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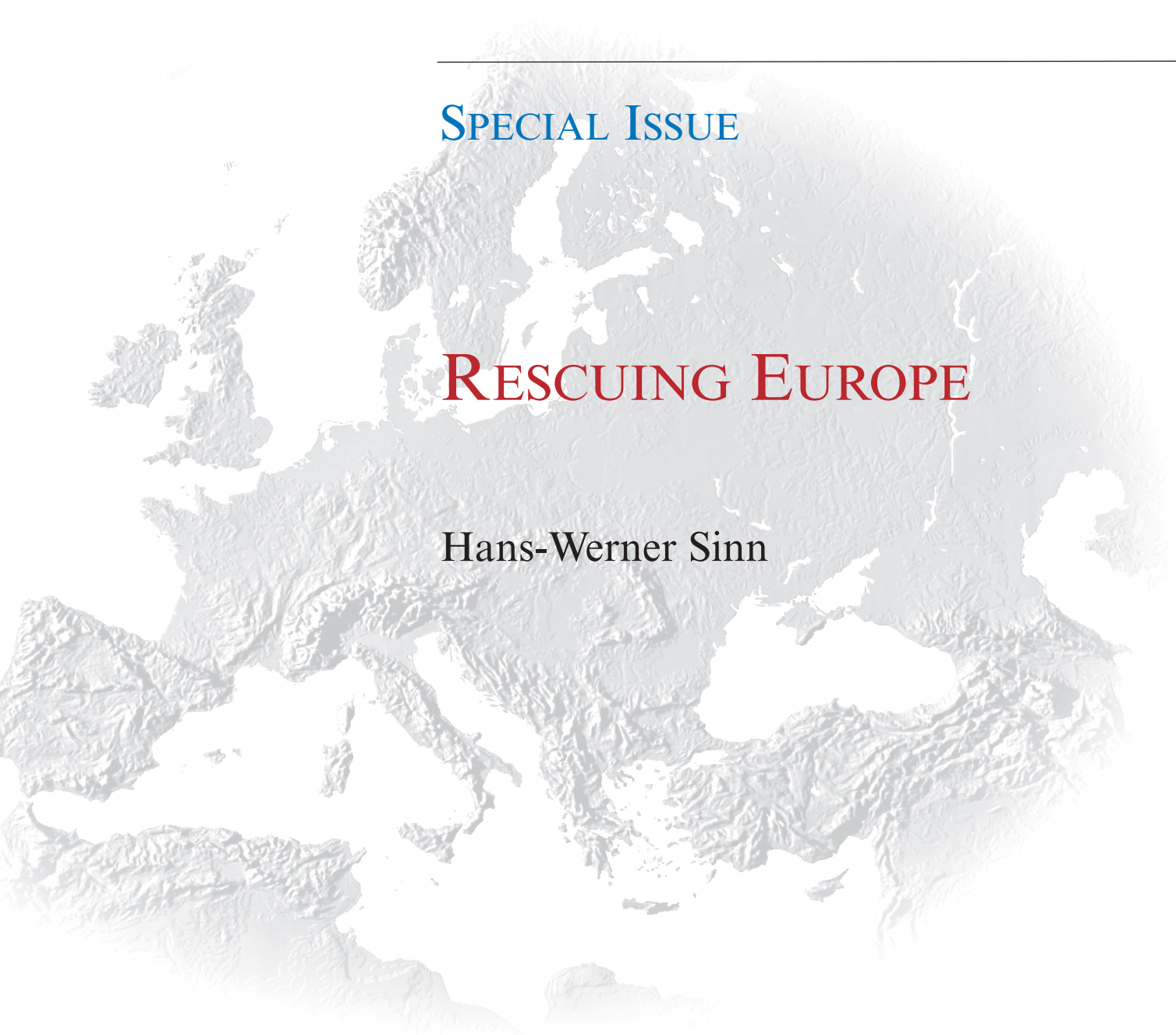
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Hans-Werner Sinn



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RESCUING EUROPE

HANS-WERNER SINN*

The European crisis

After the global financial crisis that resulted from the bursting of the US housing bubble in 2006 and the default of Lehman Brothers on 15 September 2008, a number of countries on the eurozone's south-western periphery, in particular Greece, Spain, Portugal and Ireland, have faced severe difficulties involving the risk of sovereign debt defaults and a new banking crisis. Other EU countries, above all France, were indirectly affected by this crisis, and in addition some eastern European countries are endangered. Although the EU has tried to contain the euro crisis with extensive rescue operations that have turned the no-bail out philosophy of the Maastricht Treaty on its head, in summer 2010 the danger was not yet over. Obviously, the construction of the eurozone, in particular the rules of conduct for the participating countries, needs to be reconsidered.

This does not mean that the euro should be given up. The euro itself is indispensable for Europe. During the financial crisis it has protected its members from internal exchange rate shocks, it has reduced the European transactions costs for trade, and it is a necessary ingredient of further European integration.

Nevertheless, in this essay, I argue that the euro has not been as beneficial for all European countries as has often been claimed. The euro has shifted Europe's growth forces from the center to the periphery. It has not been particularly beneficial for Germany, for example, and because of a lack of proper private and public debt constraints, it has stimulated the periphery of Europe up to the point of overheating, with ultimately dangerous consequences for European cohesion. The current crisis has not put an end to this development. It has flipped a toggle switch that will shift the forces of growth back from the periphery to

the center, although the rescue measures counteract this. I criticize these measures because of the moral hazard effects they generate and propose a new political design for a more prosperous and stable development of the eurozone. In a sense, this essay can be understood as a new chapter of my Oxford University Press book, *Casino Capitalism*, which had already gone to press and could not take full account of the European crisis.¹

The rescue measures

During the night of 9/10 May 2010 in Brussels, the EU countries agreed a 500 billion euro rescue package for endangered member countries, assuming that supplementary help, to the order of 250 billion euros, would come from the IMF.² The pact came in addition to the 80-billion-euro rescue plan for Greece, topped by 30 billion euros from the IMF, that had been agreed previously,³ and it was supplemented by the ECB decision to participate in the bailout of endangered countries by buying government bonds.

The rescue package consists of two parts: A 60-billion-euro loan facility, called European Financial Stabilisation Mechanism (EFSM), empowering the EU Council to borrow in the capital market, after a majority decision, and lend to endangered EU countries inside and outside the eurozone, and a further 440-billion-euro package for euro countries granted in the form of intergovernmental help. The funds needed are to be borrowed in the market by a newly formed special purpose vehicle of the euro states, called European Financial Stability Facility (EFSF), and to be transferred to the countries in crisis at market interest rates. The EFSF is located in Luxembourg and is supported by the European Investment Bank.



¹ H.-W. Sinn, *Casino Capitalism, How the Financial Crisis Came about and What Needs to Be Done Now*, Oxford University Press, Oxford 2010.

² *The European Stabilization Mechanism*, Council Regulation (EU) No. 407/2010 of 11 May 2010 establishing a European financial stabilisation mechanism, online at www.eur-lex.europa.eu, 7 July 2010; *EFSF Framework Agreement*, 7 June 2010, online at www.bundesfinanzministerium.de, 5 July 2010.

³ *Statement by the Eurogroup*, Brussels, 2 May 2010, and *IMF Reaches Staff-level Agreement with Greece on €30 Billion Stand-By Arrangement*, IMF Press Release No. 10/176.

* Ifo Institute for Economic Research.

It works in close cooperation with the European Commission. The bonds it issues to the market are jointly guaranteed by the euro states.

The decisions are reminiscent of the eurobonds (community bonds) to be issued by the European Investment Bank that the Italian Minister of Finance Tremonti already called for at the World Economic Forum in Davos in 2009.⁴ But whereas Tremonti wanted the eurobonds to be used for the normal financing of the euro states, the EFSF is motivated by the idea of crisis prevention, applying to countries that face financial difficulties due to extraordinary circumstances beyond their control.⁵

Surprisingly, the framework document is rather vague about the formal procedure to identify such extraordinary circumstances. It states that the European Commission will negotiate a fiscal consolidation program if a country applies for help and that this program will then have to be unanimously accepted by all euro countries, but it does not say who will have to define the extraordinary circumstances to initiate EU actions.⁶ The vagueness has prompted some to think that the money is available on demand. The German law implementing the EFSF puts a stop to such interpretation. It states that help can only be provided as an emergency measure to preserve a country's solvency, and it defines a clear sequence for the procedure to be followed after a country has applied for help.⁷ First, all euro states (excluding the endangered country or countries), the ECB and the IMF must unanimously agree on the looming insolvency. Then the European Commission and the IMF, in cooperation with the ECB, will negotiate a consolidation plan with the country that is requesting help. And, finally, this plan will have to be unanimously accepted by all euro countries (including the endangered countries). Given that the EFSF was formed by an international treaty outside the EU, Germany's interpretation is binding for the German government and cannot be overruled by EU bodies.

There also was substantial confusion as to the volume of guarantees to be provided by the single euro countries. At first glance the EFSF Framework

Agreement says that each state is to guarantee an amount proportional to 120 percent of its ECB capital share. This rule was obviously meant to cover the worst case, in which Greece, Portugal, Spain and Ireland would all become needy, for 120 percent of the ECB capital shares of the other euro countries applied to the 440 billion euros would then be exactly 441 billion euros. However, the exact formulations of the Framework Agreement differ from this interpretation. On the one hand, § 5(1)a and § 8(2) stipulate that each country's ECB share is scaled up by allocating the shares of the 'stepping-out guarantors' to the other countries and that the 120 percent is then applied to this scaled-up percentage.⁸ The logical implication is that in the extreme, when all countries but one step out, this one country would have to guarantee 120 percent of 440 billion euros, i.e. 528 billion euros, single-handedly. On the other hand, § 2.3, in conjunction with Appendix 1, limits each country's guarantee to an absolute amount that equals this country's ECB capital share times 440 billion euros, which is an obvious contradiction. For France this would limit the liability to 90 billion euros and for Germany to 119 billion euros. The confusion must have led to further negotiations after the agreement was signed, as the actual formulations that the European countries implemented in their respective national laws imply yet another rule. France and Germany, for example, stipulated in their respective national laws that they would at most guarantee 120 percent of the capital share adjusted for Greece, as the Agreement treated Greece as a stepping out guarantor from the outset.⁹ In the case of France, this is 25.2 percent (120 percent of 21.0 percent) or 111 billion euros, and in the case of Germany, 33.5 percent (120 percent of 27.9 percent) or 147 billion euros.¹⁰ Thus, the two countries do not respect the scaling-up of their guarantee percentages for countries stepping out in addition to Greece, as § 5(1) and § 8(2) require, but they guarantee more than the upper limits following from § 2.3 and Appendix 1.

As in the case of Greece, Germany attempted to make the participation of the IMF a precondition for the assistance provided by the EFSF. It succeeded to the extent that the IMF must take part in determining the insolvency, and that it must approve the consolidation

⁴ "Now my feeling – I am speaking of a political issue not at economic issue – is [...] now we need a union bond", Tremonti commented, according to *Businessweek*, at the World Economic Forum in Davos (www.businessweek.com/globalbiz/content/feb2009/gb2009022_614778.htm).

⁵ *EFSF Framework Agreement*, Preamble (1).

⁶ *EFSF Framework Agreement*, § 2(1).

⁷ Gesetz zur Übernahme von Gewährleistungen im Rahmen eines europäischen Stabilisierungsmechanismus, online at www.bgbl.de, 7 July 2010.

⁸ *EFSF Framework Agreement*, § 5(1) in conjunction with § 8(2).

⁹ *EFSF Framework Agreement*, § 8(2).

¹⁰ See Gesetz zur Übernahme von Gewährleistungen im Rahmen eines europäischen Stabilisierungsmechanismus, 22 May 2010, § 1(1) and § 1(6), online at www.bgbl.de, 7 July 2010. Loi n° 2010-606 du 7 juin 2010 de finances rectificative pour 2010, § 3(1), online at www.legifrance.gouv.fr.

plan. However, the financial participation of the IMF in the rescue package is not a firm condition as in the case of Greece. It is only 'anticipated'.

In addition to the rescue measures for Greece, the 60-billion-euro EU loan program, and the 440-billion-euro program run by the EFSF, the ECB also allowed itself to be included in the new rescue program. Making use of a loophole in the Maastricht Treaty, it decided on 12 May 2010 to buy government securities for the first time in its history, instead of only acknowledging them as collateral.¹¹ This was seen by many observers as a fundamental contradiction to the interpretation of the Maastricht Treaty as a stability union that it thus far had endorsed. And what is more: while the ECB had required at least a 'A'-rating for the government bonds it accepted as collateral in the years before the crisis and a 'BBB'-rating during the crisis, it waived the rating requirement for its direct purchase program in order to be able to buy Greek government bonds, which had been given junk-bond status by the rating agencies. In December 2009 the ECB had given assurances that it would not even accept such securities as collateral, and that it would return to a 'A'-rating requirement by the end of 2010.¹² The representatives of Germany and the Netherlands, who together hold 33 percent of the euro country shares of the ECB but only 14 percent of the voting rights, were outvoted on this decision.

The ECB decision does not incur the risk of inflation because the ECB announced that it will neutralize the monetary effect through other means, presumably through the sale of private-sector assets from its portfolio. Indeed, the purchase of state bonds has little to do with monetary policy, but is a pure bailing-out, transferring the default risk on government bonds from banks to the ECB and hence to the euro states' taxpayers. If a default occurs, this will either reduce the profit transfers to the respective national finance ministries

Table 1

The rescue packages and the liability limits (billion euro)

	All countries	Germany	France
European Financial Stability Facility (EFSF)	440	147.4	110.7
European Financial Stability Mechanism (EFSM, European Commission)	60	12.0	9.7
IMF euro rescue plan	250	14.9	12.3
EU rescue plan for Greece	80	22.3	16.8
IMF rescue plan for Greece	30	1.8	1.5
ECB purchases of government bonds (up to 30 July 2010)	60	16.4	12.3
Sum	920	214.9	163.3
Notes: Line 1: ECB capital shares (euro countries except Greece), increased by 20%. Line 2: 2008 shares in EU Budget. Line 3: Current IMF capital shares (5.98% for Germany and 4.94% for France). Line 4: ECB capital shares (euro countries without Greece). Line 5: as line 3. Line 6: ECB capital shares (euro countries).			

Sources: *EFSF Framework Agreement*, 7 June 2010, online at www.bundesfinanzministerium.de, 5 July 2010; EU, *The European Stabilization Mechanism*, Council Regulation (EU) No 407/2010 of 11 May 2010 establishing a European financial stabilisation mechanism, online at www.eur-lex.europa.eu, 7 July 2010; European Commission, *EU Budget*, 2008 Financial Report (Luxembourg 2009), p. 67; ECB, 1 January 2009 – *Adjustments to the ECB's Capital Subscription Key and the Contribution Paid by Slovakia*, Press release 1 January 2009; IMF, *Updated IMF Quota Data* – June 2010, online at www.imf.org, 5 July 2010. Calculations by the Ifo Institute.

or force the national governments to re-inject new equity into the ECB. Germany will shoulder 27.13 percent of all default losses and France 20.38 percent (according to their respective ECB capital shares).

Table 1 gives an overview of the exposures of the community of all countries as well as France and Germany. It is assumed here that Germany and France guarantee the 60-billion-euro EU loans at their respective shares in the EU budget, which are 20.0 percent and 16.2 percent respectively. Similarly, these countries participate with their respective capital shares of 5.98 percent and 4.94 percent in the IMF funds provided. The next-to-last line gives the bail-out guarantees implicit in the 60 billion ECB purchases of state bonds by 30 July 2010. While the ECB has not announced how large its own bail-out package is, the time trend suggests that the 60 billion euros will be the limit of government bond purchases for the time being.

According to the table, the bail-out guarantee of all programs taken together by 30 July 2010 was 920 billion euros. This is slightly less than the aggregate government debt of Greece, Spain, Portugal and Ireland, which was 1,064 billion euros by the end of 2009. Of the overall bail-out guarantee, Germany and France together bear 378 billion euros, or 41 percent of the total.

¹¹ *ECB Decides on Measures to Address Severe Tensions in Financial Markets*, ECB Press Release of 10 May 2010 (<http://www.ecb.int/press/pr/date/2010/html/pr100510.en.html>).

¹² *Guideline of the European Central Bank of 10th December 2009*, online at www.ecb.int, 9 July 2010.

French altruism

Prima facie the rescue packages have helped the endangered countries, namely Greece, Spain, Portugal and Ireland, whose outstanding government bonds had fallen in value mirroring a dramatic increase in the interest rates these countries had to offer the markets as compensation for an expected default. In fact, however, the absence of a 'haircut' that would have imposed some of the burden of default on the creditors makes it clear that the rescue measures were motivated not solely by altruism, but by the attempt to avoid write-off losses in the respective national bank balance sheets. This aspect made the rescue measures a means of redistributing wealth between the creditor countries and caused enormous pressure, tension and friction.

The negotiations of 7–9 May 2010 that lead to the reinterpretation of the Maastricht Treaty must have been difficult, if not chaotic. Since rescue measures beyond the pre-arranged Greek package had not been on the agenda for the Brussels meeting, German Chancellor Angela Merkel thought she could safely go to Moscow to commemorate the end of World War II – unlike President Sarkozy, who declined Russian Prime Minister Vladimir Putin's invitation. Angela Merkel participated on Friday, 7 May, when the rescue package was added to the agenda. She was able to influence important preliminary decisions, but she had already committed to go to Moscow and returned to the meetings only on Sunday afternoon. Worse, the leader of the German delegation to the EU meeting, Finance Minister Wolfgang Schäuble, fell ill and had to be taken to hospital in Brussels. This left the German delegation temporarily headless until Thomas de Maizièr, Germany's Minister of the Interior was brought in to replace him. French President Nicolas Sarkozy, in contrast, was fully active during the meeting. He asked for huge sums of money and, as Spanish Prime Minister José Luis Zapatero reported, threatened to pull France out of the euro and break up the Franco-German axis unless Germany opened its purse.¹³ After just two days of negotiations, the Maas-

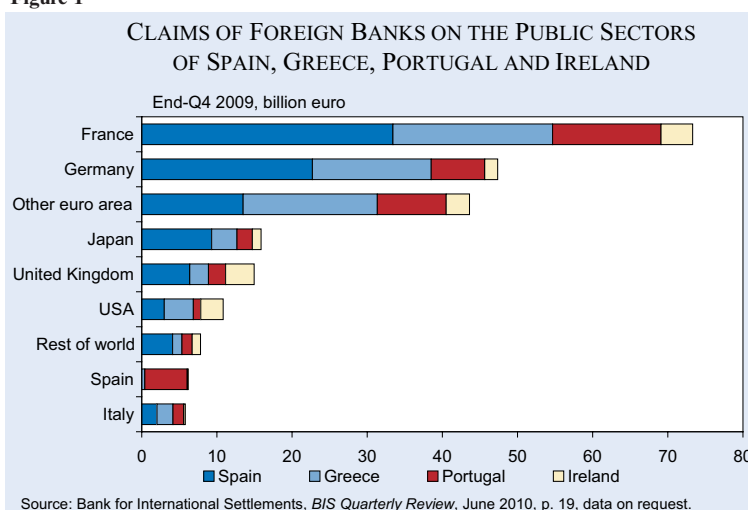
tricht Treaty's no-bailout clause, which Germany once had made a condition for giving up the Deutsche Mark, was defunct.

France's implacability, in Germany's political circles widely perceived as recklessness, can be explained by the fact that its banks were affected particularly strongly by the crisis, since they held a large volume of government securities of troubled countries. By the end of 2009, French banks had invested 21 billion euros in Greek government bonds, whereas German banks had invested only 16 billion euros.¹⁴ Similarly, as Figure 1 reveals, at the same time French banks were holding substantially more debt issued by the governments of Spain, Portugal and Ireland, totaling 52 billion euros, than banks of any other EU country. Even German banks only had an exposure of 32 billion euros. Figure 1 suggests why President Sarkozy was so determined to organize the rescue packages and was even willing to sacrifice the Franco-German axis to achieve his goals.

From a French perspective it was definitely preferable to opt for collective rescue measures, as this implied that some of the over-proportional burden expected for their own banks would have to be shared by other countries, above all Germany. While Germany contributes one third (33 percent) more to the rescue packages for Spain, Portugal and Ireland than France, France's exposure is two-thirds (65 percent) higher than Germany's.

¹⁴ Bank for International Settlements, *BIS Quarterly Review*, June 2010, p. 19, data on request. The sums listed here (in US dollars) were converted into euros using the exchange rate of 31 December 2009 (1 euro = 1.4406 US dollars).

Figure 1



¹³ *Fears over Greek Bailout Send Shares and Euro Tumbling*, The Guardian, 14 May 2010 (<http://www.guardian.co.uk/business/2010/may/14/nicolas-sarkozy-threatened-euro-withdrawal>).

The situation at first glance seems a bit less extreme with regard to Greece. While Germany again contributes a third more to the rescue package for Greece than France, the French exposure to Greek government bonds exceeds the German one only by one third (34 percent). However, it is worth noting that French banks own a non-negligible share of the Greek banking system. For example, French bank *Crédit Agricole* is the owner of *Emporiki Bank*, Greek's fourth-largest commercial bank.

After the rescue measures, it comes as no surprise that not a single French bank failed the EU stress test for banks published on 23 July 2010.¹⁵ While the French banking system had weathered the US financial crisis well, because it was not overly exposed to US assets,¹⁶ it would have been hit fully by the southern European debt crisis, had the rescue measures not been taken. With these measures in place, passing the test was not a problem. As European banks held the lion's shares of their southern government bonds in their banking rather than trading books, they did not have to report the diminished market values of these bonds in the stress tests, but were allowed to evaluate them at their nominal face values, arguing that they planned to hold them to maturity and that the European rescue measures would guarantee the repayment.

Was the euro really endangered?

Politicians claimed and obviously believed that the bailouts were necessary to prevent a systemic crisis of the euro. There was no alternative to a bailout over the weekend of 8 and 9 May 2010, it was argued, for the financial markets were in such disarray that Europe's financial system, if not the western world's, would have collapsed had the rescue packages not been agreed immediately, before the stock market in Tokyo was to open on Monday morning, 2 am Brussels time. The similarity to the collapse of the interbank market after the insolvency of Lehman Brothers on 15 September 2008 seemed all too obvious.

The official documents also argue along this line. The EFSF Framework Agreement, the EU Council regulation for the 60-billion-euro package and, for example, the official recommendations that the German government gave to its Parliament, all repeat the formulations of Article 122 of the EU Treaty, according

to which assistance by EU countries is allowed if member states are threatened with serious difficulties that are beyond their control.¹⁷ Up to recently, this formulation had always been interpreted as not being applicable to the bailing-out of debtors. However, the euro governments now explicitly based the bailout actions on it arguing that the debt crisis endangered the solvency of entire states and posed a serious threat to the financial stability of the monetary union itself. Leading EU politicians changed their language over the weekend of 8/9 May, reinterpreting what formerly were debt crises of particular countries as a 'systemic crisis' that could also endanger countries that had not violated the rules. The euro itself was endangered. The Euro Group chairman, Jean-Claude Juncker, spoke of a 'worldwide organised attack against the euro'.¹⁸ Chancellor Merkel and French President Sarkozy stressed in a joint declaration that "we must prevent speculators from endangering the adjustment efforts that have become necessary because of the recently overcome economic and financial crisis".¹⁹ Chancellor Merkel said that the future of the euro was at risk,²⁰ and she warned in her speech at the ceremony awarding the Charlemagne Prize in Aachen: "If the euro fails, [...] then Europe will fail, then the idea of European integration will fail".²¹ Both French President Sarkozy and ECB President Jean-Claude Trichet spoke of a systemic crisis.²² "The euro faces a systemic crisis. Thus a systemic answer is needed", said President Sarkozy.²³

The euro was evidently endangered politically, because President Sarkozy had played for high stakes. The question, however, is whether the euro was also endangered economically, or what could have been meant by talk of such a threat other than the losses threatening the holders of the government bonds. If write-offs had to be accepted on government securities, which were purchased out of a profit motive, it seems a bit odd to claim to be beset by dangers

¹⁷ EFSF Framework Agreement, op. cit., preamble (1). Council Regulation (EU) No. 407/2010, Official Journal of the European Union, 11 May 2010, online at www.eur-lex.europa.eu, 9 July 2010. *Beschlusssempfehlung des Haushaltsausschusses (8. Ausschuss) zu dem Gesetzentwurf der Fraktionen der CDU/CSU und FDP – Drucksache 17/1685*, Deutscher Bundestag.

¹⁸ *Euroländer sagen Spekulanten den Kampf an*, Spiegel Online of 8 May 2010, www.spiegel.de.

¹⁹ Joint Communiqué of Chancellor Merkel and French President Sarkozy to the Presidents of the European Council and the European Commission, Press Release of the German Federal Government of 6. May 2010, www.bundesregierung.de.

²⁰ *Protecting the Euro*, News Item of the German Federal Government of 10 May 2010 www.bundesregierung.de.

²¹ *Kämpfer für Europa*, News Item of the German Federal Government of 13 May 2010 www.bundesregierung.de.

²² *EZB soll direkt Staatsanleihen kaufen*, FAZ.NET, 10 May 2010, www.faz.net.

²³ Handelsblatt Online, *Euro-Rettungsbeschluss soll Spekulanten zähmen*, 9 May 2010, www.handelsblatt.com.

¹⁵ See Committee of European Banking Supervisors, *2010 EU Wide Stress Testing*, Summary of the 91 bank-by-bank results, pp. 11–14.

¹⁶ See H.-W. Sinn, *Casino Capitalism*, op. cit., chapter 8.

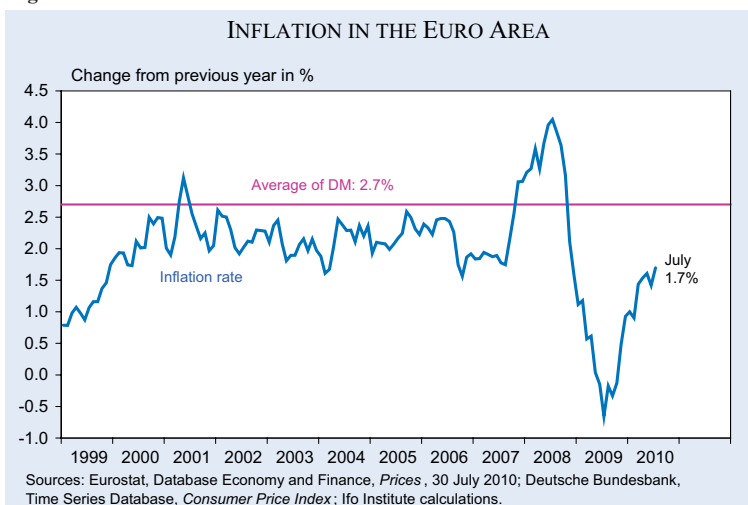
beyond one's control, in order to be able to invoke Article 122 of the EU Treaty. So other dangers must have been lurking.

A possible hypothesis could have been that the euro was in danger of losing much of its internal and external value in this crisis. However, there is little empirical evidence of such a development.

A look at Figure 2 shows that the euro was not endangered in terms of uncontrolled exchange-rate movements. On Friday, 7 May 2010, the last trading day before the agreement, one euro cost 1.27 dollars. This was indeed less than in previous months but much more than the 0.88 dollars which were the average of January and February 2002, when the euro currency was physically introduced.

An objective measurement of a currency's value is the OECD purchasing power parity. The purchasing power parity is a kind of natural exchange rate, as it equates the cost of an average goods basket in the considered countries. The purchasing power parity is shown as a blue line in Figure 2. Since it recently stood at 1.17 dollars, it is not possible to talk of the euro being endangered on this basis. If the euro was endangered, it was because of the official announcement made for legal reasons that the euro was facing a systemic crisis. As the figure shows, after the decla-

Figure 3

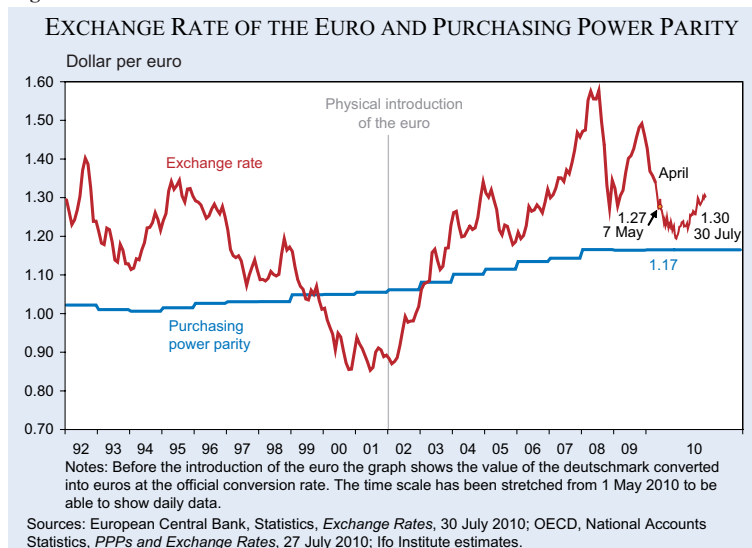


ration of the rescue packages for a while the exchange rate even kept declining.

Figure 3 further shows that there were no indications of an unexpectedly strong decline in domestic purchasing power because of inflation. Most recently, in July 2010, the inflation rate in the euro area amounted to 1.7 percent. That was one of the lowest rates since the introduction of the euro. It was also much lower than the inflation rate of the Deutsche Mark during its 50 years of existence, which averaged 2.7 percent between 1948 and 1998. In this respect as well there was no evident danger.

The euro obviously was not endangered in this crisis. Endangered was the French banking system, as well as the ability of the countries of Europe's south-western periphery to continue financing themselves as cheaply in the capital markets as had been possible in the initial years of the euro. The next section will try to shed some light on this issue.

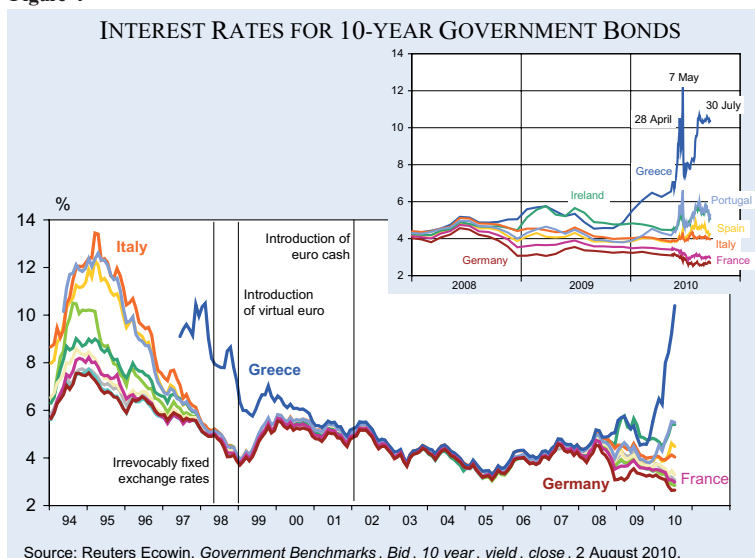
Figure 2



The true problem: rising interest spreads

The decline in the market value of government bonds during the crisis that so upset President Sarkozy was equivalent to an increase in the effective interest rates on these bonds. In Figure 4 the development of interest rates is plotted for ten-year government bonds of the euro states

Figure 4



since 1994. Evidently, the interest rate spreads were rising rapidly during the financial crisis, as shown on the right-hand side of the diagram. No doubt, there was some danger, but it was danger to very specific countries rather than a systemic danger of the euro system as such. Apart from France, which was indirectly affected via its banks' ownership of problematic state bonds, the endangered countries include Greece, Ireland, Portugal, Spain and Italy (and to a limited extent Belgium), if the criterion is the increase in interest rates in recent months. The countries that were neither in danger via their creditor banks nor in terms of increasing interest rates included Germany, the Netherlands, Austria and Finland.

However, apart from Greece, even for the countries directly affected the danger was limited. As the figure shows, interest spreads relative to Germany had been much more problematic before the euro was introduced. In 1995, Italy, Portugal and Spain on average had had to pay 5.0 percentage points higher interest rates on ten-year government bonds than Germany.

Among the reasons for the spreads at that time was the non-existence of a common European capital market, because fluctuating exchange rates and transactions costs created a large burden for international investments and kept the markets apart, but arguably the expectation of systematic currency devaluations was even more important. While international investors who bought a country's government bonds may not have been afraid that the debtor countries would formally default on their debt, they were afraid that these countries would implicitly

default by deliberately inflating and devaluing their currencies. The expected losses resulting from the inflation-cum-devaluation strategy had to be compensated for by interest surcharges that the debtor countries offered their creditors for both public and private loans, bonds and debentures.

As it was known that the exchange risk and transactions costs would disappear with the euro, the interest rates began to converge as soon as a country was expected to become a member of the eurozone and once no further exchange rate realignment was expected. The chart shows that this happened with ten-year government bonds in the months before the set of member countries was determined and the conversion rates irrevocably fixed on 3 May 1998.²⁴ A similar development must have taken place with private debt instruments, although, unfortunately, a comparable statistic is not available.

Even Greece profited from the interest-rate convergence once it was allowed to join the euro area on the basis of doctored budget-deficit figures for the reference year 1999. Greece was allowed to participate in the euro because it had claimed that its budget deficit in that year was 1.6 percent of GDP. However, as soon as Greece was in, Eurostat revised its deficit to 3.3 percent, more than the allowed threshold of 3 percent. Later Eurostat withdrew even that figure, without offering a new one.²⁵ Some argue that the deficit was as high as 6 percent. In a report on Greece, the European Commission declared that the Greek statistical office and the country's supreme supervisory authority had 'deliberately falsified' the statistics.²⁶ They obviously wanted to give the impression of better compliance with the Stability and Growth Pact.

The current crisis is characterized by a new divergence of interest rates. While the risk of implicit default via inflation and devaluation has disappeared under the euro, investors began to fear the explicit default of

²⁴ See European Central Bank, *Annual Report 1998*, Chronology of monetary policy measures taken in the EU in 1998, p. 163 f.

²⁵ Eurostat, Economy and Finance, Database, epp.eurostat.ec.

²⁶ European Commission, *Report on Greek Government Deficit and Debt Statistics*, Brussels, 8 January 2010, epp.eurostat.ec.europa.eu.

countries suffering under the consequences of the world financial crisis, demanding compensation through higher interest rates. Not only for Greece, but also for Ireland, Portugal and Spain, and to some extent even for Italy, interest rates rose up to 7 May 2010, the day before the bailout decisions of the EU countries. After this agreement, the interest-rate spreads did decrease for a while compared to the German benchmark, but after only a few weeks they were again on the rise with some easing in the weeks before the European summer holiday season.

Figure 4 shows why not only France but also many other countries regarded the interest rate development as alarming.

Before the introduction of the euro, they had suffered very much from the high interest rates that they had to offer to skeptical international investors. At that time the interest premia on government debt that the investors required was the main reason for these countries to want to introduce the euro. They wanted to enjoy the same low interest rates with which Germany was able to satisfy its creditors. The calculation seemed to have paid off, because since 1998 the interest-rate premia over German rates had in fact nearly disappeared. Nevertheless, now with the European debt crisis, the former circumstances threatened to return. The advantages promised by the euro, and which it also delivered for some time, dwindled away. This and nothing else was the reason for the crisis atmosphere in the debtor countries. The alarm felt by these countries, linked with the fear of further losses on government bonds in the creditor countries, fuelled the political pressure that led to the rescue actions.

Figure 4, in conjunction with Figures 2 and 3, clearly shows that there was no crisis of the euro itself, but only a crisis in those creditor countries that faced high losses, or debtor countries that expected high interest rates on new bond issues. The alarm was subjectively understandable. However, there was no systemic crisis justifying the application of Article 122 of the EU Treaty. At no point in time was the euro economically endangered.

Table 2

Average interest rate spreads relative to Germany for the euro countries protected by the euro rescue plan EFSF (ten year government bonds)

	Difference in percentage points	Direction of change	Background/reason
1995	2.60		Pre euro
2008	0.40	↓	Euro
7 May 2010	1.08	↑	Crisis
13 May 2010	0.64	↓	Rescue
June 2010	1.10	↑	New crisis?
8 June 2010	1.26		
30 June 2010	1.14		
30 July 2010	0.89		

Sources: Reuters, EcoWin, *Government Benchmarks, Bid, 10 Year, Yield, Close*, 2 August 2010; Ifo Institute calculations.

Table 2 gives a more precise meaning to these statements in that it depicts the numerical magnitudes of the interest spreads of the euro states protected by the EFSF in the various time periods. While the mean weighted interest spread of these euro states (except Greece and Germany) relative to Germany was 1.08 percentage points on 7 May 2010, it had been 2.6 percentage points in 1995, before the euro was introduced, which was more than twice as high.

The table shows that in the first few days after the rescue measures the spreads declined somewhat. The minimum average spread was 0.64 on 13 May 2010. However, the average spread soon began to rise again. A possible reason was a lack of credibility of the rescue measures, which can be attributed to their being limited to only three years and possibly also to the more than disturbing circumstances under which France had twisted Germany's arms and the pitiful reactions of Germany's political class. The lack of agreement between Europe's two biggest countries did not provide a basis for hoping that the rescue pact will be prolonged in its current generous form beyond the three years stipulated in the Framework Agreement. For sure, the two governments will work hard over the summer of 2010 to come up with a unanimously supported joint proposal for a prolongation of the pact, aimed at publicly demonstrating the strength and invulnerability of the Franco-German axis.

As it turned out, the spreads increased after the rescue measures to levels higher than before such measures were agreed. On 8 June the spread reached a maximum of 1.26 percentage points, and throughout June it was hovering around an average of 1.1. By the end of the month it was 1.14. All this was significantly more than on Friday, 7 May, the day it was feared that the world would go under unless the rescue measures were agreed to immediately. If the world was about to go under at a spread of 1.08 points, then it should have gone under many times over in June 2010 – but it did not. This confirms the view that some of Europe's leaders may have overly dramatized the crisis, while others may have been overly frightened.

Many claimed that there was a conspiracy of speculators that had purposely sought to depress the value of government bonds issued in the eurozone. The German federal government also went along with this explanation of the crisis. It is said that this information had come from intelligence services. But no evidence was released that could have justified the empirical significance of such speculators. It is true that the growing anxiety over national insolvencies and debt moratoriums, as well as the subordinating positioning of their claims to those of the IMF, led investors to reassess the risks. However, this was a natural development in the capital markets and not a conspiracy. What most country representatives interpreted as a euro crisis was a necessary differentiation of interest rates based on the creditworthiness of the borrowers that was moving again in the direction of the pre-euro era, though in no way near the spreads existing at that time.

A second Lehman Brothers?

It has often been argued that the crisis had the potential to result in distortions similar to the insolvency of Lehman Brothers on 15 September 2008. However, the similarity is only superficial, since the Lehman disaster had induced countries to establish bank rescue systems that were fully operative when the European debt crisis struck and would therefore again have prevented banks from defaulting.

The Lehman Brothers collapse triggered an interbank market collapse because an event had happened, namely the bankruptcy of a systemically relevant bank, that had hitherto been deemed impossible. Suddenly, banks stopped trusting one another. As

lending involved the risk of losing money, banks preferred to keep their funds in liquid form, and the flow of savings towards final investors was interrupted. A credit squeeze transferred the financial problems to the real economy.

This problem was resolved when the G7 governments formally agreed, in their meeting in Washington on 11 October 2008, that they would henceforth rescue all systemically relevant banks should they run into trouble. This agreement rapidly unfroze the capital market and solved the crisis at the time, and it would also have prevented a new one. As the promises have not yet expired and rescue funds were still in place on 7 May 2010, a breakdown of the European interbank market after the turbulences of that day would have been impossible. Had the community of states not offered to help with the joint rescue measures agreed on 8/9 May, each single state would have been obliged to save its own banks. In Germany, for example, an unused stock of 50 billion euros was readily available with the SoFFin, the German banking rescue fund, to acquire ownership in banks by injecting new equity capital. Moreover, all the other rescue measures installed after the Lehman debacle were still in place. Similar provisions that would have safely excluded a breakdown of the inter-banking market for sure existed in France and the other EU countries that were indirectly affected by the crisis in Europe's south-western periphery.

If anything, the parallel to the Lehman Brothers case could have been justified only insofar as there was the risk of the Greek insolvency triggering a chain reaction that would have led to the insolvency of Portugal, Spain, Ireland and, in the end, Italy. It is debatable how large this risk really was. After all, Spain and Ireland have debt-to-GDP ratios significantly lower than those of Germany and France, and even Portugal is better than France in this regard. Even if the Irish and Spanish debt had nevertheless caused a problem, these countries could have easily raised their taxes to reduce their budget deficits. It is a bit difficult to understand why highly indebted countries should have been needed to bail out low-debt countries to prevent an uncontrollable development of the European crisis.

Still, given the market reactions, the fear was not entirely unfounded, and hence it might have been advisable to provide at least some help to the endangered countries. However, the question is whether it was necessary to design the bailout measures so as to

maximize the protection of banks rather than the support of the troubled countries themselves.

The alternatives

Politicians claim that there was no alternative to the measures taken on 8 and 9 May. This is of course not true. There are always alternatives, and it is a matter of choosing which one to take.

One alternative to the policy chosen by the EU could have been the American solution. As a rule, federal states in trouble in the United States are not bailed out. In US history, some states were even allowed to go bankrupt without receiving help from the federal government. And when New York City in the very last minute received federal aid to prevent a formal bankruptcy in 1975, brought on not least because of the extensive social programs introduced by Mayor John V. Lindsay, it was subjected to an independent supervisory authority, the Municipal Assistance Corporation (MAC), that forced it to restore its creditworthiness by running an austerity program and pawning its future tax revenue. In light of the fact that Europe is a confederation of independent states rather than a union of federal states like the United States, it was not particularly plausible to organize a more extensive and generous bailout than the United States would have done under similar circumstances.

In fact, this had been Germany's position when the Maastricht Treaty was negotiated shortly after the Berlin Wall came down in 1989. While Germany had basically accepted Jacques Delors's plan for a common currency in exchange for France's consent to German unification, it had insisted on waiving the bailout procedure that was part of that plan, opting for the American way. For this reason Article 125 of the consolidated EU Treaty excluded a mutual liability of EU member states, and Article 122 was tailored to the case of natural catastrophes beyond a country's control. With the European rescue measures, the spirit of the Maastricht Treaty has been turned on its head, and it remains to be seen whether Germany's Supreme Court will accept the reasoning of Europe's leading politicians. Currently a number of constitutional complaints against the rescue measures are pending.

Another, probably better alternative would have been a bailout procedure similar to the kind agreed, cou-

pled with a debt moratorium or haircut at the expense of the creditors. In private bankruptcy law, restructuring funds are not available unless a well-defined reduction of creditors' claims is negotiated beforehand, so as to ensure that the help will benefit the troubled company rather than its creditors and induce the necessary caution in investment decisions. The risk of losing at least some part of one's capital is essential for investors' prudence and minimizing the risk of bankruptcy in the first place. The IMF also usually demands a haircut before granting loans to troubled countries.

Had the EFSF been combined with a haircut at the expense of creditor banks, the available funds would have benefitted the troubled countries directly. They would have enjoyed a debt relief, and the fresh money coming from the rescue funds would have flown into the needy countries rather than into the pockets of the creditor banks' shareholders. This would have given them the chance for a successful restart of their economies, and it would have warned creditors to be more careful in the future and to demand sufficient interest premia to cover the idiosyncratic country risks.

Sure, the higher interest rates would not have pleased the debtor countries. But this would have to be accepted. Every capital market needs interest spreads that reflect the risk differences between various investments. Eliminating these spreads artificially with policy measures will result for sure in serious moral hazard effects on the part of debtors and creditors, undermining the market discipline. This is the major reason why a haircut would have been necessary.

If a haircut were set at 5 percent per year from the date of a bond issuance, the interest rate on the government bonds could rise by a maximum of 5 percentage points. That is not much, but could be enough to induce the creditors to be more cautious and the borrowers to be reserved in taking on debt. The debt bubble would not have expanded further, and the pressure on the bubble would even have receded.

A well-defined haircut would have excluded the possibility of a panic chain reaction pulling other euro countries into the whirl of events. A panic is possible whenever the fear of losses that go beyond all limits arises. With a well-defined haircut, followed by a rescue program of the kind agreed by the EU

countries, no panic could have emerged, and yet the beneficial disciplinary effects on creditors would have come about.

Policy-makers may hope that they will be able to discipline the debtor countries also with reporting obligations and regulations. However, the history of the Stability and Growth Pact shows that these hopes are not very well-founded. While an improvement of the Pact is certainly necessary, nothing disciplines the debtors more than the fear of interest-rate increases in reaction to unsound budget policies. The euro rescue pact should not have abandoned this instrument.

As the pact is formulated, it is an incalculable risk for the euro. It will lead to a further enlargement of the European debt bubble and will subsequently induce transfer payments to the debtor countries, as this will be the only way to prevent the bubble from bursting. Europe is now embarked on the path to a transfer union.

The lack of a haircut is the fundamental policy mistake made over the weekend of 8/9 May 2010. If it was not a deliberate policy decision to rescue the French banking system, this mistake can possibly be explained by the lack of time for the negotiations. It is difficult if not impossible to come up with a thought-through proposal within 48 hours of time. The inconsistencies and contradictions of the bailout treaty explained above have already demonstrated the great confusion that must have prevailed among the European countries over that weekend. Rather than arguing that an agreement had to be signed before Monday morning when the stock markets opened, the stock markets could have been kept closed for a week to allow the European leaders to come up with a more carefully designed agreement. And if, as the EU leaders claimed, the euro or the government bonds of some European countries were really threatened by speculative attacks, the leaders could have forbidden short sales, similar to the decision the German government took unilaterally on 18 May 2010. This might even have resolved the situation, and if not, it would have bought time to come up with a more meaningful agreement.

Two theories of how the euro changed Europe's economy

To understand the economic significance of the current euro crisis and the rescue packages for Europe, it

is useful to first look backwards and understand how the euro has reshaped the landscape of Europe. There is an optimistic and a pessimistic theory of what has happened.

According to the optimistic theory, the pre-euro interest spreads were a sign of inefficiency as they resulted from an unnecessary exchange rate uncertainty that had effectively separated capital markets and that was removed by introducing the euro. The interest convergence under the euro and the creation of a common European capital market improved the allocation of capital in the eurozone and stimulated aggregate growth in Europe.

According to the pessimistic theory, the pre-euro interest spreads reflected differing national inflation rates and corresponding expectations of currency devaluations. When the euro came, the devaluation expectation disappeared, and hence interest rates converged. However, this was a mistake insofar as investors had not anticipated that the devaluation risk had now simply been replaced with a formal default risk for private and public creditors. During the crisis, investors became aware of this mistake and adjusted their interest claims accordingly.

According to the optimistic theory, national differences in inflation rates do not pose a problem but are part of an efficient development of the European economy. They are simply equilibrium-relative price changes that result from an international convergence of productivities, wages and prices.²⁷ The divergences of national inflation rates are part of the respective true national marginal products of capital that must be equated in order to achieve an intertemporal Pareto optimum, according to the seminal theorem of Dorfman, Samuelson and Solow.²⁸ Hence, the euro is a means to bring about an efficient allocation of capital in Europe by inducing an international convergence in nominal

²⁷ Such a convergence would take place, for example, via the so-called Balassa-Samuelson effect. The Balassa-Samuelson effect says that an open economy catching up with more developed economies has a higher inflation rate as productivity convergence in the manufacturing of traded goods translates into a wage and price convergence. While the prices of manufactured goods are determined internationally, the prices of non-traded goods such as the prices of real estate and local services increase with the wages determined by the productivity in manufacturing. See B. Balassa, "The Purchasing Power Parity Doctrine: A Reappraisal", *Journal of Political Economy* 72, 1964, pp. 584–596, and P. A. Samuelson, "Theoretical Notes on Trade Problems", *Review of Economics and Statistics* 46, 1964, pp. 145–154. For an introduction of this theme into the euro debate see H.-W. Sinn and M. Reutter, *The Minimum Inflation Rate for Euroland*, CESifo Working Paper No. 377, 2000 and NBER Working Paper No. 8085, 2001.

²⁸ R. Dorfman, P. A. Samuelson and R. Solow, *Linear Programming and Economic Analysis*, McGraw-Hill, New York, 1958.

interest rates even though the national inflation rates differ.

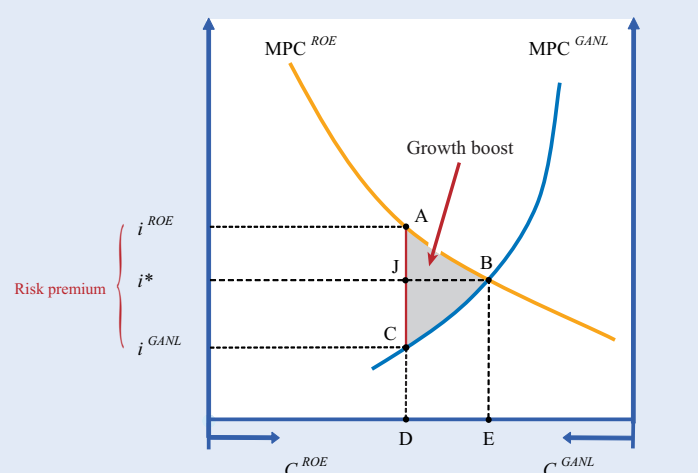
Ten years ago, in an article that I wrote with Robert Koll in this journal, we specified this optimistic theory in more detail, and it may be useful to briefly present the underlying logic.²⁹ We distinguished between what before the euro was the ‘deutschmark zone’ including Germany, Austria and the Netherlands (GANL) and the rest of the later eurozone (ROE). The countries belonging to the deutschmark zone had pegged their exchange rates and faced nearly identical interest rates on government debt before the euro was in place. These rates were substantially lower than in the other countries that would later join the euro. The interest conversion that the euro brought about (see Figure 4) would in such a setting imply a reallocation of capital that improves the overall efficiency of the European economy.

The argument is clarified in Figure 5, which compares the actual history of Europe with a counterfactual history had the euro not been introduced. (The figure does not compare the Europe of today with that before the euro was introduced because in such a comparison too many other things that have changed would have to be taken into account. Moreover, it only represents a qualitative theoretical argument and cannot be interpreted numerically.)

The width of the diagram in Figure 5 reflects the capital that is today available in the euro countries. The capital used in the previous deutschmark zone, C^{GANL} , is measured from right to left, and the capital in the rest of the eurozone, C^{ROE} , is measured from left to right. The two curves depict the marginal product of capital invested in the two regions, MPC^{ROE} and MPC^{GANL} , respectively. The marginal product of capital is the internal rate of interest of an investment project, i.e. the highest rate of interest this project can bear without becoming unprofitable for the investor. It is defined including the change in the relative national price level according to the

Figure 5

BOOST TO GROWTH IN EUROPE FROM THE EURO: THE HOPE



Notes:
 MPC^{GANL} Marginal productivity of capital in Germany, Austria and the Netherlands
 MPC^{ROE} Marginal productivity of capital in the rest of the euro countries
 i^{GANL} Interest rate in Germany, Austria and the Netherlands if the euro had not been introduced
 i^{ROE} Interest rate in the other euro countries if the euro had not been introduced
 i^* Uniform interest rate in all euro countries after the introduction of the euro

Source: H.-W. Sinn and R. Koll, "The Euro, Interest Rates and European Economic Growth", *CESifo Forum* 1, No. 3, 2000, pp. 30–31.

Dorfman-Samuelson-Solow theorem. The corresponding curves reflect the set of available investment projects, ordered inversely to their marginal products. It is assumed that in each region all investment projects are realized whose internal rate of return is above or equal the respective interest rate, i^{ROE} and i^{GANL} , respectively.

In the counterfactual scenario without the euro there is an interest spread as shown in the figure that results from the separation of capital markets. The capital allocation to the two regions is represented by point D. The distance from the left vertical to D shows the capital invested in the ROE countries, and the capital invested in the GANL countries is represented by the distance between D and the right vertical.

The introduction of the euro makes interest rates converge to i^* because the capital markets are now integrated. A new international allocation of capital emerges that is represented by point E rather than D. DE is a capital export from the GANL to the ROE countries.

The reallocation of capital reduces the output or GDP of the GANL countries by the area CBED underneath the respective marginal product curve, but it increases the output of the ROE countries by the area ABED. As the latter is bigger than the former, the euro obviously boosts aggregate economic growth

²⁹ H.-W. Sinn and R. Koll, "The Euro, Interest Rates and European Economic Growth", *CESifo Forum* 1, No. 3, 2000, pp. 30–31.

by improving the allocation of capital. The aggregate output is higher by the triangle ABC than it would have been without the euro.

While it seems at first glance that the GANL countries are losing from the reallocation of capital as their output shrinks relative to what would have happened without the euro, this is in fact not true, as capital owners from these countries who earn a higher rate of return gain more than wage earners and other domestic income recipients lose. The income of all residents of the capital exporting GANL countries taken together, including the income earned abroad which is JBED, increases by JBC. Likewise, the income of the capital importing ROE countries, net of the interest they have to pay on imported funds, increases by ABJ. The sum of these national gains is the increase in aggregate output, ABC.

Nevertheless, of course, as output shrinks in the GANL countries, the group of losers in these countries is probably large. They include all people who do not receive capital income such as workers and employees as well as owners of real estate, who offer factors of production that are complements of capital. The export of capital reduces the marginal products of these factors of production and hence depresses the corresponding factor incomes.

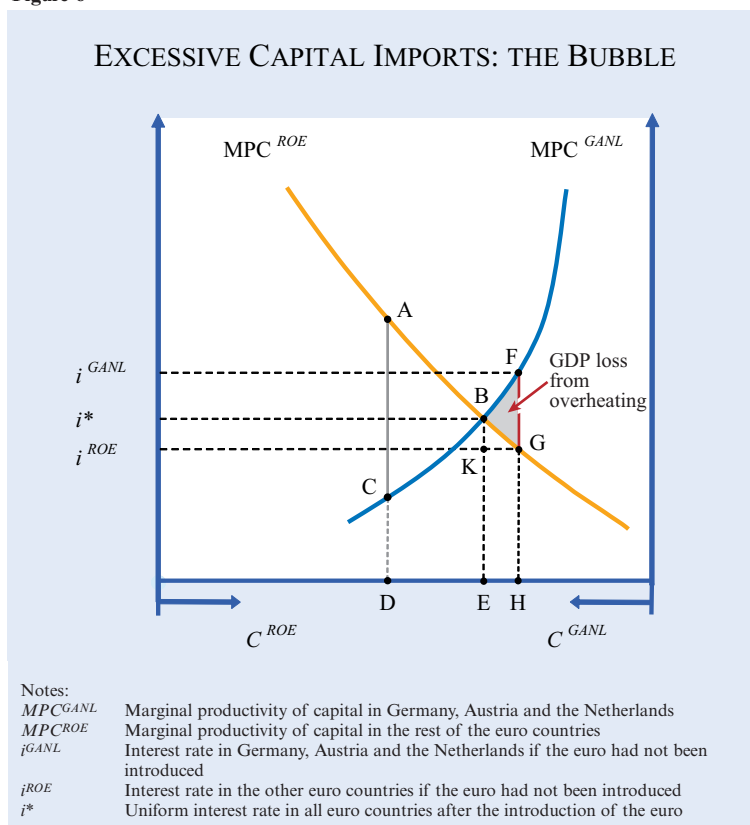
Despite the fact that large income groups in the GANL countries have been losing from the introduction of the euro, the theory presented thus far sheds a very favorable light on the euro. By removing the exchange rate uncertainty it improves the working of the capital market, brings about a convergence process and helps Europe grow faster in the aggregate.

However, in the aftermath of the euro crisis the pessimistic theory mentioned above gains plausibility, according to which the differences in interest rates in the absence of a euro reflect the implicit country default risk due to a systematic inflation-cum-devaluation policy. Figure 6 illustrates this pessimistic interpretation. The interest rate

i is now defined as the true mathematical expectation of the interest rate rather than the nominal rate formally agreed in a debt contract. Let us call this interest rate the effective interest rate. The effective interest rate is the nominal interest rate minus the expected rate of currency devaluation relative to the deutschmark or minus the expected default loss per unit of capital invested, respectively. If, for example, the nominal interest rate is 10 percent while the annual rate of currency depreciation or the annual probability of default is 7 percent (implying a 50-percent default risk in ten years), the effective rate of interest is only 3 percent. Had the euro not been introduced, the nominal rate of interest in the ROE countries would be above the one in the GANL countries (as was the case historically, see Figure 4), but in view of the devaluation risk this would have been compatible with an equality of the effective interest rates. The European economy would have been at point B in Figure 6, which represents an efficient international allocation of capital because the marginal products of capital are equal.

The introduction of the euro has prevented the emergence of such an efficient equilibrium. As the euro excludes a devaluation risk, investors feel safe.

Figure 6



However, they may err because they overlook the default risk that results from the financial difficulties of countries that can no longer erode their debt by an inflation-cum-devaluation policy. The convergence of nominal interest rates in this scenario in fact means a divergence of effective interest rates. The effective rate of interest of the ROE countries falls below that of the GANL countries, and the ROE countries import too much capital from them. The distorted equilibrium is now represented by points F, G and H. The effective interest wedge is FG, and the stock of capital exported is EH. The output of the ROE countries increases by BGHE, but this is less than the decline of output in the GANL countries which is BFHE. Obviously, the net loss of aggregate output in all euro countries together is BFG.

The ROE countries benefit from this development since the effective interest they pay on the imported capital is only KGHE, while their additional output is BGHE, implying an income gain BGK. However, the GANL countries lose. While they expect to receive a rate of interest that is equal to their own rate, i^{GANL} , they effectively only receive the rate i^{ROE} . Thus the effective interest income earned abroad, KGHE, is not enough to compensate for the output loss, which is BFHE. The net income loss in the GANL countries is BFGK, exceeding the gain of the ROE countries by BFG, which equals the aggregate loss in eurozone output and income due to the misallocation of capital.

It is a matter of debate whether the optimistic or the pessimistic theory comes closer to the historical truth of the actual development that took place in Europe after the introduction of the euro. Probably, elements of both theories were operative in Europe during the last one-and-a-half decades. There was a benefit from the creation of a common European capital market and the resulting capital movements, but the capital movements went too far and have thus led to a crisis. Except for Italy, the countries on the south-western periphery of Europe overheated because too much capital flowed to them and loosened the private and public budget constraints. Thus, a tentative conclusion is that Europe may have started in a situation such as represented by points A, C and D in Figure 6, where the effective rates of interest differed (albeit not as much as the nominal rates), but then went into a situation as shown by points F, G and H which is characterized by an excessive amount of capital being invested in the periphery.

German tango?

Many observers who have pointed to the imbalances in the European development in recent years have obviously different theories of the effects caused by the euro than these in mind. They focus their attention on the goods markets rather than the capital markets and argue that countries that developed a trade surplus under the euro were winners of the European development. Germany, in particular is seen to have profited from the euro. The view is often expressed outside Germany, but even inside the country it is shared by many politicians.

Recently, critics of the German development have even argued that the country should take active measures to curb its own domestic demand instead of living on other countries' demand. French Finance Minister Christine Lagarde suggested that Germany increase its wages to reduce its competitiveness, because it 'takes two to tango',³⁰ and IMF president Dominique Strauss-Kahn argued that "in economies with persistent current account surpluses, domestic demand must go up, including by boosting consumption."³¹ The president of the French central bank, Christian Noyer, asked Germany to look for means to find a better equilibrium between internal consumption and production to reduce its current account surplus.³² There is an element of truth in such statements, but they nevertheless seem to misunderstand the forces that have produced the current account imbalances in Europe.

It is true that Germany developed a large trade surplus that mirrored the trade deficit of other euro countries. This is confirmed by Figure 7, which compares the GANL countries, i.e. the former effective deutschmark zone consisting of Germany, Austria and the Netherlands with the rest of the euro countries. The GANL countries developed a current account surplus that culminated at a value of 244 billion euros in 2007, of which 185 billion were accounted for by Germany alone. By contrast the rest of the euro countries went into a current account deficit that culminated at 280 billion euros in 2008.

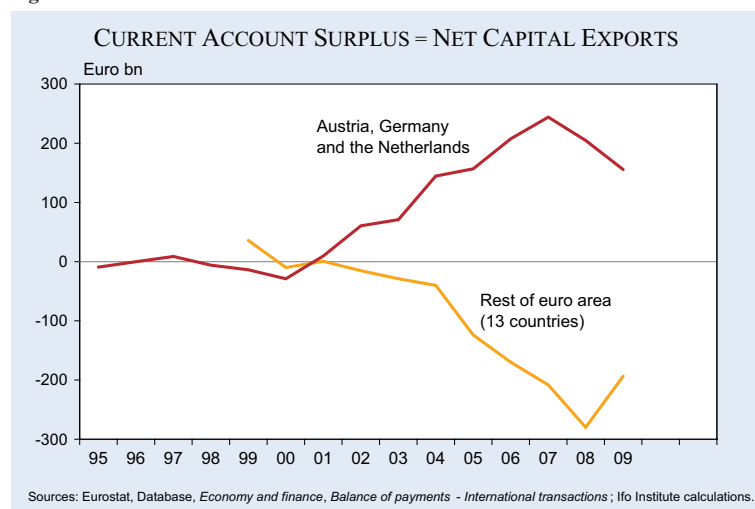
However, it is not true that this trade surplus has benefited Germany, at least not for reasons that have to

³⁰ *Lagarde Criticises Berlin Policy*, Financial Times Online, 14 March 2010, www.ft.com.

³¹ *Closer Policy Coordination Needed in Europe*, IMF Survey Online, 17 March 2010, www.imf.org.

³² *IWF springt Lagarde bei*, Frankfurter Rundschau Online, 17 March 2010, www.fr-online.de.

Figure 7



do with demand effects. A trade surplus is basically the same as a capital export. Apart from a negligible flow of money balances, a country's capital export equals its current account surplus, and the current account surplus is defined as the trade surplus minus gifts the country may make to other countries, for example via one of the EU's transfer systems. The terms 'current account surplus' and 'capital export' have different semantic connotations that tend to confuse politicians and the media, but for all practical purposes they mean exactly the same thing.

Germany lost a huge amount of capital under the euro even though it urgently needed the capital to rebuild its ex-communist east. In fact, in recent years, Germany was the world's second biggest capital exporter after China and ahead of Japan. The outflow of capital has benefited other countries, including the United States and the countries of Europe's south-western periphery, which all were sucking in capital to finance their investment and to enjoy a good life. However, the outflow could only materialize to the extent the German current account turned into a surplus. Exporting capital means exporting the right to dispose of real economic resources today in exchange for receiving a return on such resources in the future. Without a current account surplus, no net flow of capital can leave the country.

The only people in Germany who may have benefited from the outflow of capital were the rich, who enjoy higher returns on investment – provided of course that they get their money back. The rest of the German population suffered, and the current account surplus definitely resulted in a loss of German GDP relative to what would have happened in a scenario with lower capital exports. In a recent appeal to the

German government, a group of German economists argued that "those who regard the trade surplus and the combined loss of investment capital as a sign of Germany's strength display an almost tragic misunderstanding of the underlying economics".³³

And undoubtedly, the outflow of capital can be largely attributed to the fact that the euro created a common European capital market. Both the optimistic and the pessimistic theories discussed above unanimously explain why the convergence of nominal inter-

est rates that came with the euro has resulted in a capital export from Germany, Austria and the Netherlands into other euro countries. Whether or not this capital export was excessive, in the rest of the eurozone it boosted output, increased national income and resulted in an employment boom that benefited the bulk of the population, while it reduced German GDP and hurt most of the German people.

What actually happened was that German, Austrian and Dutch savers, i.e. households and firms, brought their savings to the banking system, which then invested them in different kinds of securities, including, for example, US mortgage-backed securities, Greek government bonds, asset-backed commercial papers issued by Irish special purpose vehicles, or Spanish bank bonds issued to finance the country's gigantic building boom.

Under the euro, Spain for the first time developed a true capital market, in which twenty-year fixed interest mortgage loans became available. Such a market had been unthinkable in the past, in particular since the interest rates on long-term loans were four or five hundred basis points lower than those available in the past. Small wonder that Spanish firms and households made use of the cheap credit and hastened to buy real estate. This resulted in a building boom that boosted the whole economy. More construction workers and local craftsmen found employment and earned money that they spent on the purchase of domestic and imported consumption goods. The economy went into a demand-driven boom, with a current account deficit

³³ See W. Franz, C. Fuest, M. Hellwig and H.-W. Sinn, "A Euro Rescue Plan", *CESifo Forum* 11, No. 2, 2010, pp. 101–104.

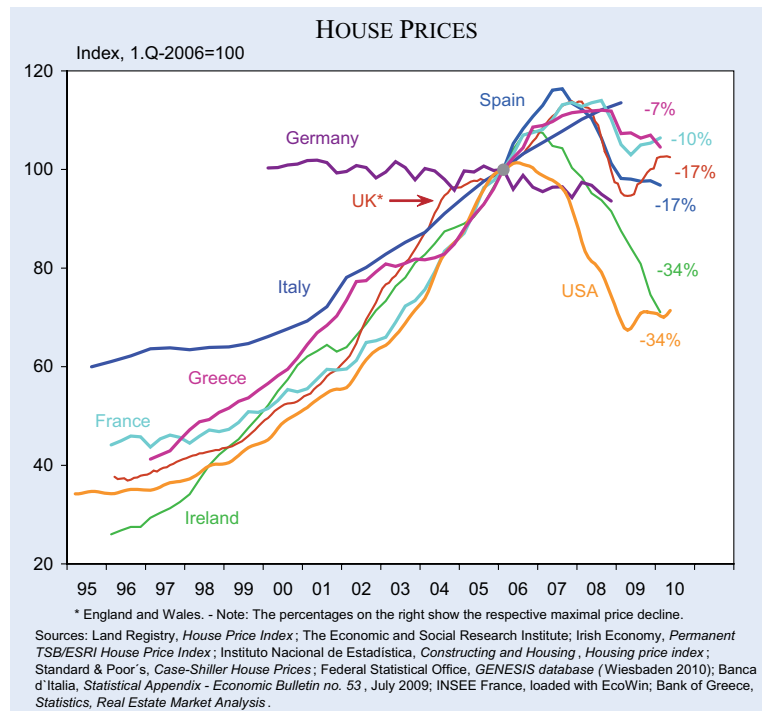
financed by cheap foreign credit, which turned into real economic growth as investment in construction and equipment expanded the production capacity.

Rapidly increasing house prices moreover made owners of real estate richer, which meant that some of them also consumed more while others leveraged their increased equity capital and ventured more real investment that boosted the economy even further. The real estate market overheated and a house price bubble developed, in which the expectation of further capital gains created ever new purchases of real estate with even higher price expectations. While real growth rose to unprecedented levels, increasing goods prices reduced the country's competitiveness and increased the current account deficit further, opening the gates for more and more capital imports. In the end the bubble burst, expectations reversed, investment stopped and foreign investors hesitated to maintain the flow of credit due to increased default risks.

As Figure 8 shows, similar developments took place in the other countries on Europe's south-western periphery, including Greece, Portugal and Ireland, and to some extent even France, which also developed a mild version of a housing bubble. The cheap flow of credit stimulated domestic construction activities, which then fed a long-lasting boom in the rest of the economy resulting in growth, inflation and current account deficits. The developments happened to parallel those in Britain and, in particular, the United States which, however, were driven by somewhat different factors.³⁴

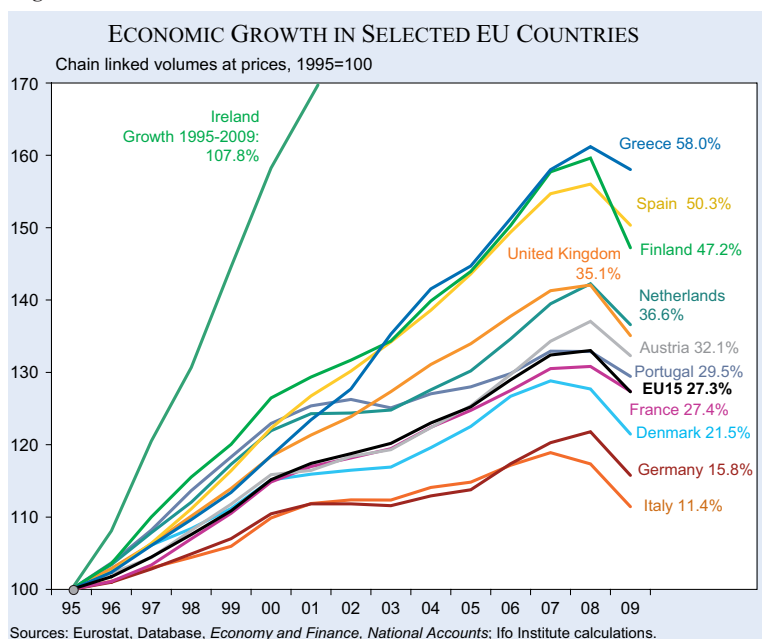
If the view that Germany benefited from this development because of its current account

Figure 8



surplus were correct, then Germany rather than the other euro countries should have experienced a period of rapid economic growth. However, the opposite was the case. Except for Italy, Germany had the lowest growth rate of all EU countries from 1995 to 2009, and in fact, it had the second-lowest growth rate of all European countries regardless of how Europe is defined, if necessary up to the Urals. The comparison with a selection of EU countries shown in Figure 9 illustrates Germany's meager growth performance.

Figure 9



³⁴ See H.-W. Sinn, *Casino Capitalism*, op. cit.

Ireland, Spain, and Greece, by contrast, grew much faster than the old EU countries, and Portugal made it at least to the average. While Germany grew by about 16 percent in fourteen years, Ireland grew by 108 percent, Greece by 58 percent and Spain by 50 percent. Even the east German economy did not grow any faster than west Germany's, contrary to all the hopes for a convergence.³⁵ A ranking in terms of GDP per capita shows that in the period 1995 to 2009 Germany fell from the 3rd to the 10th place among the EU15 countries. It is true that Austria, which still benefited from the EU integration in 1995, grew a bit faster than the European average, and the Netherlands also had a reasonable performance. However, taken together, Germany, Austria and the Netherlands grew by only 20 percent in the period considered, while the rest of the EU15 countries grew by 31 percent.

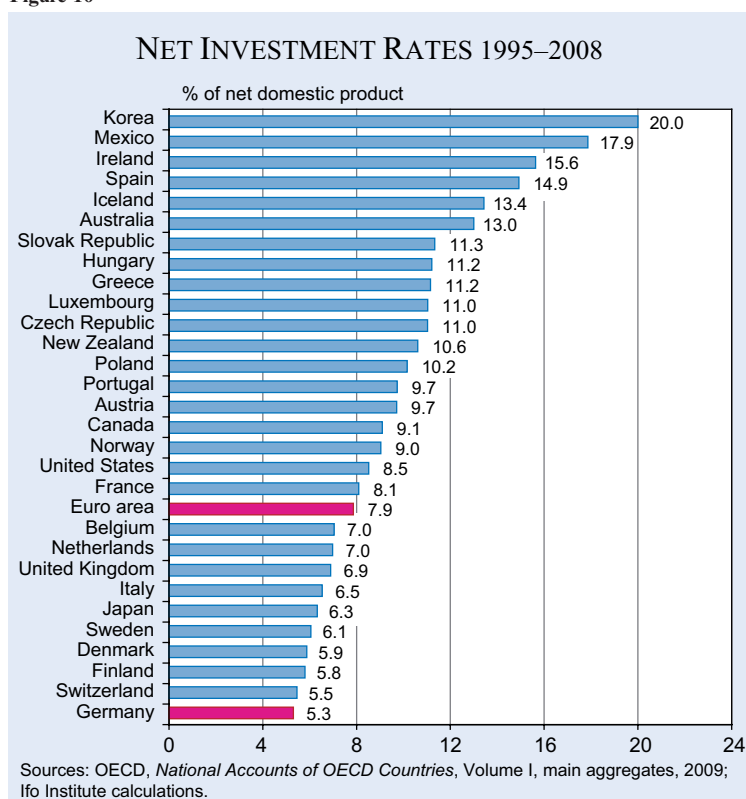
Germany's low growth rate resulted from low investment. As Figure 10 shows, over the period from 1995 to 2009, Germany had the lowest net investment share in net domestic product among all OECD countries, ranking very close to Switzerland, which faced similar problems. No country spent a smaller share of its output on the enlargement of its private and public capital stock than Germany, after it was clear that a currency union would come and interest rates began to converge (see Figure 4).

Germany exported its savings instead of using them as loans for investment in the domestic economy. In 2008 alone, the Germans exported 60 percent of their current savings while their net investment was only 40 percent. Total German savings that year were 277 billion euros – 111 billion euros were privately and publicly invested, and 166 billion euros net flowed abroad as capital exports.³⁶ And once again, by definition, this was also the surplus in the German current account.

It would be wrong to say that Germany's low investment and growth is only the result of the euro. The problem rather results from a multitude of effects that all worked together and implied that Germany's competitiveness for investment was reduced in recent decades. These effects include home-made problems like the rigidity of the labour market, in particular the high implicit minimum wages resulting from an excessive welfare state which only recently had been reduced by the reform program of the Schröder government (Agenda 2010). They also include external factors such as the intensified location competition due to the fall of the Iron Curtain and eastern EU enlargement.³⁷ It would be equally wrong to say that the euro has only hurt Germany. As mentioned initially, in the financial crisis the euro has protected the eurozone countries against the turmoil of rapidly

changing exchange rates, it has kept the aggregate inflation rate low, it has fostered trade and it has helped the European countries to exploit the gains of specialization. This has benefited all countries. Nevertheless, the interest-rate conversion brought about by the euro turned out to be a particularly large shock in recent years that Germany had difficulties absorbing.

Figure 10

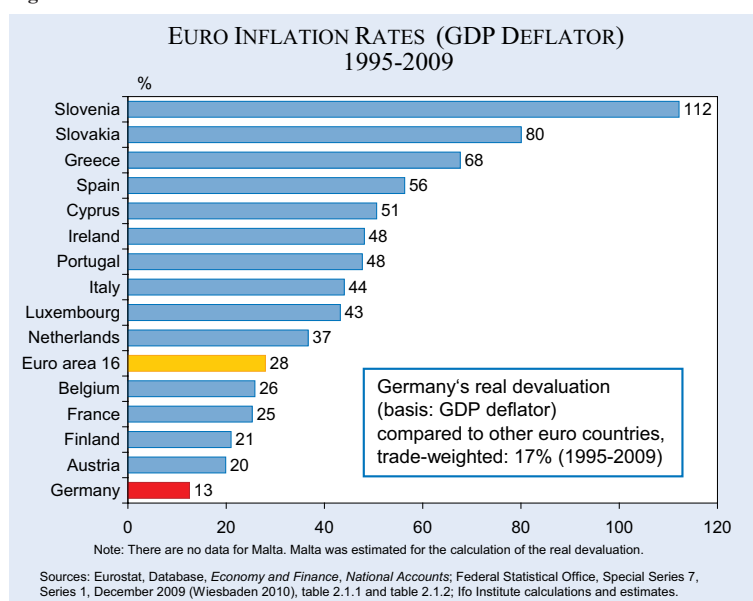


³⁵ In fact, when the artificial wage increases in the public sector, financed largely from western transfers and which the statistics count as increasing contributions to GDP, are subtracted, the east German economy grew more slowly than the west German economy in the period considered. The only source of statistical convergence was a substantial emigration from east Germany, which increased the per-capita GDP values relative to west Germany.

³⁶ Federal Statistical Office, *Special Series 18*, Series 1.2, 1st quarter 2010 (Wiesbaden 2010), table 1.5.

³⁷ For an extensive discussion of these causes, see H.-W. Sinn, *Can Germany be Saved?*, MIT Press, Cambridge, Mass., and London, 2007.

Figure 11



Critics such as Christine Lagarde certainly have a point when they argue that Germany improved its price competitiveness by having a lower inflation rate and a lower wage increase than other countries. Indeed, Figure 11 shows that the inflation rate of the goods and services Germany produced was only 13 percent in the fourteen years from 1995 to 2009, while the average GDP inflation rate of the euro area was 28 percent. Germany's trade-weighted real devaluation relative to the other countries of the euro area was 17 percent.

However, real devaluation was not a sign of strength and taking advantage of other EU countries' demand policies, as is often maintained, but an implication of Germany's internal weakness resulting from its capital exports that helped finance the boom in other euro countries. A country that experiences economic stagnation internally can only increase its prices and wages moderately. The resulting improvement in competitiveness stimulates the export sector, but this is only an induced counter-vailing effect that is unable to overcompensate the negative primary effect by which it was caused. Had German savings been invested at home rather than in Greece, Spain or Ireland, Germany would itself have grown and the increasing labor and goods demand would have increased its wages and prices, reducing its external competitiveness.

Since the mid 1990s, Germany exactly mirrored the development in the countries on Europe's south-western periphery. While the latter had a real estate boom

with sharply increasing prices, Germany suffered from a stagnating housing market with constant and even falling prices. While German unemployment grew more and more until then-Chancellor Gerhard Schröder's reforms turned the country around in 2006, the other euro-zone countries improved their employment records until the bursting of the real estate bubble in 2008. And while Germany nearly stopped investing and exported its savings, the other countries experienced an investment boom and imported savings from abroad with the cited implications for trade imbalances.

Some readers who see the connection between countries primarily through the goods markets may have doubts as to whether this view is valid. It is true that over the business cycle one country's boom implies that the other country experiences a boom too, because it buys this country's goods. This is the Keynesian contagion effect. The economies move in the same direction, and the capital flows adjust endogenously. However, when capital flows are the driving forces, because a watershed between capital markets has been removed or policy measures have changed the countries' relative location qualities, the countries move in opposite directions. The country to which capital flows blossoms and the country it flows out of wilts. Such is the law of capitalism.

The future of the euro economy and the economic implications of the rescue programs

Currently, the previously booming countries of Europe's south-western periphery are caught in a deep economic crisis, and Europe is struggling to find a new equilibrium that fits to the new reality of country risk. The crisis is similar, though not identical, with that shaking the United States, and it will have long-lasting implications for the western world, as budget constraints in the previously booming countries will be tightened for many years to come. Budget constraints tighten because capital shies away from these countries as the assessment of country risk by investors has fundamentally changed. Investing funds

in Greek state bonds, the Spanish construction industry or US mortgage backed securities is no longer seen as attractive, since the fear of default dwarfs all promised returns. All of a sudden investors have given up their prior stance that country risks are only exchange rate risks, and fears that the previous policy of eroding the national debt by an inflation-cum-devaluation policy that was so popular in Europe's southern countries have simply been replaced with the possibility of private and sovereign debt defaults. Investors now reckon with events they had previously thought close to impossible, and they want to be compensated for the perceived risk with corresponding interest premiums. The increasing interest spreads for ten year government bonds shown in Figure 4 demonstrate this effect, although it has a much wider relevance, applying to a large variety of private investment categories, too, such as company debt, private equity, shares and direct investment.

In principle this is a useful correction measure of markets that stops the overheating of the capital importing countries resulting from defunct private and public debt constraints. As is well known, the Stability and Growth Pact that the euro countries agreed in 1996 to limit the increase in European debt has failed miserably. According to the Pact, the European debt sinners including France and Germany should have paid dozens of fines to the EU, but in fact not a single country ever paid one. Fortunately, the market is now imposing the necessary debt discipline and ending the regime of soft budget constraints that was permeating the eurozone. Two decades earlier a regime of soft budget constraints had already destroyed Communism, as Janos Kornai once predicted so convincingly.³⁸ Fortunately, a market economy has self-correction mechanisms that are alien to political decision-making processes.

In this light, the EU rescue measures have to be regarded with suspicion. The 920 billion rescue measures agreed in early May 2010 have reduced the risk of country defaults and were designed to reduce the interest spreads. They have the potential of re-establishing the capital flows and prolonging the resulting growth period in Europe's south-western periphery because they subsidize the invested capital by way of socializing the default risk. However, they ultimately entail a softening of budget constraints and promise little good for Europe.

A milder problem would be a further stimulation of capital flows which already were excessive, financing projects with an inferior marginal rate of return. This would slow down growth of aggregate European GDP. The shaded triangle in Figure 6 showed the precise meaning of this statement.

If things go very wrong, the result could be a further enlargement of the default risk, pulling all euro countries into the vortex. What today is the default risk for a few smaller countries could end up in a default of the major European countries, with unpredictable implications for the political stability of Europe.

In this light, it can be seen as an early warning that markets did not really trust the rescue packages, perhaps because they were limited to three years, or because investors saw new risks on the horizon due to the damage done to the Franco-German axis over the weekend of 8 and 9 May. Whatever the explanation, the rescue measures currently do not seem to be able to stop the self-correction process of markets. A month after the rescue measures were agreed, the interest spreads were even higher than on 7 May, the first day of the devising of the European rescue measures (Figure 4 and Table 2), and at this writing they are still much higher than before the European debt crisis.

In my opinion, this means that once again a toggle switch has been flipped in Europe's development which will lead to a more balanced growth pattern, revitalizing the previously laming center. The most plausible scenario for the Continent's future, from today's perspective, looks like this: investors from the former deutschmark zone, including their banks, increasingly hesitate to transport the national savings abroad, as they had done in the past to such an enormous extent. The confidence crisis has led to a waning interest in a wide range of investment opportunities, from American mortgage-backed government securities to Greek government bonds. Due to the lack of suitable investment opportunities and heightened risk awareness, banks will seek alternative investment possibilities. They may try to go into natural resources or Asia, but for sure they will also offer domestic homeowners and firms better credit terms. This will touch off a domestic boom in construction activity that resembles the one in Europe's south-western periphery during the last fifteen years, if on a smaller scale. As previously there, construction workers and craftsmen will find new employment, and owners of real estate will enjoy capital gains that increase their equi-

³⁸ J. Kornai, "'Hard' and 'Soft' Budget Constraint", *Acta Oeconomica* 25, No. 3/4, 1980, pp. 231–246.

ty capital and make them venture into new investment projects, which will further fuel the boom. And, of course, an increase in prices and wages will reduce their countries' competitiveness and foreign account surplus. The two curves shown in Figure 7 will again be converging. This is what French officials demanded so vigorously, but it comes endogenously as a result of the reallocation of savings flows and the resulting economic boom rather than exogenously through government-imposed wage constraints.

It is too early to really see all this in the data, because the scenario described may last a decade or more, and it certainly extends beyond a business cycle. Still, first signs of the predicted turnaround are already visible. For example, the Ifo Business Survey index recently made the biggest jump in its fifty year history. A significant majority of the 7,000 companies the institute polls every month gave a positive assessment of their current situation and at the same time expressed positive expectations for the future.³⁹ This information stands in striking contrast to the dark clouds that have come from the United States and are now hanging over western and southern Europe. Moreover, the Ifo Credit Constraint Indicator for large enterprises has been falling for a number of months now,⁴⁰ although German banks were forced to deleverage their operations due to the write-off losses during the financial crisis. It is puzzling to see German banks reduce their investments and offer more credit to German industry and homeowners at the same time. The puzzle can be explained, however, by the redirecting of capital flows due to the change in risk perceptions. Credit constraints enforced by banks' write-off losses obviously materialize only in the previously overheated economies. In Germany, by contrast, budget constraints are currently being loosened as markets have closed some of the holes through which its savings were leaking abroad.

A rescue plan for Europe

There are currently strong forces in Europe that press for a prolongation and strengthening of the rescue plan so as to complete the socialization of the country default risk and enforce a reduction in interest spreads to reduce the interest burden on public budgets in the countries of Europe's south-western

periphery. Some even advocate going all the way to eurobonds, i.e. replacing regular national issues of government bonds with community bonds issued by the EFSF or the European Investment Bank in Luxemburg. However, this would be the end of European fiscal discipline and open a dangerous road where the debtors and their creditors could continue to speculate on being bailed out if problems arise. Creditors would not have to care to whom they lend their money, and even the most dubious debtors could build an extensive consumption and investment strategy on the common liability provided by the community of states. And as all countries would pay the same rate of interest regardless of their default risk eurobonds would effectively imply an interest subsidy to over-indebted countries. Creditors would receive a protection for free for which they would have to pay a substantial CDS premium if they bought it in the market. The European debt bubble would expand further and the damage when it bursts would be even greater. The risk of sovereign default would be extended to all major countries of Europe.

And even if the bubble could be avoided, there would at least be the risk that the eurozone tries to keep its public debt in check by resorting to an inflation-cum-devaluation strategy of the kind that the southern European countries had been following for so many years before the euro was introduced. The eurobonds would therefore fuel devaluation expectations for the euro. What in the absence of the eurobonds would have resulted in a default risk and a corresponding devaluation of the government bonds of individual euro countries would be converted into a regular devaluation of the euro itself. This, in turn, would with necessity imply higher interest rates for Europe, as investors would demand compensation for the expected devaluations. It is true that eurobonds could bring a substantial interest relief for some European countries because their default risk is socialized, but the average European interest rates would be higher than would have been the case without such bonds.

Of course, it could be argued that moral hazard effects on the part of the debtor countries and their creditors could be avoided by political debt constraints. Indeed, there is every reason to strengthen the Stability and Growth Pact with automatic fines and early warning elements. However, after observing the chutzpah with which the governments of Europe overruled this Pact in the past, little fantasy is necessary to imagine further political maneuvers to overcome such a strengthened Pact, too.

³⁹ Ifo Institute for Economic Research, *Ifo Business Climate Index Rises Sharply*, Press Release of 23 July 2010, www.cesifo.de.

⁴⁰ Ifo Institute for Economic Research, *Lower Credit Hurdle*, Press Release of 29 June 2010.

For the same reason, the creation of a eurozone government that President Sarkozy has frequently suggested would be no solution. Whatever the powers are that such a government would enjoy, it will never be able to exert a disciplinary force on debtors greater than the market itself. Only the voluntary flow of credit coupled with a full responsibility of the contracting parties, which includes a default risk for the creditors, is able to keep the moral hazard effect in check. Hundreds of years of capitalist development have shown this. And if placing hopes in political measures is justified, then these measures must be defined by firm rules so as to protect the acting bodies against the criticism of the parties whose toes will be stepped on when the crisis occurs.

All of this does not mean that Europe should fully return to the Maastricht Treaty without any rescue plan. The absence of a rescue plan indeed made the provisions of this treaty implausible and may thus even have nourished the expectation of a bail-out and the corresponding moral hazard effect which intensified the crisis. However, it does mean that the rescue plan must involve some sort of insolvency procedure that makes sure that the creditor bears part of the loss before any outside help is made available.

In the above-mentioned appeal to the German government, a group of fellow economists including myself formulated a ten-point plan for a more stable institutional framework of the eurozone.⁴¹ The following coincides with this plan to a very high degree.

1. Distressed countries can expect help only if an imminent insolvency or 'quasi-insolvency' is unanimously confirmed by all helping countries and if the IMF helps too.
2. Assistance can be provided in exchange for interest bearing covered bonds collateralized with privatizable state assets, or by loans, the yield of which must be set at a reasonable percentage (possibly 3.5 percentage points) above the European average. The accumulated credit thus provided must not exceed a given percentage maximum of the distressed country's GDP, say 20 percent.
3. Before assistance is granted, the original creditors must waive a portion of their claims through a so-called 'haircut'. The maximum percentage to be waived must be clearly defined beforehand, in order to prevent a panic-fuelled intensification of the crisis. A reasonable haircut could be 5 percent

per year since the issuance of the respective government bond. This would limit the interest premium demanded upfront by the creditors to a maximum of around 5 percentage points.

4. The budget of the state facing quasi-insolvency must be placed under the control of the European Commission. Together with the country in question, the Commission would work out a program to overhaul the state's finances, including reforms aimed at strengthening economic growth. Disbursement of rescue funds must be contingent on compliance with the conditions set forth by the rescue program.
5. This quasi-insolvency process must under no circumstances be undermined by other assistance systems that could provide incentives for opportunistic behavior, in particular by such mechanisms as the eurobonds. A particular risk in the coming negotiations is that the capital exporting countries will be pressured to accept eurobonds in return for a quasi-insolvency procedure.
6. The deficit limit set by the Stability and Growth Pact should be modified in accordance with each country's debt-to-GDP ratio, in order to demand more debt discipline early enough from the highly indebted countries. As an example, the limit could be tightened by one percentage point for every ten percentage points that the debt-to-GDP ratio exceeds the 60-percent limit. A country with an 80-percent debt-to-GDP ratio, for instance, would be allowed a maximum deficit of 1 percent of GDP, while a country with a 110-percent debt-to-GDP ratio would be required to have a budget surplus of at least 2 percent.⁴²
7. Penalties for exceeding the debt limits must apply automatically, without any further political decisions, once Eurostat has formally ascertained the deficits. The penalties can take the form of covered bonds collateralized with privatizable state assets, and they can also contain non-pecuniary elements such as the withdrawal of voting rights.
8. In order to ascertain deficit and debt-to-GDP ratios, Eurostat must be given the right to directly request information from every level of the national statistics offices and to conduct independent controls of the data gathering procedures on site.
9. Finally, in case all the above assistance and control systems fail and insolvency approaches,

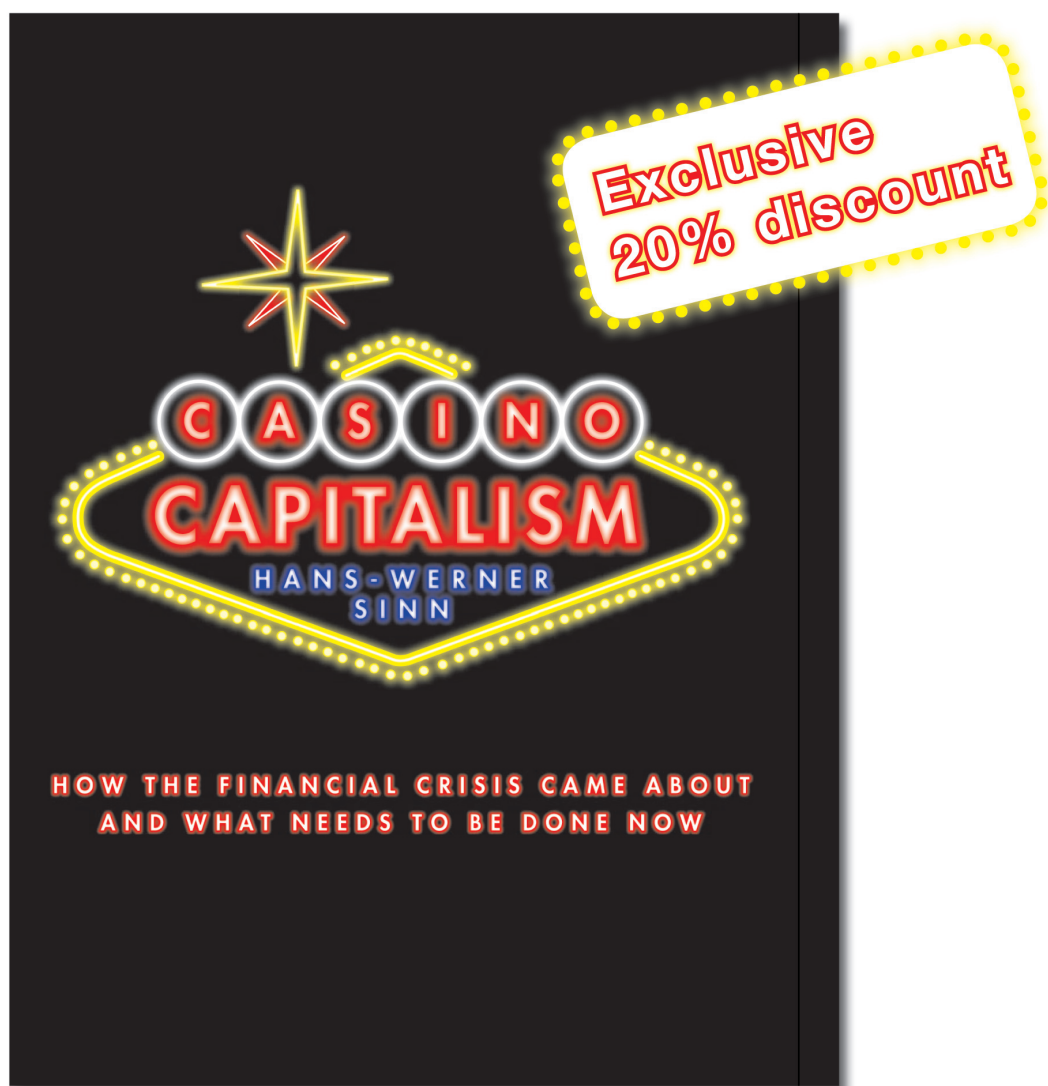
⁴² A similar proposal was made by the EEAG. See European Economic Advisory Group at CESifo, "Fiscal Policy and Macroeconomic Stabilisation in the Euro Area: Possible Reforms of the Stability and Growth Pact and National Decision-Making Processes", *Report on the European Economy 2003*, pp. 46–75.

⁴¹ W. Franz, C. Fuest, M. Hellwig and H.-W. Sinn, op. cit.

the country in question may be asked to leave the eurozone by a majority of the eurozone members.

10. A voluntary exit from the eurozone must be possible at any time.

If these rules are respected, stability and prosperity of the eurozone will be strengthened, and the chances will improve that the European dream we have dreamt all our lives will become reality.



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