# The European Balance of Payments Crisis

## The European Balance of Payments Crisis: An Introduction

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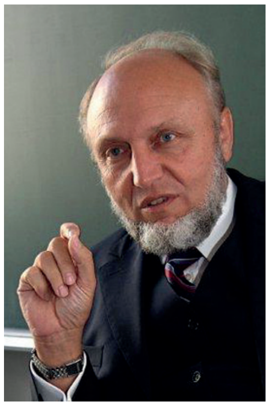

The European Monetary Union is currently experiencing a serious internal balance of payments crisis that is similar, in many important ways, to the crisis of the Bretton Woods System in the years prior to its demise. In response to the crisis, the eurozone countries have mobilized enormous public rescue funds as of May 2010. However, funding really started some $2\frac{1}{2}$ years prior to that point, in the autumn of 2007, when some eurozone countries began to draw Target loans out of the ECB system which happened to come largely from the German Bundesbank, recently also from the Dutch central bank, and amounted to sums that dwarf these countries' participation in the official rescue packages. The Ifo Institute has published several papers on this topic in recent months[1] and has effectively created the first comprehensive eurozone Target database.[2]

Today it is the economic interpretation of events, rather than the facts, which is controversial. For this reason we have compiled various opinions in a special issue of the *CESifo Forum.* The authors range from current representatives of the Bundesbank and the ECB, who wish to convey a sense of normality, to Helmut Schlesinger, ex-Bundesbank President and Georg Milbradt, the former Minister President and Finance Minister of Saxony, who express their deep concern regarding the Target balances. Schlesinger explicitly criticises the reassuring statements issued by his former institution. The economists from universities and banks who submitted comments basically share Schlesinger's view emphasizing, among other things, the parallels to other balance of payments crises.

To facilitate the readers' familiarisation with the topic, the Ifo Institute's views on the facts presented in earlier publications are summarised below. As the contributions and replies published in this issue refer to these views, it makes sense to outline them here.

### Borrowing the money printing press

The accumulated balance of payments deficit or surplus of a euro country is measured by its Target liability or claim, as shown on the balance sheet of its central bank. In a currency union money usually criss-crosses country boundaries in either direction, with inflows and outflows balancing out. A balance of payments imbalance arises for a country if there is a net flow of money across its borders paying for an adverse net flow of goods and/or assets.[3] To the extent that the net flow of money occurs electronically through the banking system it is recorded in the Target accounts. We speak of a Target deficit and surplus, respectively, to denote the net flow of money crossing a border, and of a Target debt and liability to denote the respective accumulated stocks, which are recorded in the balance sheets of national central banks.

The reason why the Target balances are recorded in the balance sheets of national central banks can perhaps best be understood by seeing the net flows of money as resulting from the attempt of a deficit country to refinance its payment deficit by borrowing a printing press from other central banks. This heuristic interpretation will be explained in greater detail below.

However, before we come to the economics, let us take a closer look at the bare facts. Until the first breakdown of the interbank market in 2007 there were hardly any noticeable balance of payments imbal-

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[1] See, for example, Sinn (2011a, 2011b, 2011c, 2011d and 2011e); Sinn and Wollmershäuser (2011a) and in particular (2011b).

[2] In principle the Target data stem from the NCB balance sheets. However, as some countries do not publish such data, they have to be reconstructed from IMF statistics. For details see Sinn and Wollmershäuser (2011, and particularly the appendix of the NBER version of that paper). The ECB itself does not possess a comprehensive data set, but reconstructed the data for missing countries in the same way as the Ifo Institute has done. See European Central Bank (2011, 37, footnote 5).

[3] The term 'money' is used here always in the sense of 'central bank money' or 'base money'.

ances in the eurozone. But then they increased rapidly, showing huge deficits in the GIPS countries (Greece, Ireland, Portugal, Spain). By the middle of 2011 (June), the sum of the accumulated balance of payments deficits (Target liabilities) of the GIPS countries had risen to 327 billion euros. Its counterpart was the sum of accumulated balance of payments surpluses (Target claims) of Germany, which were 337 billion euros by that time.

Until the summer of 2011, sizeable balance of payments disequilibria in the euro area basically only concerned these countries. Even Italy's balance of payment was in equilibrium. In August 2011, however, things started to change dramatically, with the public finances of Italy and France coming under closer scrutiny. The Italian Target balance, which was – 16 billion euros in July, had skyrocketed to – 191 billion euros by the end of 2011. Similarly, the French Target balance went from + 1 billion euros in July to – 80 billion euros in November. Meanwhile Germany's Target claim increased to 463 billion euros in December 2011 or 5.7 thousand euros per capita. About half of Germany's net foreign wealth is now a Target claim of the Bundesbank against other central banks in Europe.

Not only the Bundesbank accumulated Target claims. The Dutch central bank also was heavily involved. By November 2011, the Dutch central bank had accumulated a claim of 145 billion euros, which amounted to even 8.7 thousand euros per capita.

If a country's money is seeping away to other jurisdictions, the stock of money circulating at home is shrinking. To compensate for this shrinkage, the national central bank usually reprints whatever is needed to keep the liquidity provision of the country intact, and this is what the GIPS countries did. As they ran short of money earned or borrowed abroad, they printed it. To be precise, the national central banks created money electronically by providing credit to their commercial banks, and this money then replaced the money that seeped away electronically via the international Target transactions accounts. The term 'printing', of course, is the commonly used heuristic metaphor for 'money creation', a mere accounting issue.

Contrary to what one may think, there are no quotas tying the money creation of a country's national central bank to its size. A country that runs out of money in its business dealings with foreign countries is allowed to reprint whatever it needs, provided it follows the ECB rules for lending refinancing credit to commercial banks. The only limit on the creation of money related to country size is the amount of collateral that commercial banks can offer for refinancing the credits that they draw, but the ECB has gradually extended this limit by reducing the safety requirements for the collateral accepted. Nowadays, government bonds of Greece, Ireland and Portugal are acceptable as collateral despite the fact that the rating agencies do not give them investment grade. Moreover, ABS paper created by the banks themselves and non-marketable claims have increasingly been accepted as collateral.

The additional money that was put into circulation by the central banks of the GIPS countries and which then seeped away to other countries of the euro area financed a net inflow of goods and assets. Here, the term 'assets' is being defined broadly. It comprises companies, stocks, bonds or mere promissory notes or 'IOUs' as the counterpart of a loan raised abroad.[4] Goods, in turn, comprise services (including financial services), merchandise and commodities, as recorded in the current account.

Countries whose balance of payment is in equilibrium have no net flow of goods and assets with foreign countries. The net importers of goods pay their foreign partners with an outflow of assets, and the net exporters of goods buy those foreign assets with their revenues. Only countries whose balance of payment is in disequilibrium have such net flows. The net importers of goods and assets suffer from an outflow of money, and the net exporters of goods and assets enjoy an inflow of money.

Before the crisis, the GIPS countries were also in equilibrium, as they succeeded in financing their net imports of goods with asset sales or, equivalently, by borrowing abroad. They borrowed the euros that they needed to buy the goods. However, as soon as the crisis became international, credit flows (mostly interbank credit) dried up and the GIPS countries turned instead to their national central banks to satisfy their borrowing requirements. To be more specific: as soon as a changed risk perception caused banks from other countries to require substantially higher interest for

[4] Each loan taken out by a debtor includes the ascertainment of the liability *vis-à-vis* the creditor *via* a promissory note. This is meant here by the transfer of an 'IOU' (promissory note, abbreviation of 'I owe you'). The metaphor serves the mental simplification and the argumentative abbreviation by permitting me to denote the taking out of a loan and the sale of securities uniformly as the 'sale of assets'.

the funds they were lending to banks in the GIPS countries, the latter preferred to borrow newly created euros from their central banks instead. These euros were then flowing out to the rest of the eurozone like the privately borrowed euros had been doing before the crisis, creating the net outflow of money measured in the Target or balance of payments statistics.

In Ireland the situation was even more exceptional and extreme than in the other GIPS countries insofar as outright capital flight took place.[5] The asset (and IOU) sales, with which Irish institutions had hitherto financed the current account deficit, stopped abruptly. What is more, as the outstanding assets lying in foreign portfolios were returned, Ireland had a sudden refinancing need which was covered by the Central Bank of Ireland with fresh refinancing credit. Or, to say it in yet another way, the breakdown of the interbank market meant that banks from the core countries stopped providing new credit to Ireland and even repatriated their maturing loans, returning the debt titles which backed those loans to the Irish banks.

In Germany the situation was completely the reverse. Before the crisis, Germany bought assets abroad and paid for them with the money received for its net export of goods, i.e. Germany was lending its export surplus to other countries. During the crisis, German investors lost interest in foreign assets, and so more and more of the money that Germany earned by exporting goods in net terms to other countries, stayed at home.

The net flow of money from the GIPS countries to Germany, which is measured by the Target balances, crowded out the credit that the Bundesbank granted to German commercial banks, as their demand for liquidity was limited. As the German banking system was swimming in liquidity, it tried to get rid of the surplus liquidity resulting from the net inflow of money by lending money to the Bundesbank or taking less refinancing credit. (The situation was effectively similar to that of a normal market, where demand is limited and a new supplier crowds out the incumbent supplier.) This destroyed the extra money that had been created in the periphery, which implied that both the aggregate stock of money balances and its international distribution remained unchanged. Thus, the cross border money flows measured by the Target account were automatically sterilized and involved no direct inflation risk.[6]

[5] Capital flight means that domestic and/or foreign investors sell domestic assets and buy foreign ones.

To return to the metaphor of physical money once again, one could say that the periphery countries printed the money they could no longer borrow in the markets to finance their purchases of goods and assets abroad, and that the Bundesbank and the Dutch central bank then destroyed the inflowing euros with its shredding machine.

As the additional granting of central bank credit in the GIPS countries for the purpose of buying foreign goods or assets neither changed the trend nor the international distribution of the money supply, it led to a reduction of the stock of net central bank credit in the core countries that exactly matched the extra central bank credit that had been issued in the periphery. Thus, while the Target balances directly measure net money flows across the borders they indirectly also measure an international reallocation of refinancing credit or, more simply, a public credit flow through the ECB system. It is only logical therefore that the official balance of payments statistics call the Target balances 'capital exports through the central bank system'.[7] It is also entirely correct to speak of Target credit that the periphery countries were able to draw out of the Eurosystem forcing other euro countries, predominantly Germany, to provide this credit. To take the aforementioned metaphor to its logical conclusion, one could say that the Bundesbank was lending its money printing press to the periphery countries, which is the image referred to at the beginning of this section.

The empirical facts underpinning these developments are unambiguous. During the years 2008–2010 the Target credit provided by Germany to other euro countries was 85 billion euros per year, while in 2011 it totalled about 140 billion euros. As private banks were no longer willing to finance the periphery countries, they drew replacement credit out of the ECB system, effectively out of the Bundesbank. In fact, developments have been so extreme that the Bundesbank's net refinancing credit (net of time deposits and deposit facilities) turned negative

[6] There is an indirect inflation risk, however, insofar as there is an incentive for the GIPS countries to remove their Target liabilities by way of voting for a more inflationary policy in the ECB council in the future.

[7] The credit interpretation is also justified in a direct sense, even if the net flow of central bank money from country A to country B reduces A's stock of money balances and increases B's as A's central bank does not refill the losses and B's central bank does not sterilize the inflowing liquidity. The reason is that, without the assignment of debts and claims to the central banks, A's central bank would become richer and B's central bank poorer, given that the central bank money transferred disappears from the right hand side of A's central bank balance sheet and reappears on the right-hand side of B's central bank balance sheet.

in the summer of 2011 and became – 179 billion euros in November 2011.

Displacement of central bank credit by the money flowing in from abroad is reminiscent of the Bretton Woods System. At the time, dollars flowed into Germany and were exchanged into D-marks by the Bundesbank. The stocks of D-marks thus created displaced domestic credit creation by the Bundesbank, which had been the normal way of putting D-marks into circulation. As at that time, the Bundesbank is now exporting a considerable share of German savings to other parts of the world. Back then it was argued that the Bundesbank financed the Vietnam war. Now the Bundesbank is financing the staggering periphery countries. Wilhelm Kohler and other authors examine this topic in greater detail in this issue.

The relocation of credit certainly did not result in a credit squeeze in Germany. After all, the crowding out of refinancing credit resulted from the abundance of liquidity in Germany, as German banks did not dare lending abroad and foreign flight capital came in. As German savings capital preferred to stay in the save haven, there even was an investment boom in Germany.

Whether good or bad, it is a matter of fact that credit relocation *via* the ECB System meant that part of the German savings capital was flowing out *via* the system of central banks, rather than *via* the interbank markets. This slowed down the adjustment processes in the countries of the periphery, which would otherwise have been enforced by the markets. The economic content of events is more or less the same as that induced by public rescue facilities bringing about a flow of credit from the core to the periphery. Such rescue facilities signal that the rescuers have no financing problems themselves, but they nevertheless involve public capital exports.

As markets would probably have been way too brutal with periphery countries, this was the right policy in the short run when the interbank market broke down in the aftermath of Lehman. Given that parliaments took a long time to come up with rescue programs, it was definitely right for the ECB to step in at the time. However, it is debatable whether this was the right policy in the long run, or indeed whether it should have been pursued once the world economy recovered in the second half of 2009. Emergency policies that are justified in an acute crisis often have problematic effects if pursued over a longer period of time. The Target policy, in particular, can be criticized for the following reasons:

- As neither the allocation of money across the countries of the eurozone nor the overall stock of money was affected the Target policy, this policy was basically fiscal rather than monetary. The public credit flows should therefore have been sanctioned by the parliaments of the eurozone.
- The Target policy involves high risks for the central banks of the eurozone's cores, as they bear a risk which normally would be borne by private capital markets.
- Cheap access to the euro printing press gave crisis countries an irrefutable argument when they invited the core countries to undertake open rescue activities and may have kept countries in the eurozone that otherwise would have preferred to exit and devalue to restore their competitiveness.
- Requiring equal interest from all commercial banks, regardless of the country risk, is tantamount to subsidizing capital flows (as the mathematically expected interest rates fall the higher the default risk).
- Offering refinancing credit at below market conditions causes capital flight as private interbank credit is unable and unwilling to compete with the printing press, which is an aspect that will be discussed in greater detail below.
- The allocation of capital to the single euro countries is no longer determined by market forces, but by a central planning organization (called the ECB).

**On the magnitude of the effects**

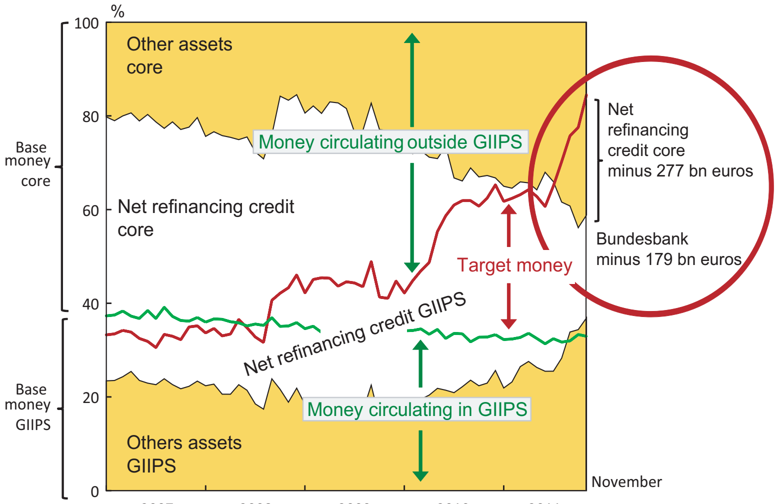
The Target credits do not involve small amounts that may have some influence over the events at the margin, they account for amounts representing two and a half times the sum of the GIPS country government bonds bought by the central banks of the ECB system. For the Bundesbank, the Target claims are now the biggest asset position on their balance sheet; while for Germany they constitute by far the biggest contribution to rescue operations in the euro area.

The degree to which money creation and lending in the GIPS countries have exceeded the normal measure is shown by the following numbers:

- The share of GIPS countries in the total stock of net central bank credit given to banks of the Eurosystem amounted to 119 percent in September 2011, although they account for only 18 percent of economic output.
- 91 percent of the current account deficit of Greece over the three years 2008 to 2010 and 94 percent of the current account deficit of Portugal over the same period were not financed by normal capital flows *via* the markets, but by Target credits.
- 96 percent of Germany's current account surplus (255 billion euros of 264 billion euros) with other euro countries in the years 2008 to 2010 was not, as is normally the case, converted into private assets received from foreigners, but to mere Target claims against the ECB system.

**Figure 1**

**Origin of the monetary base in the Eurosystem (shares)**




Source: Sinn and Wollmershäuser (2011b).

Figure 1 shows how the Target money created in the GIPS countries and Italy (I will refer to this group as GIIPS) replaced ordinary money created in the core euro countries by way of the respective central banks buying assets (like gold or government bonds) and providing refinancing credit. The green line shows the composition of the total stock of euro base money actually circulating in the GIIPs countries and the rest of the eurozone, the 'core'. As this total stock is set equal to 100 percent the height of the green line is the share of money circulating in the GIIPS countries and the width of the area above is the share of money circulating in the core.

The graph also details the origins of this money: the width of the white area stands for refinancing operations and that of the two yellow areas for purchases of gold and other assets by the banking sectors of the GIIPs and core countries, respectively. The height of the red line measures the money originating in the periphery from refinancing credit and purchases of gold and other assets, and the distance between the red line and the 100 percent line shows the money originating from similar measures in the core. Accordingly, the vertical distance between the red line and the green line represents the money 'generated' in the periphery and 'circulating' in the core, i.e. the net amount of money that was cabled across the border in exchange for a net purchase of goods and assets. As argued above, this can also be taken as a measure of the official ECB credit given by the core NCBs to the NCBs in the periphery, compensating for missing ordinary imports of capital and money into the periphery or outright capital flight from there to the core.

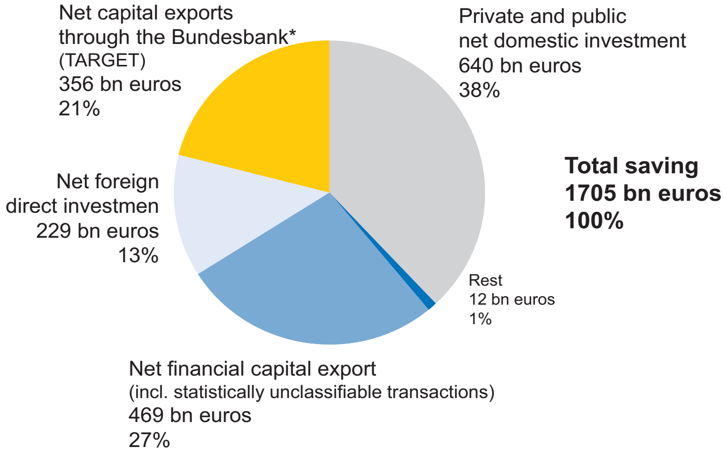
The figure shows that the process has now absorbed the entire net central bank credit in the core and has even made it negative (– 277 billion euros in November 2011). Obviously, not only the Bundesbank, but the core NCBs in the aggregate have now become net debtors to their respective commercial banking systems, which may pose severe problems in terms of the sustainability of the euro system, as various authors have pointed out.[8]

Figure 2 shows the extent to which credit outflows from Germany enforced by the ECB system have increased since the introduction of the euro by relating these credit flows to other capital movements and the German volume of savings. In the period 2002 to 2010 Germany had total aggregate savings of 1,705 billion euros (households, business and government). This was the amount available for domestic and foreign public and private investment. Only 640 billion euros of this amount were invested in Germany. The remainder, 1,066 billion euros, went abroad as capital exports. 27 percent of total savings were accounted for by net exports of financial capi-

[8] See, in particular, Tornell and Westermann (2011 and 2012) and Kohler (2012).

**Figure 2**

**Destination of German savings since introduction of the euro**
2002 to 2010




*The Bundesbank's Target claims was at end of the year 325,6 bn euros and at the end of the year 2001 -30,9 bn euros.

Source: Statistisches Bundesamt, Fachserie 18, Volkswirtschafliche Gesamtrechnungen, Reihe 1.4, August 2011; Deutsche Bundesbank, Zahlungsbilanzstatistik, October 2011; Calculations by the ifo Institute.

tal, 13 percent by net direct investment and 21 percent by Target credits. Thus, since the introduction of the euro, Target credits issued by the Bundesbank have accounted for one third of Germany's total capital exports. The open rescue credits that were granted to Greece and Ireland in 2010 are not contained in this sum. They are part of the net exports of financial capital.

Since these capital exports *via* the Bundesbank were created almost entirely during the years 2008–2010, the calculation for this period is even more extreme. During this period Germany exported 70 percent of its savings. Of these exported savings, i.e. German capital exports, 59 percent were accounted for by Target credits granted by the Bundesbank.

**Relationship to open rescue operations**

The financing of the peripheral euro countries by a mere relocation of central bank credit from the core countries obviously has heavily distorted the balance sheets of the national central banks of the Eurosystem, raising the question of how far this process can proceed. Whatever the answer to this question, which is raised by some of the authors in this issue, it is clear that the ECB must have been highly alarmed by recent events and must have tried to hold the process in check by asking politicians to step in with the public rescue operations that have been agreed upon since May 2010.

In fact, these public rescue operations have very similar economic implications to those of the rescue activities that have been taking place within the ECB system. In both cases, there is a true credit granted by the German government to the periphery countries, commonly guaranteed by the community of states, which, like any other credit, allows them to buy more goods and assets abroad than would otherwise have been possible. In terms of liability, the international distribution of the money supply, international payment processes, the credit relationships between countries and the true transfer of resources, this is identical to common, proportionately guaranteed Eurobonds to finance credit for the GIPS countries, sold by a European central entity to the German government, for which the latter borrows in the capital markets. The difference with true Eurobonds that are acquired by the German government is merely that the interest rate is much lower, that the commercial banks of the GIPS countries could draw this credit as they liked if they could offer collateral, and that the Bundesbank could not refuse the purchase of these implicit Eurobonds. Whatever the economic effects of credit relocation on the participating economies and whatever the risks for donor countries, in terms of credit relocation they are largely identical to those inherent in an issue of Eurobonds with proportionate common liability. The reluctant investment capital is now being pushed abroad by the public authorities.

**The example of the United States**

The ability to take out unlimited Target credits is a design flaw of the euro as a common currency that was mercilessly exposed by the European debt crisis. While the Target system as such, of course, is necessary for international transactions and is a useful self-stabilizing device in the acute phase of a crisis, it has problematic long-term implications insofar as it provides public credit at interest rates that do not reflect the investment risk and undercut market prices. Given that the artificial pre-crisis equalization of interest rates caused excessive capital flows in the eurozone that led to an overheating of the periphery and caused huge current account deficits, it is a problematic feature of the Target credit system that it offers a similar interest-equating mechanism at the short side of the asset spectrum. This is likely to prolong and extend the current account imbalances that the eurozone is currently suffering from.

Moreover, as mentioned in one of the bullet points above, the availability of cheap Target credit, currently at a rate of only 1 percent, may very well even have caused the capital flight that it is trying to compensate for. Without the availability of such credit as cheap as that banks which can draw out of the Eurosystem, they would have to pay higher interest rates, and at higher interest rates foreign bank credit might not have dried up in the first place. In other words, the self-reinforcing run of investors from which even Italy and France are now suffering might not have taken place. To a considerable large extent the problems the eurozone is facing today may represent a mere portfolio reshuffling resulting from the fact that markets are forced to compete with the printing press, a competition they know they can never win.

In view of these problems it is useful to look at the US Federal Reserve System which, in principle, has to cope with similar problems. In the United States, single states can also draw Target-like credit out of the Federal Reserve System. However, doing so is rather unattractive as it has to occur at market conditions. In the United States, negative balances of the Inter-District Settlement Account, which are analogous to Target debts, must be paid for in April of each year by the transfer of ownership shares in gold-backed securities or other marketable securities that offer risk-specific interest rates. For that purpose the Federal Reserve Bank holds a clearing portfolio of marketable assets whose ownership shares (including the interest income generated by this portfolio) are reallocated among the respective District Central Banks according to the Target-like imbalances. A District Central Bank (of which there are twelve) is only allowed to create more money than is used in its district if this district hands over marketable assets to other districts for the money seeping from it to them for the net purchases of goods or assets.

A district that wants to import more goods than it exports must therefore obtain a private loan in other districts, or its central bank must pay its counterparts in other districts with marketable assets. In the latter case there will still be some lending among the districts *via* the central banking system, as in Europe, but this will take place under market conditions.

The European Union could consider adopting the US rules by asking indebted central banks to hand over safe or rather safe marketable assets *via* the ECB to the other central banks who hold Target claims. This would reduce the incentive to draw Target credit out of the ECB system instead of borrowing in the private market, thus ending the capital flight that currently threatens the stability of the Eurosystem. To mitigate the problem for overly indebted states, transition or grandfathering rules could also be established that would permit a gradual reduction of the existing Target debts to other central banks.

**The cause of the crisis**

The cause of the internal balance of payments crisis in the euro area which the ECB tries to solve with the printing press is that the GIPS countries have become too expensive due to the cheap credits that flowed under the euro in the pre-crisis period. The speculative bubbles financed by cheap credit burst when the American financial crisis swept over to Europe in 2007. In the early years of the euro, capital markets were willing to finance the current account deficits resulting from excessive wages and prices, but as soon as the markets shied away, these bubbles burst. During the first three years that followed these stalling private capital flows, the GIPS countries relied on their printing presses to lower their financial deficits (Spain printed less than its current account deficit. Ireland printed in excess of it, while Greece and Portugal created cash roughly according to their current account deficits), but as the ammunition for such manoeuvres started to run low and the ECB became increasingly nervous, parliaments decided to help out by setting up public rescue facilities that replaced the credit drawn out of the ECB system with public credit.

In the capital markets the continued financing of the deficit countries, which no longer has much to do with fighting a short-term liquidity crisis and compensating for dysfunctional markets, creates a one-sided downward risk for the investors, because it keeps the prices of stocks, bonds or real estate above equilibrium. As everyone knows that prices will fall once the pockets of the rescuers are empty, the incentive to escape the foreseeable wealth loss by reallocating wealth abroad is overwhelming. Thus, the euro area is reeling from one capital market crisis to the next, and during every crisis there is an attempt to react with a renewed expansion of bail-out packages. In the end, when private capital has largely been replaced with public rescue capital and rich wealth owners have successfully handed over their toxic government bonds to the taxpayers of other states, bankruptcies and haircuts will follow, forcing the new owners to accept the inevitable.

In the goods markets on-going rescue operations maintain the artificially high prices and wages that built up during the bubbles. This perpetuates deficits in the current accounts, which are the deeper reason for the balance of payments crisis, by preventing the creation of competitive industrial jobs and keeping incomes and imports high.

It is doubtful whether the strategy of continuing to publicly finance the balance of payments deficits of the periphery countries will ever succeed in creating equilibrium in the euro area. Instead, it seems more likely that the rescue strategy, which was initiated by the ECB and is now to be continued in all openness, will be pursued until the reserves of the more financially stable countries are exhausted. Only at the very end, when even the strongest countries have their backs to the wall and have run out of credit, will real internal devaluation in the crisis-stricken euro countries be agreed upon. Only then will the competitiveness of the GIPS countries be restored and the euro area brought into equilibrium.

For the survival of the euro it will now be decisive to develop a rescue strategy that lies between the extremes of discontinuing the rescue funds immediately and the unlimited financing of current account deficits *via* Eurobonds. For this purpose, a procedure should be developed to promote meaningful use of the available subsidies, which will gradually end the flow of public funds and initiate the real devaluation of the GIPS countries that is required. In its most recent annual report the European Economic Advisory Group at CESifo developed a three-stage crisis procedure with well-defined aid funds provided by replacement bonds.[9]

To date, a real devaluation is still pending in most cases. With the exception of Ireland, the economies of the GIPS countries and Italy show little, if any, indication that their prices are rising more slowly than those of their trading partners in the euro area. That is one reason why the euro area is still miles away from a solution to its balance of payments crisis.

[9] See European Economic Advisory Group (2011), "A New Crisis Mechanism for the Euro Area", in: European Economic Advisory Group, *The EEAG Report on the European Economy,* Munich: CESifo, 71–96.

## References

EEAG (2011), *The EEAG Report on the European Economy 2011,* European Economic Advisory Group at CESifo, Munich.

European Central Bank (2011), "TARGET2 Balances of National Central Banks in the Euro Area", *Monthly Bulletin,* October, 35–40.

Kohler, W. (2012), "The Eurosystem in Times of Crises: Greece in the Role of a Reserve Currency Country?", *CESifo Forum 13*, Special Issue, January (Translation of article in German appearing in ifo Schnelldienst 16, 2011).

Sinn, H.-W. (2011a), "Neue Abgründe", *WirtschaftsWoche*, 21 February.

Sinn, H.-W. (2011b), "Tickende Zeitbombe", *Süddeutsche Zeitung*, 2 April.

Sinn, H.-W. (2011c), "Die riskante Kreditersatzpolitik der EZB", *Frankfurter Allgemeine Zeitung,* 4 May.

Sinn, H.-W. (2011d), "The ECB's Stealth Bailout", *VoxEU,* 1 June.

Sinn, H.-W. (2011e), "On and Off Target", *VoxEU*, 14 June.

Sinn, H.-W. and T. Wollmershäuser (2011a), *Target Kredite, Leistungsbilanzsalden und Kapitalverkehr: Der Rettungsschirm der EZB,* Ifo Working Paper 105, 24 June (http://www.cesifo-group.de/portal/pls/portal/docs/1/1207364.PDF).

Sinn, H.-W. and T. Wollmershäuser (2011b), *Target Loans, Current Account Balances and Capital Flows: The ECB's Rescue Facility,* NBER Working Paper 17626, November, (http://www.nber.org/papers/w17626), CESifo Working Paper 3500, June (http://www.ifo.de/portal/pls/portal/docs/1/1210631.PDF).

Tornell, A. and F. Westermann (2011), "Eurozone Crisis, Act Two: Has the Bundesbank Reached its Limit?", *VoxEU*, 6 December.

Tornell, A. and F. Westermann (2012), "Greece: The Sudden Stop That Wasn't", *CESifo Forum* 13, Special Issue, January.