budgets, and Beliefs*, Oxford University Press, Oxford, 2014.

Stockhammer, E. (2011): "Polarisierung der Einkommensverteilung als Ursache der Finanz- und Wirtschaftskrise", *Wirtschaft und Gesellschaft*, 2011, 37(3): 378-402 (http://econpapers.repec.org/article/clrwugarc/y_3a2011_3av_3a37i_3a3p_3a378.htm)

Summers, L. (2013), “*Remarks”* on the IMF Annual Research Conference, Washington, DC., November 8th, 2013.

Summer, L. (2014), *“Reflections on the ‘New Secular Stagnation Hypothesis’*”, in: Teulings, C., Baldwin, R. (eds.) (2014), 27-38.

Taylor JB (2009): “The financial crisis and the policy responses: an empirical analysis of what went wrong”, *NBER, Working Paper*, No. 14631, January 2009

Teulings, C., Baldwin, R. (eds.) (2014), *Secular Stagnation: Facts, Causes, and Cures*, A VoxEU.org eBook, CEPR, London 2014.

WTO OMC (2014): Report on G-20 Trade Measures (Mid-May 2014 to Mid-October 2014), Geneva, 5 November 2014.