

The implications of TARGET2 in the European balance of payment crisis and beyond

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Introduction¹

In spite of the pro-German distortions of his arguments, the profession must be grateful to Werner Sinn who in 2011 rose the question of the role of the European payment system TARGET 2 (TransEuropean Automated Real-time Gross Settlement Express Transfer System hereafter T2) in the Eurozone (EZ) crisis.² During the last two years the debate has progressively made the economic profession more aware of the working of payment systems in the context of the actual operation of monetary policies. In this paper I shall provide my account of the working, economic meaning and implications of T2 in the context of the Eurosystem and in view of my Classical-Kaleckian interpretation of the EZ crisis as a balance of payment (BoP) crisis (Cesaratto 2011, 2013a, 2013b; Cesaratto and Stirati 2011) and to endogenous money theory (Lavoie 2005).

In short, the Classical-Kaleckian ‘Surplus Approach’ approach to the EZ crisis as a BoP crisis maintains that the European Monetary Union (EMU) has generated, through a provisional fading of devaluation risks, financial liberalisation and a relatively loose monetary policy, ephemeral growth in some EZ peripheral countries sustained by capital flows from core-countries. Similarly to past standard financial crises in emerging economies (Frenkel 2013), this sequence of events has been followed by real exchange rate revaluation and deterioration of foreign accounts. As a result, external financing flows dried up and the previous stock of loans begun to be repatriated. It is at this stage that T2 begun to play a fundamental role in avoiding a precipitous BoP crisis. This certainly distinguishes the EZ crisis from more traditional financial crises; although not to the point to invalidate its interpretation as a distinctive BP crisis, as argued by some scholars that affirm there cannot be a BoP crisis in a currency union (CU). Indeed, the mere presence of T2 does not offset the absence in the EZ of those federal financial crisis prevention and resolution mechanisms that are characteristic of fully-fledged currency and political unions (as the U.S.). The functioning of a payment system like T2 cannot be detached from other aspects of the running of a monetary system. The consideration of these procedures also enriches the understanding of the financial mechanisms that are behind the generation of the BP crisis from Classical- Kaleckian and endogenous-money viewpoints.

As analytical benchmarks, section 1 describes international payments in a fixed exchange rate regime (FERR), and section 2 compares the views of the late Fernando Vianello and of Randall Wray on the possibility of a BoP crisis in a CU. Section 3 describes the operation of T2 before and after the crisis, comparing it to Keynes' proposal of an International Clearing Union (ICU). Section 4 dwells upon the debate on the factual origin of the T2 unbalances, CA deficits or capital flight, showing that this juxtaposition is misleading. Section 5 underlines that T2 imbalances and the ECB refinancing operations (Ref.Op.s) are two sides of the same coin, and discusses the combination of T2/Ref.Op.s in relation with the banking and sovereign debt crises. Section 6 discusses Sinn's reading of T2 as a stealth bail-out of the periphery. Section 7 shows that the discussion on T2 proves that endogenous money theory is more useful than loanable fund theory in explaining the nature of international capital flows and therefore the dynamics of the EZ financial crisis. Section 8 deals with the fate of the T2 imbalances in case of a euro break-up. A summing-up closes the paper.³

1. International payments in a fixed exchange system

A controversial issue is whether there can be a BoP crisis in a CU. Of course, in principle, BoPs can be recorded also in a CU for any member region, actually for any single economic unit. Whether it makes sense to keep track of them depends on the characteristics of the CU. Typical prototypes are the EZ and the U.S. The former is a 'trade-based' currency union (or incomplete CU), basically a free-trade area with a common currency.⁴ The second is a full federal union (or full CU), endowed with a federal budget along the local state budgets, and with a full banking union. One differentia specifica between the two unions is that in the former the return to a national currency, albeit difficult, is in principle possible once the cost-benefit balance in/out is biased in favour of the out option. This is unthinkable in the second where there are institutions that sustain the no-secession bias. An incomplete CU is closer to a FERR than to a full CU (nor are there signs that the EZ is evolving in that direction). To understand the dynamics of its crisis, it is therefore helpful to take FERR as a benchmark.

Within a FERR the settlement of international payments takes place in an internationally accepted currency (reserve currency).⁵ This means that a CA deficit must be financed either by depleting the foreign reserves or by obtaining foreign loans. As Cecchetti et al. (2012: 5) explain, in a "typical textbook balance of payments crisis[, w]hen a country starts to experience a capital flow reversal arising from some combination of a loss of investor confidence and an attack on its currency, the outflows are limited by the size of the country's foreign exchange reserves. Once its reserves are exhausted, the country is forced to adjust." The adjustment consists of a devaluation of

the national currency accompanied, if the foreign debt is mainly denominated in foreign currencies, by a default due to the impossibility to serve and repay the debt. The adjustment is thus followed by a foreign debt restructuring typically under the IMF supervision. IMF loans are used to meet the most urgent payments, while the rest of the debt is re-profiled. The IMF would also normally impose the country a fiscal retrenchment to obtain a CA surplus – that is the capacity to serve and repay in the long run the foreign debt, including that to the IMF. Currency devaluation usually mitigates the adjustment.

International payments in a FERR can be described as in figure 1.⁶ Supposing for simplicity that both countries uses a third country currency as the settlement money, the payment of customer 1 of country A to customer 2 of country B - say for an import - implies that country A is losing foreign reserves in favour of country B. Ceteris paribus, this payment will worsen the net international investment position (net IIP) of country A that loses a stock of assets (foreign reserves), improving that of country B. These variations reflect, of course, the change (ceteris paribus) in the current account. Notably, the payment implied the transfer of reserves in foreign currency. Payments between CBs take place through the Bank for International Settlements that acts as a CB for CBs (Carrion Alvarez 3013). The amount of official reserves limits, therefore, the amount of payments that can be financed by the Central Bank (CB).

Notably, after the payment Commercial Bank A is short of reserves. This can be recreated by the CB through a Ref.Op. - a loan to Commercial Bank A.⁷ This is unproblematic. Taking the viewpoint of the theory of endogenous money according to which “loans create deposits while the latter create reserves” (e.g. Lavoie 2005), there is a limit, however, to the amount of credit that monetary policy can permit given by the availability of foreign reserves (the case of foreign loans is considered shortly). Supposing, for instance, that in an open economy credit is used to finance the autonomous components of aggregate demand, given the marginal propensity to import and the level of exports, there is one level only of credit-financed autonomous spending consistent with a constant level of official reserves.⁸ The available international liquidity limits, therefore, the level and growth of national income – what is called foreign constraint. This limit can be relaxed, but in the long-run not eliminated, by foreign loans.

Central Bank country A	
<i>Assets</i>	<i>Liabilities</i>
foreign reserves	reserves Bank A
loan to Bank A	reserves

Commercial Bank country A	
<i>Assets</i>	<i>Liabilities</i>
reserves	deposit customer 1
reserves	loan from the CB

Commercial Bank country B	
<i>Assets</i>	<i>Liabilities</i>
reserves	deposit customer 2

Central Bank country B	
<i>Assets</i>	<i>Liabilities</i>
foreign reserves	reserves Bank B

Figure 1

If Bank A finances the payment obtaining a loan from Bank B, the picture might be that of figure 2. We suppose in this case that the payment is denominated in the currency of the exporting country B. Call this currency DM. Suppose Bank A concedes a loan to customer 1, an importer of a good from customer 2 in country B, opening a deposit (an overdraft) in her favour. When customer 1 makes the payment, denominated in DM, Bank A asks Bank B a loan in DM that it is used to make the payment that appears as a deposit of customer 2 at Bank B. In this example there is not a movement of foreign reserves, but nonetheless country A had to borrow in foreign currency to make the payment. Also in this case the net IIP of country B worsen, its foreign liabilities have increased, while that of country B has improved, its foreign claims have risen.

Commercial Bank country A	
Assets	Liabilities
Loan to customer 1	Deposit customer 1
Deposit at Bank B	Loan from Bank B
Loan to customer 1	Deposit to customer 1
Deposit at Bank B	Loan from Bank B

Commercial Bank country B	
Assets	Liabilities
Loan to Bank A	Deposit of Bank A
Loan to Bank A	Deposit of Bank A
	Deposit customer 2

*Figure 2***2. Can there be a balance of payments crisis in a currency union?**

The necessity to finance a CA deficit with foreign currencies seems to disappear in a CU. But does the foreign constraint also evaporate with it or does it reappear in disguised cloths? Preliminarily to the technical illustration of international payments in the EZ operated through T2, let us discuss whether the concept of national BoP within the currency union is an empty concept (also in view of the existence of systems like T2).

In a CU banks may concede loans in the common currency to trustworthy customers in any member country, confident that the union CB will provide the necessary reserves. These loans can be employed, directly or indirectly, to make payments to other countries without any necessity to recur to official reserves or to foreign loans.⁹ This ability looks independent from whether the region in which the loan is accorded has its CA in surplus or deficit. On the opposite, in a FERR the capacity to sustain autonomous spending by creating loans is limited by the available official reserves or by the ability to obtain foreign loans. But does this mean that a foreign constraint does not exist for a member of a currency union? The answer looks negative as any economic unit – even a household – must at the end balance her revenues and payments. Nando Vianello discussed this question in a paper (written with Anna Simonazzi) just before the inception of the EMU. Although the two authors were not fully aware of the mechanisms of the forthcoming Eurosystem payment scheme (TARGET later followed by TARGET2),¹⁰ they allude to the fact that in a CU, as much as in a national payment system, the international payments take place through the transfer of bank's reserves, that is of high powered money, and that by definition these reserves can be recreated by the Eurosystem national central banks (NCBs) in deficit countries (and sterilised in the surplus countries) as much as the CB would do in a monetary independent country if the interbank loan market is broken:

“We suppose ...that the liquidity is spontaneously redistributed within the European banking system or, alternatively, that the creation of liquidity in the surplus countries and its destruction in the deficit countries are totally sterilised by the national central banks. In this case the financing of a deficit of an EMU member with respect to another will not pose problems greater than those posed, within a country, by the financing of the deficit of one region against another” (1999: 244-5 printed ed., my translation).

S&V point out that the inter-regional payments in a CU are not limited by the amount of the *international* reserves in the vaults of the single region (in the case of the EMU in those of the NCBs), or by obtaining foreign loans. This because the CB of the deficit country can re-create through the Ref.Op.s the reserves lost in the international payments (“destruction [of liquidity] in

the deficit countries are totally sterilised by the national central banks”). This is peculiar to a CU. While I shall later dig into these mechanism, it is important to note with S&V that although in a deficit country the power of banks to finance imports is not restrained by the available foreign currency, nonetheless a restraint still “obviously” exists, “represented by the will of the households and firms to get indebted and of their trustworthiness as debtors.” (ibid)¹¹

Within a national economy (which is a full CU), given the external foreign constraint, the inter-regional foreign constraints may be relaxed through the fiscal transfers.¹²

This means that fiscal transfers as they take place in full CU will modify the net import capacity of the local regions, what does not happen in an incomplete currency union, as the EMU.¹³ Fiscal transfers cannot, of course, totally remove the regional “capacity (and will) to get indebted”, they only relax the foreign constraint (ibid).

Deprived of common banking surveillance mechanisms, in the EMU experience, as it has been typical of countries committed to FERR and financial liberalisation (Frenkel 2013, Cesaratto 2013a), “the will of the households and firms to get indebted” as well as the eagerness of the lenders has been encouraged (e.g. Fahrholz and Freytag 2012: 9-10). Characteristically, construction bubbles in some peripheral countries have led to the EZ financial crisis, and not a presumed profligacy of the member governments, although the crisis and the bail-out of banks eventually affected the sovereign finances of the EZ periphery. The possible initial illusory confidence of borrowers and lenders, followed later by increasing insolvency risk and disillusion is presciently noted by S&V:

“the monetary unification eliminates one of the two causes of the interest rates spreads, the exchange rate risk, but not the other, linked to the trustworthiness of the debtor. If markets seem sometimes to forget this, this depends on the confidence that the big operators have (usually with reason) in their ability to get in time out from the market (...). A heavily indebted country that wants to elude an austere policy might, therefore, enjoy for a certain period a phoney credibility that will allow it to borrow at cheap rates, but it will not evade, finally, the redde rationem. And the later this will come, the harder it will be. The financial speculation, unable to target the exchange rate, will point to the sovereign bond market determining the fall of bond prices, with the consequence of making the service of the debt unsustainable exposing the country to the insolvency risk. The opinion will begin to circulate in the market that the country will find the abandonment of the currency union beneficial in order to find in inflation the way out from its current difficulties; this opinion will make the crisis even worse, and this will reinforce that opinion” (ibid: 247).

That is, in a trade-based CU such as the EZ it is thinkable what it is almost unthinkable in the American federal CU, that is the abandonment of the union by one or more countries do that the insolvency risk become a devaluation risk (a ‘convertibility risk’ as Mario Draghi defined it).

Randall Wray and some of his Modern Monetary Theory (MMT) fellows, on the other hand, seem to deny that the EZ suffers a balance of payment crisis (Cesaratto 2013a: 120-22). In one

post, for instance, Wray (2012) maintains that although the EZ and the US crises have some similar features, nobody talks of a BP crisis in the US case.¹⁴ Yet, Wray's narrative of the EZ crisis is not fundamentally different from that provided by S&V in the preceding quotation.¹⁵

What Wray seems to miss is that the EZ lacks the substantial fiscal transfer institutions that in a genuine federal state *relax* the foreign constraint of weaker members (although they not abolish it, as pointed out by S&V). Being short of these mechanism, financial liberalization and the temporary availability of cheap foreign credit for countries with a biting foreign constraint may explain the "sequence of unfortunate events" that led to the EZ huge foreign imbalances (not differently from the events that typically took place in previous decades in emerging economies). After the crisis erupted, the EMU was also short of the crisis resolution mechanisms that in a federal CU prevent the emergence of the convertibility risk due to the spectrum of a union break-up. Both S&V and Wray acknowledge that the Eurosystem payment and refinancing mechanisms (on which more below) apparently relaxed or hid the most evident manifestation of the forthcoming crisis in a FERR, the scarcity of international currency to make payments once capital flows dry up. Therefore, even once new financing stopped, and foreign capitals begun to be withdrawn by not rolling-over the debt, the system did not suddenly collapse. What a currency union cannot eventually hide is the growing indebtedness of some peripheral members in the absence of a banks and local states crisis resolution mechanism. As both S&V and Wray suggest, when market realize all this, the sovereign spread of local States rise, burdened by the bank indebtedness and by their own, making their solvency even more doubtful and the likelihood of an abandonment of the monetary union very high, especially if austerity measures makes things worse (an aspect repeatedly emphasized by De Grauwe and Ji Y. 2013).

Perhaps, the difference between S&V and Wray is in the respective perspective they adopt. If one looks at the EMU through European lenses, she would regard it as a collection of independent states with a currency in common and the crisis as a BoP crisis, although characterized by some peculiarities brought about by the monetary union. If, instead, one looks at the EMU through American lenses as an incomplete federal state characterized by an irreversible commitment to the CU, then the financial crisis may rather look as due to the absence of more adequate federal prevention and resolution mechanisms. If the EZ was a full federal union there would not have been such a big crisis, the American argues; right, but the question is that the EZ is not a full federal union and will likely not evolve in that direction, would the disenchanted Euro-sceptic reply. Thus, the first perspective seems more adequate and the EZ crisis closer to a traditional fixed exchange rate BoP crisis.¹⁶

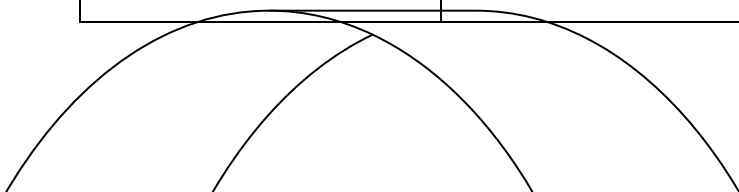
The main message of this section can thus be summed up. A weak region in a non-optimal CU (Mundell 1961) that sees its external debt/GDP ratio deteriorating, will generate doubts about the solvency of its local state and banks. In a full CU this situation is less likely given the inter-regional re-distributive and prevention mechanisms, while a regional crisis would lead to adjustment actions taken at the federal level. The lack of these measures in an incomplete CU might make the abandonment of the CU more convenient for the deficit country compared to the deflationary measures to restore solvency. These are not only socially painful, but also uncertain in their outcome given the absence of currency devaluation that in a FERR facilitate the adjustment. On the one hand, the expectation of abandonment will aggravate the situation, although, on the other hand, the monetary institutions of a CU decelerate the development of the crisis. Possibly, the existence of those institutions will keep the EZ in an austerity limbo in between the break-up and an evolution to a full federal union. To them I now turn our attention.

3. International payments in a currency union

The operation of T2 has been explained by many authors¹⁷ so that I will limit myself to a basic description (adapted from Cesaratto 2013b). Consider the Eurozone and Eurosystem (ECB *plus* the national CBs, NCBs hereafter). Typically a peripheral bank (say Santander) loses deposits in favour of a core-EZ bank (say Deutsche Bank -DB) because of the Spanish CA imbalances (e.g. more payments are made for imports than received from exports) or, increasingly, since 2011 because of capital flights from the periphery to core-Europe.

Step 1. Suppose Santander transfers a deposit (€100) to Deutsche Bank (DB). This is done through T2, the interbank payment system of the EZ: as in domestic systems, transfers between commercial banks are done through transfers of reserves through the central bank; within the EZ they are made through the Eurosystem (as in figure 2). Santander asks the Bank of Spain (BoS) to make the payment (€100) to DB; for this purpose the BoS asks the ECB to credit (€100) to the Bundesbank. The latter finally credits (€100) to DB. Once BuBa creates reserves (€100) in favour of DB (a liability for BuBa), it matches the liability with a T2 claim (€100) on the ECB. The ECB, in turn, matches the liability with BuBa with a claim (€100) on BoS (a T2 liability for BoS), which finally matches this liability with a claim (or a fall in existing liabilities) (€100) on Santander.

Central Bank	
Assets	Liabilities
T2 claim (on BoS)	T2 liability (on BuBa)



Bank of Spain	
Assets	Liabilities
	100 reserves (Santander) 100 T2 liability

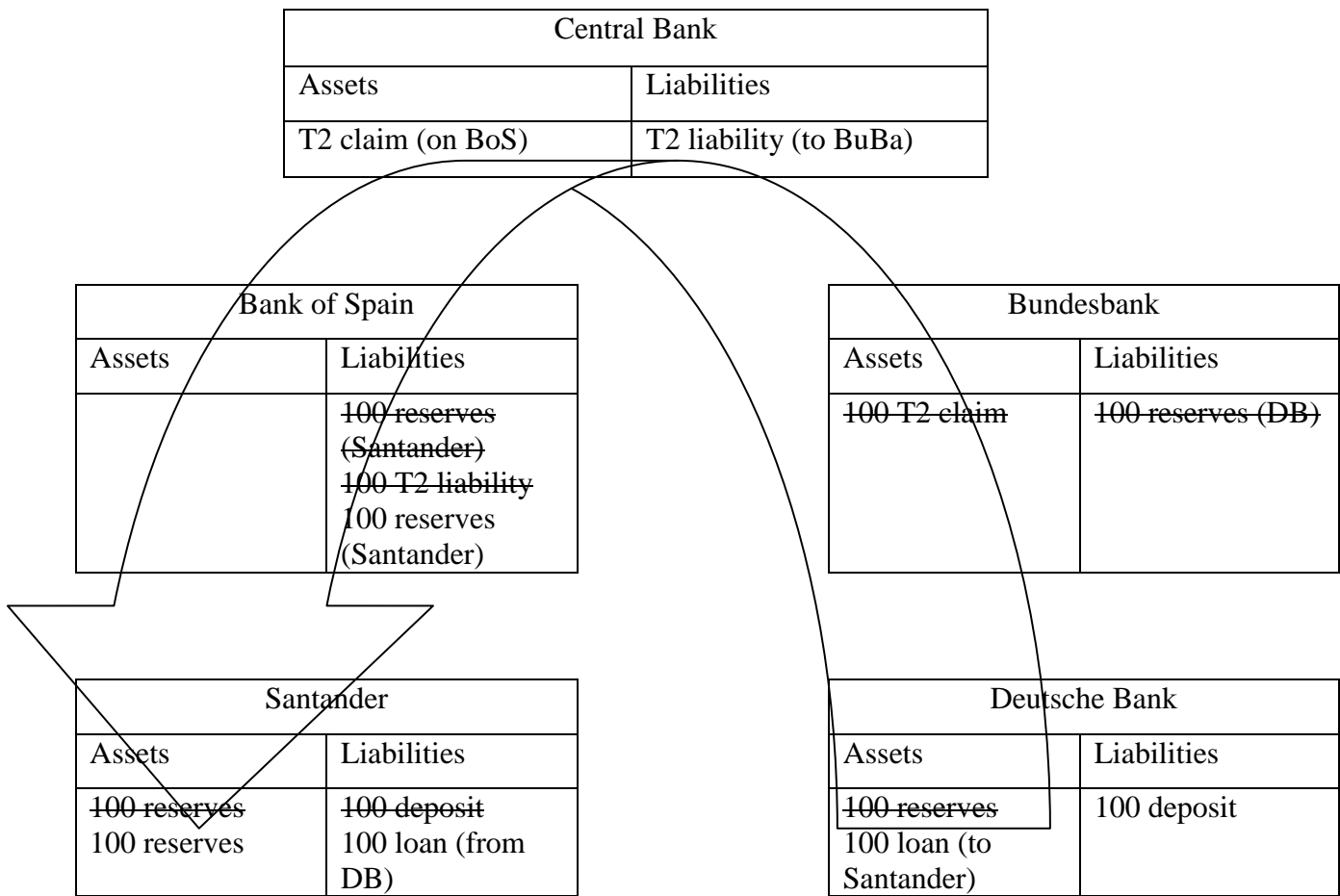
Bundesbank	
Assets	Liabilities
100 T2 claim	100 reserves (DB)

Santander	
Assets	Liabilities
100 reserves	100 deposit

Deutsche Bank	
Assets	Liabilities
100 reserves	100 deposit

- Figure 3 -

Step 2 (ante-crisis). As in domestic systems, once it has received a payment from Santander, DB tends to have acquired reserves (€100), while Santander would have lost reserves (€100).¹⁸ Normally, DB would lend the excess reserves (€100) to Santander (which is in general more profitable than leaving them idle in its reserve account at BuBa).¹⁹ If this happens, the reserves just travel along the T2 route in the opposite direction to step 1, clearing the claim/liability T2 positions of the two CBs (as in figure 4). That is, when DB lends part of its reserves (€100) to Santander, BuBa correspondingly cancels some liabilities (€100) to DB and loses part of its T2 claims (€100) on the ECB. Simultaneously Santander sees its reserve account at the BoS replenished (+€100); BoS sees its liabilities to Santander increase (+€100), but having received a transfer via T2, it can cancel part of its previous T2 liabilities (-€100). So the “official” T2 BoS liability vs. the BuBa claim is cleared, replaced by “private” liability of Santander towards DB. This worked until the crisis. T2 was roughly in balance; of course the net international investment positions [IIP] within the EZ were not, but they consisted of private loans.²⁰



- Figure 4 -

Step 2 (post-crisis). However, suppose that the EZ interbank loan market breaks down, as has happened since about 2009. In this case T2 still allows Santander to transfer a deposit to DB (be it a payment for an import from Germany, or a German withdrawal of private financial investment in Spain). In any case Santander cannot recover the lost reserves via a loan from DB. So the T2 imbalances are not cancelled out by a private transaction in the opposite direction (as in step 2 above). At this point BoS replenishes Santander's reserve account (with €100) through one of the possible short or long term Ref.Op.s available in the Eurosystem and, notably, managed by the NCBs (see figure 4).

Central Bank	
Assets	Liabilities
T2 claim (on BoS)	T2 liability (to BuBa)

Bank of Spain	
Assets	Liabilities
100 loan to Santander	100 reserves (Santander) 100 T2 liability 100 reserves (Santander)

Bundesbank	
Assets	Liabilities
100 T2 claim	100 reserves (DB)

Santander	
Assets	Liabilities
100 reserves 100 reserves	100 deposit 100 loan from BoS

Deutsche Bank	
Assets	Liabilities
100 reserves	100 deposit

- Figure 4 -

Like in a FERR, in a normally functioning CU, CA deficit countries are financed by loans from surplus countries (supposing for simplicity that the CU is a closed entity). However, while in a FERR the failure to obtain foreign loans (or worse capital reversals, given the amount of foreign reserves, necessarily leads to some sort of adjustment of the CA, in the EMU it is not so. On the one hand net foreign payments are just accounting records in the ECB books – so that T2 appears more as a clearing house than as a settlement house, while actual payments are made by the NCB of the surplus country.²¹ On the other hand, while at the creation of reserves in the surplus country correspond a destruction of reserves in the deficit country, this can be re-created by the local NCB and, differently from the FERR, these reserves can be used to make further foreign payments (in a CU the distinction between domestic reserves and foreign exchange reserves actually disappear).

There is an evident analogy between T2 and Keynes's International Clearing Union (ICU) (noticeably the term used by Keynes is "clearing", not "settlement" union) that he regarded as an extension of the principles that govern a national banking system, the same principle that informs

T2 (firstly noted by Cesaratto 2013a: 123). In 1941 he even called it ‘Currency Union’ (Keynes CW 1940-44: 44).²² Analogously to the ICU, the combination of T2 and Ref.Op.s (T2/Ref.Op.s hereafter) can be regarded as a recycling mechanism of the surplus nation idle balances (those that themselves do not lend), with T2/Ref.Op.s official lending in euros and not in Bancor. But Keynes was also more cautious than the designers of the EMU.²³ While reserves recycling would give respite to deficit countries, to avoid mounting imbalances, they could be asked to devalue or to adjust domestic demand, and surplus countries to sustain domestic credit and demand, revalue or, alternatively, increase money wages (Proposals for an International Clearing Union April 1943) CW 1940-44:). These policy prescriptions, particularly those concerning surplus countries, are missing in the EMU. The impossibility of exchange rate adjustment in the EMU and the downward spiral of “internal devaluation” leading to bottomless “balance sheet recession” (Koo 2012) leaves money wages reflation in surplus countries assisted by fiscal transfers (also to solve the banking crisis) as the only EZ game in town. Unfortunately, this is precisely the game surplus countries do not want to play, particularly the main power. The reasons for the German stance are discussed in Cesaratto 2011 and Cesaratto and Stirati (2012).

4. The economic origin of the T2 imbalances: flow and stock interpretations

The debate on T2 has clarified that, in principle, two are the sources of the increasing T2 imbalances that occurred since 2008 for GIP countries, involving Italy and Spain from spring 2011 cf. Cecioni and Ferrero 2012 and Cecchetti et al. 2012 for periodization):

- (a) the persistent CA deficits of peripheral countries that core-EZ private banks declined to finance (according to the “normal times” modalities described above in section 1.2).
- (b) an upsurge of capital flights from the periphery to core countries fundamentally due to the fear of an Euro break-up and a devaluation risk (what Draghi has named “convertibility risk”).

Cecchetti et al. (2012: 1) labelled the two sources as flow and stock interpretations of T2 imbalances. We may also refer them, respectively, to sudden stops and reversal of capital flows (Merler and Pisani-Ferry 2012; Deutsche Bank 2011). In my view, the two interpretations are not juxtaposed but look at the same phenomenon: in flow terms to the refusal of core-EZ banks to finance *further* peripheral CA deficit, and in stock terms the repatriation of former loans that financed *former* CA deficits. Capital flights from residents of peripheral countries are generally excluded as a main source of the T2 imbalances (or sporadically, so far).

Nonetheless, a number of economists have dismissed (a) as the most relevant cause of the imbalances (e.g. Buiter et al 2011; De Grauwe 2012a, 2012b: 5; Whelan, 2012b: 17). While this

might to a certain extent be true - CA deficits after 2008 cannot explain the T2 surge -, the question is that the periphery-core capital flight may reflect the refusal of core lenders to roll-over *past* loans that financed *past* peripheral CA deficits. De Grauwe (2012b: 10, 14; 2012a), for instance, does not seem very consistent when, on the one hand, he blames Germany for having pursued persistent trade surplus and the accumulation of a huge positive IIP denying, on the other hand, that that the refusal to roll over these credits was a source of the T2 imbalances (ibid 10-11).

According to Mody & Bornhorst (2012) bilateral current CA and KA imbalances are not strictly correlated (“bilateral current and capital accounts need not be balanced and, in fact, there is almost no correlation between these two balances, implying that bilateral trade in goods and services has had only a limited influence on bilateral cross-border capital flows, and these balances have marched to different tunes. In other words, financial flows have been unrelated to current-account financing, and have reflected portfolio investment and interbank operations.”); on the opposite Berger and Nitsch (2012) found, instead, quite a degree of matching (“a surplus of a country in a bilateral trade relationship is typically accompanied by a country’s positive net financial position vis-à-vis the respective partner country”). A difficulty is that financial flows take complicate directions. For instance, while Sinn (2012: 4), likely to discharge German banks from the accusation of risky behaviour, argues that German banks lent to French banks (and not directly to the EZ periphery), Chen et al. (2012: 3-4) point out that Germany even intermediated capital flows from China and other extra-EZ countries towards the EZ peripheral countries. Looking at accumulated CA unbalances, Dullien and Schieritz (2012),²⁴ confirm the concurrency of the repatriation of German private funds from the periphery and the expansion of the German T2 claims. Capital flights from residents are generally dismissed as a source of T2 imbalances in the major cases of Italy and Spain. (Cecioni and Ferraro 2012: 20; Credit Suisse (2012: 4). Sinn (2012: 8) expresses a similar opinion,²⁵ while De Grauwe (2012c) seems to have eventually acknowledged it.

The economic meaning of what happened is well summed-up by Deutsche Bank (2011):

“Thus, [through T2] the Bundesbank not only financed Germany’s current account surplus, replacing earlier private capital flows, but also net capital imports into Germany – to a large extent owed to the repatriation of German investments abroad. Associated with this change in lending patterns was also a big transfer of credit risk from the private banking sector to the Bundesbank”.

This statement, precious since it comes from an unsuspecting source, stress the role of T2 as permitting the prolongation of the German export-led model even when previous loans are withdrawn. In this sense T2/Ref.Op.s saved German banks from a likely default from the euro-exit of debtors, transferring the credit risk over the whole Eurozone (not only on the BuBa), with some

serious limits as I will later show.²⁶ De Grauwe (2012b: 10; 2012a; 2012c) has pointed out that Germans can only blame themselves for this blind accumulation of foreign claims²⁷, what has become, as Ramanan has put it, “a Mercantilist’s nightmare” (Ramanan 2011).

5. T2/Ref.Op.s, liquidity and solvency of banks and States

As clarified above and by the literature, T2 imbalances and the Eurosystem Ref.Op.s are two sides of the same coin. An adviser to the President of the ECB Mario Draghi authoritatively put it: “Target claims ultimately arise from [or lead to, Ed.] liquidity-providing operations with commercial banks in the euro area – but actually from [to] those undertaken by the NCB of another country. ... Target claims and those on commercial banks in NCBs’ own countries are essentially two sides of the same coin.” (Thimann 2013; see also JKH 2012: 2-4; Garber 2010).

Both T2 and the Ref.Op.s are part of the ECB conduct of monetary policy which is carried out through the Eurosystem (Cecioni and Ferraro 2012: 23). On the one hand, an interruption of T2 means that an euro deposited, say, in Portugal, cannot be transferred, say, to France, what would mean the break-up of the monetary union. On the other hand, the Ref.Op.s, whose rules the ECB relaxed, aim to preserve the transmission of monetary policy in the EZ, that is that interest rates left to the vagaries of the financial markets excessively diverge, as it would particularly happen in a financial crisis.²⁸ In principle this should mainly concern the financial sector, since the determination of the interest rate on sovereign bonds has deliberately left by the EMU to the markets. While credible outright intervention would have been more effective, long term Ref.Op.s have also been used by the ECB to avoid that in early 2012 Italy and Spain followed the destiny of smaller peripheral countries unable to sell their sovereign bonds at reasonable interest rates (Cesaratto 2013b for the narrative of the various instruments the ECB deployed to deal with the sovereign debts crisis). The combination of T2 and of liquidity-provision operations has thus avoided a euro-bust (Cecioni and Ferrero 2012: 9; Cecchetti et al.: 9; Whelhan 2012b: 24). The ECB manages the system in a decentralised way through the NCBs and this should not give the impression that the ECB does not rule what might resemble to an anarchic, nation-based system of liquidity creation (Cecioni and Ferrero 2012: 23). Be as it may, T2/Ref.Op.s can keep the crisis at bay, but not fix the structural solvency problems of local banks and government.

In a FERR a country which is losing reserves, either let the currency fluctuate, or uses monetary and fiscal policies to reduce domestic demand. In the EMU, if a country is losing reserves (since private banks from the surplus countries are not lending them anymore or are withdrawing former loans), this loss appear as a T2 liability while the Ref.Op.s at the NCBs re-constitute the lost reserves. Clearly, in this way a liquidity problem in the peripheral countries is avoided – banks are

never short of liquidity -, but not solvency. That is to say, suppose a prolonged (foreign or T2 financed) Spanish growth period led by a construction boom. In this case the indebted Spanish families will continue to receive an increasing income flow and remain solvable, and so the Spanish banks (although increasingly indebted with foreign banks). Due to the faster growth of aggregate demand (AD) relatively to core-countries and to a REER revaluation in a structurally catching-up economy, successive CA deficits lead to an increasing foreign debt/GDP ratio. Once the construction bubble comes to an end, and the income flows to the families suffer, then many loans become non-performing, and the solvency of the bank sector is put in peril, as it has happened in Spain. As soon as the State bails out banks, part of the problem is transferred to the State, in the lethal embrace between banks and the State, that we all well known. In this case T2 may help to keep moribund bank and public sectors alive after the sudden and reversal of capital flows and in spite of the attempt by banks to hide the problems by reprofiling bad loans. The problem is the elimination of the bad debts, recapitalization of the banks etc. Had these events happened in a full CU, only the first aspect, the solvency of banks and local government would be noticed (and more or less painfully solved), not the foreign debt aspect – there is no foreign debt in a full CU (as Wray correctly underlines). In an incomplete CU, on the opposite, there is a foreign debt aspect. In this case the solvency risk of banks and governments associated to the lack of federal resolution framework, such as a European deposit insurance and recapitalisation scheme, implies that there is a devaluation risk that, in turn, exacerbates capital sudden stops and reversals and refinancing costs.²⁹ Moreover, in spite of the available cheap liquidity, the situation of peripheral banks is such that interest rates on loans are much higher than in core-countries, aggravating the competitive gap and leaving the peripheral economies trapped in a credit crunch.³⁰

If the combination of T2 and Ref.Op.s has been used to assure a uniform monetary policy in the Eurosystem and avoid a liquidity crisis in the banking sector, it has also been employed to keep the sovereign debt crisis under control. Garber (2010) and Lavoie (2011 [2013]: 24) point out that domestic commercial banks can refinance Sovereign debts that core-EZ banks refuse to roll-over: the capital flights from the periphery back to the core-EZ produce T2 claims for core-countries and a T2 liabilities for the countries that have lost reserves. The peripheral commercial banks can, however, roll-over the domestic Sovereign debt being refinanced by the local NCBs including the mentioned special LTRO2 funds created by the ECB to avoid a euro-crash in December 2011).³¹

This has been called the “Balkanisation” of the Sovereign Debts in the sense that ownership of peripheral sovereign debts has increasingly (and dramatically) returned national. However, the net IIP of countries has not changed: direct foreign financing as been substituted by T2 claims/liabilities.

Garber (2010) complains that this way “a sovereign debt crisis in one of the euro-zone sovereigns can become a problem for the euro currency and a risk that might overwhelm the capital of the ECB”. This is wrong since – as he would certainly admit – foreign claims/liabilities have simply changed hands, so the risk as remained the same, in fact has fallen since an early bust of the EZ has been avoided. The pro-German argument would then be that T2/Ref.Op.s safety belt postponed the necessary adjustment in the periphery. The argument neglects that even admitting a strong social resilience to harsh policy measures, no adjustment is possible without some support by the CB. The question is rather if the T2/Ref.Op.s safety belt to sovereign risk has been an efficient one. In spite of the availability of liquidity, sovereign spreads are also high reflecting the devaluation risk due to the lack of a reliable ECB guarantee.³² Indeed, the mere announcement in September 2012 by the ECB of the Outright Market Transactions consisting of a direct intervention in the secondary sovereign bond market was much more effective, although in practice it remained a declaration (Cesaratto 2013b for a critical discussion of these events).

6. Is T2 an involuntary semi-official transfer of German reserves to deficit countries?

Since the T2 question was raised by Sinn, its economic nature has been object of lively controversies. In particular, Sinn presented T2 and the accompanying Ref.Op.s as a device through which the CA surplus countries unintentionally lend excess reserves to deficit countries. Although T2 and Ref.Op.s are formally detached, through the latter it is *as if* the Eurosystem transforms T2 claims of surplus countries, which are a sort of virtual deposit of official reserves, into loans to deficit countries, so that T2 liabilities could be seen as a loan of surplus countries’ official reserves.³³ A number of authors share this view (e.g. Deutsche Bank 2011; Fahrholz and Freytag 2012; CESifo 2012 confronts favourable and unfavourable views). Without fully endorsing Sinn’s view, other economists de facto share it.³⁴ Cecchetti et al. (2012: 4) usefully refer to the BoP identity:

$$\text{Current account} + \text{Capital Account (KA)} + \text{Official Settlements Balance (OSB)} \equiv 0.$$

In short, in a FERR, CA deficits can be financed either by foreign loans (KA), or by depleting the official reserves, or by official loans (the last two included in the OSB). In case OSB is insufficient, the country has to adjust otherwise. Capital reversals means not only that KA inflows do not compensate CA deficits, but that there are net outflows, so that the burden on OSB is even larger. In the EMU, through T2 and generous Ref.Op.s the OSB adjusts in a semi-automatic way any unbalance in both CA and KA. Notably, this recycling not only concern new CA unbalances, but also the repatriation of previous private loans that surplus countries conceded to deficit

countries. The analogies I found between the recycling of reserves in the EMU and Keynes's proposal of an ICU confirm the view of T2/ Ref.Op.s as a quasi-OSB. As noted, the decentralised management of the Eurosystem might give the impression that peripheral countries are self balancing-out, since the Ref.Op.s are conducted by NCBs. In actual, what happens is consistent with the overall EZ monetary policy.³⁵

Paradoxically, the same (often German) authorities that denounce what might look as a relentless mounting of T2 imbalances also oppose measures as those advocated by Keynes in the case of the ICU to avoid them.³⁶

7. The nature of capital flows: international loanable funds or else?

It is clear from the above that T2/Ref.Op.s are not the cause of the EZ imbalances, but the outcome. The T2 debate has also an interesting implication concerning the interpretation of international capital flows in the EZ crisis. According to neoclassical theory, international financial flows are an expression of the time honoured loanable funds theory. According to this view, loanable funds are the practical manifestation of the saving supply. In the case of international loanable funds, they represent saving from capital rich countries that become available to countries with lower capital endowment. Applied to the EZ crisis, the neoclassical interpretation is that German savers lent to peripheral countries – savings being equal to the CA surplus according to the well known national account identity (where the German CA balances is simplified in the trade-balance component, standard notation):

$$S_G - I_G = (X_G - M_G) + (T_G - G_G)$$

From a logical point of view it is unclear how German savers could lend abroad before Germany realises a trade surplus. Indeed the T2 story illuminates that the financial circuit begins with a loan conceded in, say, Spain.³⁷ Suppose that autonomous spending in Spain consists of residential investment financed by loans (overdraft deposits) conceded by Santander (we neglect government and suppose zero exports for simplicity). During the income multiplier process deposits would change hands, and at each step part of it is consumed or saved, and part spent to import, depending on the respective marginal coefficients (Dalziel 1996). At the end of the process the following equation applies to Spain:

$$S_S - I_S = M_S$$

That is, imports correspond to that part of the (residential) investment that is not financed by domestic savings. In financial terms, payments for imports that mature during the income multiplier process are channelled through T2 to (say) German exporters. Supposing, again for

simplicity, that exports are the only autonomous component of AD in Germany, no public administration and zero propensity to import, German savings are equal to net exports, that is

$$S_G = X_G,$$

or, given that $M_S = X_G$,

$$S_G = S_S - I_S. \quad ^{38}$$

In financial terms, supposing that S_G is deposited at DB, then it corresponds to the loan that (in normal times) Santander obtains from DB in the inter-bank loan market (see § 3). So *ex post* (an only *ex post*) Germany is lending “savings” to Spain and the loanable fund theory is shown as deprived of much economic content.

The expansion of the loans that incepted the circuit has been favoured by the belief “in a successful economic convergence process at the outset of the EZ membership”. The outcome has been “a fall in risk premia from the perspective of the private financial sector” and “of the financing cost of the periphery” (Fahrholz and Freytag, 2012: 9). T2/Ref.Op.s are innocent for these sort of events that have been also typical of fixed exchange rate regimes cum financial liberalisation (Frenkel 2013; Diaz-Alejandro 1985). Discussion in this section vindicates the endogenous money view and its complementary to a Classical-Kaleckian interpretation of the EZ crisis.

8. T2 at the time of a Euro break-up: a blogosphere debate

Many economists have pointed out that, although mingled with biased pro-German arguments, Werner Sinn’s denunciation of the risks that Germany is meeting with its increasing T2 surplus balance is basically not wrong. Other economists, however, have downplayed these risks. Two German progressive economists, Dullien and Schieritz (2012), for instance, have argued that the German repatriation of private funds from the periphery substituted by T2 claims should be applauded by the German public since this implies a euro-socialisation of the risk of default at an EZ level, most to the benefit of the by far largest claimant. The question is that core-EZ countries are sharing their T2 risk with the same debtor countries, a clear vicious circle that would emerge if several countries including major ones default in their liabilities.³⁹ The distinguished Irish economist Whelan, endorsed by the LSE economist Paul De Grauwe, uses another argument to maintain that the T2 credit countries would not suffer any specific loss, even in the case of a euro break-up. In short, these economists argue that in principle a CB cannot suffer losses, given that it owns the printing press, that is in fiat-money regime the CB can issue money not backed by any asset (this specific point is, of course, true). In case of a Euro break-up, what the Bundesbank would do is to redenominate all its liabilities (monetary base) in, say, neu-DM, along the redenomination of deposits and of all sort of domestic contracts. Even in the extreme case of a loss of all its T2

claims, this loss would mean nothing to the ordinary German citizen that hold banknotes or deposits denominated in neu-DM. Any euro is substituted one-by-one by a neu-DM.⁴⁰

Lively discussions on Whelan-Salmon-De Grauwe (WSDG) are buried in the blogosphere. Particularly instructive I found the discussions after Whelan (2011) and Salmon (2012). Blogger Ramanan has particularly insisted that partial or total losses of T2 claims are a loss of net wealth for the nation since they imply a reduction of the net IIP of the country (T2 balances are part of the IIP of a country):

“a country’s net worth is the sum of its nonfinancial assets and the net ‘international investment position’. If a EA17 nation has its NCB taking losses its TARGET2 claims (i.e., takes a loss), it’s net worth reduces. It is true that the Bundesbank may be capitalized by the German government [or better, the Bundesbank can recapitalize itself by printing money] – in case – but no amount of domestic transaction can change the external assets (of Germany as a whole). The whole discussion that it doesn’t matter is based on an even absurd implicit assumption – whether authors realize it or not – that “balance of payments does not matter”. (comment to Salmon 2012)

German losses also include net foreign income that Germany receives from the T2 claims.⁴¹ They are part of the national GNP (= GDP + net foreign income) that correspondingly falls. But, according to Whelan, also this loss can be accommodated by the ECB that, by printing money, can continue to pay the same interests on deposits. To Ramanan and JKH that objected that evaporation of (€500 billions) T2 claims would mean a permanent loss of foreign income (comments to Whelan 2011)⁴², Whelan dismissively replied:

“Fine, write off the €500 billion and call it a hit the German IIP position if you want. All this entry corresponds to is a claim on a central bank which can print money. I’ve pointed out that the new Buba can write out a new piece of paper that’s worth the same amount, add interest to it every year, and keep it in a vault somewhere. This exactly offsets any perceived loss. I think what people are missing here is that central bank assets are not a good way to think about the wealth of a nation. A central bank can have as many assets as it wants by printing money and acquiring them. And it can send the revenues from these assets back to the fiscal authority if it wants. ... In this example, the central bank loses one asset and replaces it with a piece of paper with a face value and interest pattern that mimics the original asset. No loss in wealth for the Bundesbank and no new money circulating in the private sector (deposits have not changed) so no inflation either.” (comment 15 to Whelan 2011)

To this Ramanan replies by inviting Whelan to check the German BoP definitions.⁴³ Salmon replied to critics by discharging the significance of the official definitions and statistics concerning the BoP and the IIP,⁴⁴ a position de facto endorsed by Whelan, unexpectedly for a top Irish academician:

There is a patent logic fault in Whelan: he would admit that a loss of foreign assets is a loss of national net wealth; he would also admit that T2 claims have substituted the private stock of foreign assets (that has thus evaporated); but he does not admit that, should T2 claims also vanish, the country would incur in a real loss. WDGS's view, Ramanan points out, reflects a micro perspective of a subject for whom the denomination of its deposit (or banknotes) in euro or (neu)DM is irrelevant as long as she perceives that their real value has not changed (or, even better, has rose in term of the (new) EZ foreign currencies). In other words, from an individual perspective the macro loss of net foreign claims would mean nothing.⁴⁵

The by now famous example is the export of a tractor (a dishwasher in the comments to Salmon 2012; a truck in the comments to Whelan 2011) worth 500€ from Germany to Greece (or any other peripheral country) followed by a payment of 500€ to the German exporter and a T2 German claim of 500€ (on which Germany receives a rent). From the point of view of the German private exporter, so WSDG argue, the question is over: she has been paid 500€ and that's it ("If I get paid €500 for a dishwasher, I've been paid €500.... The transaction is done and dusted" as Salmon 2012 put it in a comment). In any moment the German citizen could use this money to buy a Greek good (say olive oil from the buyer of the tractor) or a Greek asset (say shares of the Greek national electric company). If the euro breaks, according to WSDG the BB will re-denominate in 500 (neu)DM the corresponding deposit held by a German citizen (that we suppose has not been spent on Greek goods balancing the initial transaction), also assuring the payment of the same rate of return. To the objection that with the disappearance of the Greek liability the German citizens have lost a claim on the Greek goods, WDGS would reply that the 500 neu-DM can in any moment be exchanged in new-Drachmas (likely also at an advantageous exchange rate) so that they can still buy olive oil or the electric company share.⁴⁶ Here is WSDG's mistake, as various commentators have pointed out.

Before a euro break-up the expenditure of 500€ by the German citizen to buy olive oil would lead to a reduction of the Greek T2 liabilities - the Greek oil producer would return his loan to the Greek commercial bank, the latter would reduce its liability with the Bank of Greece and this would cut its T2 liabilities).⁴⁷ If after a euro break-up T2 liabilities vanish, ultimately the Bank of Greece can forgive the Greek commercial bank liability, and the latter the debt by the olive oil producer.⁴⁸ Eventually the Greek peasant has got the tractor for free and, if the German exporter spends 500DM for the olive oil, the Greek will have both tractor and 500€ (normally he should have had only the tractor, having paid his debt by giving 500€ olive oil to the German exporter) .⁴⁹ With these DM the Greek peasant can now compete with German citizens for German goods. (If the

German used the 500DM to buy a share of the Greek electric company, well the seller might well use this money to buy a share of the German electric company - still keeping the tractor as a gift).

Conclusions

Let me sum up some main results.

1. The discussion over the BoP nature of the EZ crisis set the tune for the whole paper. In a CU less competitive members tend to become indebted with more advantaged fellows. This is so because local credit-financed spending does not generate enough domestic savings. In a full CU the tendency to external indebtedness is kept at bay by fiscal transfers, while crisis resolution mechanisms are in place. In an imperfect CU the tendency, in given circumstances like financial liberalisation or one fits all monetary policy, is much larger. Given the lack of friendly, union crisis resolution mechanisms, the temptation of the deficit country to leave the CU is large. Liquidity mechanisms such as T2-Ref.Op.s help the BoP crisis to evolve like in a FERR. However they cannot solve the solvency problem made worse by “convertibility risk”.

2. Growing T2 imbalances not only reflect the necessity to finance the persisting CA deficits of the periphery but, more importantly, capital flight from periphery to core countries. Since 2009 for PIGs, and hugely since 2011 for Spain and Italy, foreign investors have refused to roll-over (re-finance) previous debt that financed *past* CA deficits.⁵⁰

3. Sinn (e.g. 2011; 2012) is right in talking of T2-Ref.Op.s as automatic refinancing of the BoP of CA deficit countries, although he systematically overstretched his argument adding implications aimed to depict Germany as the victim, what the literature (including Whelan and De Grauwe) has shown to be wrong. Combining the two aspects – the creation of persistent credit-liability positions at T2, and the increasing borrowing of the periphery from the NCBs, it is *as if* the *same* reserves previously lent by German private banks when confidence prevailed, and that are now deposited at the ECB, are now lent by the ECB through its Spanish branch, by virtue of the decentralised management of the Ref.Op.s in the Eurosystem. Therefore, German Sinn has not been wrong in calling T2 a “stealth bail-out” of the periphery, although he has been silent about German responsibilities in this crisis for what has been called a “vendor finance” scheme, exaggerated current damage to the German economy, and forgot that the “stealth bail-out” concerned also the lender side, that is German banks.⁵¹ Seen from either perspective (private or “official”), the net IIP of Germany (Spain) is the same, but now Germany (Spain) is (automatically) lending (borrowing) through T2, while BoS creates liquidity, although this operation is formally separate from the emergence of T2 claims/liabilities (“the two side of the coin”). If this combination did not exist, however, the entire bank system would break down. T2 can, of course, only solve some liquidity

problems of the periphery, but not the solvency of the States and of banks. However, core-EZ countries must thank T2-Ref.Op.s for giving the EZ more time to fix the situation. Unfortunately this time has so far been wasted (Cesaratto 2013b). While no reforms of the institutional architecture of the EZ have been attempted, the EZ, encouraged by a wrong diagnosis of the crisis, has pursued painful adjustment through austerity and competitive deflation, economically unsuccessful in rebalancing Europe and restore growth, and that might prove politically unsustainable given its social costs.

4. In view of the above, T2 can be interpreted as a CA surplus recycling device in favour of deficit countries, something that recalls Keynes's proposal of an ICU (Cesaratto, 2013a). Not only can T2 accomplish the recycling of current deficits, but it can also fix capital flight (repatriation of early loans that financed previous CA deficits) from indebted countries, transforming, as we have seen, private loans into "official" T2 loans. In principle T2 may substitute the private financing and rollover of deficit countries *ab libitum*, but there are of course limits to what Minsky defined as "Ponzi finance". The austerity measures imposed by the EU on indebted countries may thus be seen as a way - unfortunately neither effective nor socially sustainable - to generate CA surpluses so as to guarantee servicing and possibly reduction of their net foreign debt. Keynes' proposal also emphasized, on the opposite, the necessity of an expansionary adjustment by surplus countries.

5. That a rupture of the Eurosystem is without consequences for the net financial wealth and income of surplus countries is wrong. T2 claims are part of the IIP of a country and the interest flows part of the GNP.⁵² It is likely that in the case of a Euro break-up there will be negotiations that will include the destiny of the T2 balances. The deficit countries will probably not renege the liabilities, but they will re-denominate them in the new currency. Starting, from instance, from a parity $1\text{€} = 1 \text{ neu-DM} = 1 \text{ nuova-Lira}$, the situation will rapidly evolve in $0.8 \text{ neu-DM} = 1 \text{ nuova-Lira}$ (or worse). So that $\text{€} 100$ of T2 redenominated 100 nuova-Lira claims will be worth 80 neu-DM (or worse). Be as it may, it was too easy for Werner Sinn (2012) to retort Whelan-De-Grauwe's argument that a conversion of the denomination of the T2 liabilities in, say, (neu)DM will fix any problem:⁵³

"Although a country's monetary base would retain its value after a breakup of the euro and a conversion to national currency, it would not be irrelevant if a country's TARGET claims are destroyed, since they represent the present value of a flow of seignorage stemming from other countries' commercial banks that compensates for prior outflows of goods, assets, and debt certificates to these countries. An interruption of the flow of seignorage from foreign commercial banks would imply real wealth losses for the surplus country's taxpayers and/or savers, the present value of which equals the TARGET balances. This is entirely independent of the size of their loss-bearing capacity, which is irrelevant for the question in hand".

In spite of his fastidious pro-German bias and wrong diagnosis of the crisis, Sinn deserves the last word.

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¹ A preliminary version of this paper was distributed at a workshop on the Euro-crisis held at the University of Galway, November 2012. I thank Eladio Febrero for comments. This is a still provisional version of a paper that, in shorter form, should be published by *Intervention*.

² The seminal prescient contribution is, however, by another German economist, Peter Garber (1998). Great heterodox economists, Kaldor and Godley, foresaw the problems of an incomplete European monetary unification (see Ramanan 2012c; Godley 1992). In numerous papers Randy Wray and Stephanie (Bell) Kelton (e.g. Bell 2003) warned about the fragility of national public finances not backed by national central banks. Similar anticipations can be found in various papers by Massimo Pivetti (e.g.). De Grauwe predicted the construction boom in Spain (see Cesaratto 2012d). In this paper we shall add Vianello to this (likely incomplete) list of Cassandras.

³ Please, use this intro as a memo of most of the acronyms used in this paper.

⁴ The EU budget is about a thin 1% of the EU GDP; moreover a conspicuous share of fiscal transfers goes to the extra-EZ poorer members. This has also contributed to the EZ CA imbalances (Holinski et al. (2012: 12)

⁵ In the opposite extreme case of pure floating exchange rates, movements of the exchange rate take care of the equilibrium of the BoP.

⁶ A simple example of a domestic payment system is given in Cesaratto (2013b).

⁷ Having lost a deposit, Commercial Bank A now needs fewer reserves than before. I neglect this for simplicity.

⁸ This condition reminds of course of Harrod-Thirlwall foreign trade-multiplier.

⁹ Note that it is not necessary that a loan is appositely granted to finance a foreign payment. Whenever a loan finances some autonomous expenditure, in parallel to the progress of the Keynesian multiplier process the deposit will change hands (Dalziel 1995) and part of it used to finance imports (depending on the marginal propensity to import), see § 7 below.

¹⁰ They maintain that:

“Differently from before... the relationships between the Bank of Italy and the Bundesbank are not settle by a transfer of international reserves ... but through a transfer of assets denominated in Euros” (ibid: 244).

As we shall see, the infra-euro payments may generate T2 claims and liabilities amongst the European national central banks, but not a transfer of collateral assets (although this is proposed, e.g. by Whelan 2012b). Nonetheless there are a number of considerations prescient of the T2 debate. For instance, they ask themselves:

“If the deficit countries are always the same, the debts of the central banks [actually T2 liabilities, see below] of those countries will attain an increasing weight in the portfolio of the European Central Bank. Would the indefinite prosecution of a similar process be tolerated by the ECB (and by the surplus countries)? We assume the answer to be yes, given that no limit is officially indicated, albeit we share the dubitative attitude put forward by Kenen ... in this regard” (ibid: 245 of the published version; the quotation is actually translated from the slightly more elaborated version from the mimeo edition of the paper).

¹¹ These are the relevant passages:

“In this case [of a currency union] the capacity of the European banking system of financing net imports of Italy from Germany ... will not be subjected to any restriction additional to those that limit its general ability

to accord loans, precisely in the same way it is not subjected to any additional restraint its capacity to finance the net imports of Calabria from Veneto, or that of the American banking system to finance net imports of California from Michigan.” (ibid: 245, mimeo ed.).

“Once the constraint of having to finance deficits in an international currency has fallen, it obviously remains the fact that such deficits must be financed. Suppose for a while that the only Italian regions are Calabria [the poorest Italian region] and Veneto [one of the richest] and that the Italian economy does not trade with other countries. If the households and firms from Calabria buy from the companies from Veneto more than the households and firms from Veneto buy from the firms from Calabria (and supposing that other regions in Italy or other countries outside it do not exist), the difference will imply an identical growth of the net indebtedness of the Calabrese household and companies as a whole. And if their capacity (and will) to get indebted is, as it cannot but be, limited, circumscribed will also be their capacity to import from Veneto. We shall call this the foreign constraint of Calabria. If we now suppose that Italy trades with another country, Germany, importing more than it exports, and assuming that the two countries adopt the same currency, what we have said for a closed economy can be literally repeated substituting Italy to Calabria and Germany to Veneto” (ibid, printed ed.).

In other words, S&V point out that if loans to a Calabrese units systematically partially generates output and income in Veneto, this would undermine the reliability as debtors of those units, and so the same ability they have in the long run to access credit (unless there are compensative transfers from Veneto, as we shall see).

¹² “if the fiscal system operates a transfer of spending capacity from Veneto to Calabria, this will enhance the import capacity of Calabria (from Veneto and from Germany)and correspondingly diminish the import capacity of Veneto (from Calabria and Germany)” (ibid: 245 printed ed.)

¹³ As Simonazzi and Vianello note:

“The external constraint that, as seen, still runs along the national board of the member national states, van be relaxed by a supra-national system of redistribution of spending capacity analogous to that that operates in each country through the national fiscal system. But such redistribution is not contemplated, if not marginally, among the tasks that the EU acknowledges as its own (and this notwithstanding Germany maintains that there is too much of it, harmfully for its interests, and asks a greater balance between what single countries give and receive” (ibid: 246).

Nothing new under the sun!

¹⁴ Here is the relevant quotation:

“Substitute Nevada for Spain. ‘Foreign’ banks from across America lent to speculators who blew up Las Vegas real estate prices, lending without underwriting. Las Vegas workers temporarily enjoyed the boom, and now are dealing with high unemployment and collapsing prices. Local government has lost tax revenue and now has to deal with the costs of clean-up. While we do not usually look at “current account deficits” across US states, it is conceivable that there were the same sorts of “imbalances” in states that experienced a real estate boom as high employment and rising wages and prices fueled “imports” from other US states...But we do not claim that within the US it was current account deficits among the states that caused the global financial crisis. Why not? Because we all use the same dollar currency and because we’ve got a central bank system that clears the payments system across the US. There never was an “imbalance” in financial flows because the central bank system cleared all the accounts. Importantly, we do not provide a Federal Reserve Bank for each state, instead, we purposely drew Fed districts across state lines (with lines actually running through some states). Nobody even knows what the financial flows are across states. In Euroland, all use the same euro currency, and clearing is accomplished among the central banks and through the ECB (that is where Target 2 comes in). It works about as smoothly as the US system. ”

¹⁵ Here is the relevant quotation:

“The local central banks would be used to clear payments, borrowing reserves as necessary from the ECB. But, importantly, smooth Euro-wide functioning of the payments system effectively means the ECB cannot

refuse to provide reserves on demand. And that effectively means the Maastricht criteria on budget deficits and debts would not bind. *So long as markets believed that Mediterraneans had become Germans*, or that the ECB would always come to the rescue, it didn't matter that almost all countries violated the Maastricht criteria almost all the time. Private banks (and others) would buy up the now non-sovereign debt, and could sell it on to national central banks as necessary to obtain reserves—or pledge it as collateral. Deficit spenders were supposed to be punished by higher borrowing rates, but spreads to German borrowing rates fell on the delusion [illusion?] that Euroland had become one big happy family. *But once markets took a long, cold look at finances, and at the design of the union, they realized the fatal flaw.* The Maastricht criteria were already far too lax for countries that had given up currency sovereignty, because borrowing rates would be either determined by markets, or determined by willingness of the ECB to violate its own self-perceived mission to maintain fiscal prudence. And when deficits and debts exploded in those countries that had to bail-out their private banks, markets recoiled and spreads rose to levels that ensured explosive growth of budget deficits.” (ibid, my italics)

Wray and its MMT fellows are certainly correct in pointing out that in the EZ the sustainability of public debts and deficits and the ability of States to deal with the crisis have been impaired by the lack of backing of a domestic or European supportive CB. Its insistence on this aspect of the crisis, however, might mislead in thinking that most of the EZ crisis has been due to the infringement of the EZ budget clause by local governments. In general this violation has been the result rather than the cause of the crisis. Unfortunately, Wray and his associates tend to downplay the importance of other causes (cf. Cesaratto 2012e).

¹⁶ Alternatively to a full federal union, Wray and its MMT fellow tend to believe that a full monetary sovereignty, including floating exchange rates (no-commitment to convertibility at a fixed exchange rate) would also solve the foreign constraint, even in countries that do not issue an international currency. I have criticised this view in my exchanges with Wray (see Cesaratto 2012a/b/c and Ramanan 2012a).

¹⁷ Including: Febrero and Uxò (2012); Cecioni and Ferrero (2012); Cecchetti et al. (2012), JKH (2012).

¹⁸ €100 is an approximation since the DB has now more deposits and therefore needs more reserves, while the opposite is true for Santander.

¹⁹ As explained by Febrero and Uxò (2012: 9-10) DB will normally lend the excess reserves to BA, at a rate that is close to the CB target interest rate (currently 0.75 in the EZ). Santander could in principle borrow the needed reserves from the Bank of Spain at a refinancing rate (currently 1.5 % in the EZ, i.e. + 0.75% over the target rate) that is, however, higher than that prevailing in the inter-bank market. At the same time DB could deposit the excess reserves at the BuBa, but at a rate (currently 0% in the EZ, i.e. + 0.75% below the target rate) that would be punitive compared to the one prevailing in the inter-bank market. So, ECB creates a mutual convenience for the commercial banks to lend each other the excess reserves at a rate that approximate the ECB target rate according to the logic of the so-called interest rate corridor. This shows the link between the payment system and monetary policy. Of course, once the inter-bank market is broken, transmission of monetary policy becomes less effective, that is the CB is unable to determine the short-term inter-bank loan interest rates and obtain the convergence of interest rates within the CU. To avoid the break-up of the payment system, however, the CB will supply all the necessary liquidity to keep the system running.

²⁰ As recalled below, T2 claims and liabilities are part of the IIP of a country.

²¹ As noted by Kooths and van Roye (2012: 15-16):

“In the EMU, the monetary strategy is set by the ECB's governing council. However, central bank money is operationally provided by the NCBs. From an accounting perspective, the ECB reduces to a clearing house for cross-border payments. Remaining balances are recorded in the NCBs' balance sheets as changes in their net position with the Eurosystem (‘Intra-Eurosystem claims/liabilities’). While cashless transactions affect the ‘Claims/liabilities on/towards the Eurosystem related to Target2’, transactions in cash are recorded as ‘Claims/liabilities related to other operational requirements within the Eurosystem’. From a BoP-perspective, changes in the net position with the Eurosystem correspond to a member country's reserve account with respect to the rest of the EMU. If the EMU was a fixed exchange rate regime, positive (negative) Target2-balances and net cash inflows (net cash outflows) would reflect inflows (outflows) of currency reserves, i.e. a reserve account deficit (reserve account surplus).”

²² In famous passages, he summed up his proposal:

‘In short, the analogy with a national banking system is complete. No depositor in a local bank suffers because the balances, which he leaves idle, are employed to finance the business of someone else. Just as the development of national banking systems served to offset a deflationary pressure which would have prevented otherwise the development of modern industry, so by extending the same principle into the international field we may hope to offset the contractionist pressure which might otherwise overwhelm in social disorder and disappointment the good hopes of the modern world. The substitution of a credit mechanism in place of hoarding would have repeated in the international field the same miracle, already performed in the domestic field, of turning a stone into bread’ (CW 1940-44: 75).

²³ For instance he wrote:

‘In only one important respect must an International Bank differ from the model suitable to a national bank within a closed system, namely that much more must be settled by rules and by general principles agreed beforehand and much less by day-to-day discretion. To give confidence in, and understanding of, what is afoot, it is necessary to prescribe beforehand certain definite principles of policy, particularly in regard to the maximum limits of permitted overdraft and the provisions proposed to keep the scale of individual credits and debits within a reasonable amount, so that the system is in stable equilibrium with proper and sufficient measures taken in good time’ (CW 1940-44: 45).

²⁴ Dullien and Schieritz observe, for instance, that from August 2008 and January 2012 “German banks have cut their claims against the Eurozone by €320bn” while in the same period “the net TARGET claims of the Bundesbank have increased by €390bn”.

²⁵ In his typical style Sinn (2012: 8) sums up: “the capital flight reflected by the surge of TARGET imbalances in Ireland, Italy, and Spain was not predominantly a capital flight of residents from these countries, but a retreat of the banks of the surplus countries from the credit markets of the deficit countries, a flight from a stormy sea back to the home harbour. The banks of Luxembourg, the Netherlands, Finland, and Germany not only stopped lending to finance other countries' current-account deficits, but also withdrew the outstanding funds by refusing to renew credit contracts at maturity. The banks of the deficit countries redeemed their debt in net terms also because they found the credit from the domestic printing press [by which Sinn means the NCBs Ref.Op.s] cheaper than the interbank credit, given that the ECB did not demand a risk premium. The banks of the surplus countries invested the funds instead with their central banks, which received the TARGET claims. It is also impossible to disentangle these operations if the euro breaks up. Thus, from the perspective of the deficit countries, the previous benefits from the TARGET imbalances in terms of a real resource flow would remain, but the corresponding debt will likely disappear.” The destiny of the T2 imbalances in case of a euro break-up will be discussed shortly.

²⁶ T2 losses are shared by all the EZ NCBs according to their respective capital shares in the ECB capital.

²⁷ The conventional justification proposed by the German economists for the persistent German trade surpluses refer to the ageing of the German population and to the necessity of building a stock of foreign assets out of which, so the argument goes, the future aged Germans will be able to live. Various objections can be provided. Cesaratto & Stirati (2011: 13 WP version) show that the German mercantilist pursue of trade surpluses is much older, it begin in the early 1950s (and likely much earlier). Secondly, the crisis is showing the practical fragility of this accumulation of foreign assets, while the Classical-Kaleckian criticism provides theoretical arguments why foreign lending does not necessarily lead to investment and solid growth to debtor countries. Cesaratto 2005: 212-22, 2006, 2007 deal with this question in relation to ageing and pensions. The speculative involvement of German banks in over-sizing the Irish banking sector, and the possible influence of the German government in dumping the costs of the crisis of the Irish tax payers is suggested in Scally and Bittner (2013).

²⁸ As Cecioni and Ferrero (2012: 8) well explain

“TARGET2 imbalances are correlated to the recourse to monetary policy refinancing operations, via NCBs’ balance sheets, but they are not caused by them. Adopting the fixed-rate full allotment (...) procedure in the refinancing operations and expanding the list of eligible collateral countered the pressures on banks’ liquidity and on financial markets, which originated from the massive disruption of interbank and capital markets at the peak of the crisis and to the drying up of cross-country flows. These measures played a key role in preserving the functioning of the payment system and the financial stability of the euro area. The resulting increase in central bank’s reserves was accompanied by the widening of the TARGET2 balances.”

²⁹ In this regard, Gros (2012a; b) notes the importance in genuine federal states of nationwide banks that can spread their local losses on the national network, while the difficulties of local banks are tackled by the federal, not by the local government. By contrast in the EZ the fear of a euro break-up led some big EZ banks (e.g. BNP Paribas) to withdraw their support to their local troubled branches (e.g. BNL) letting them to rely on the ECB liquidity provision (see e.g. <http://www.ft.com/intl/cms/s/0/771af230-f91e-11e1-8d92-00144feabdc0.html#axzz2LirC3nok>; Cecioni and Ferrero, 2012: 20 [fn.18]; Cecchetti et al., 2012: 9-10; Gros 2012a). So we witness capital reversals within the same multinational bank.

³⁰ Factors negatively affecting the interest rate on loans offered by peripheral banks include undercapitalization; non-performing loans; lack of backstop by troubled government and, of course, by the EZ; the higher returns on sovereign bonds; the lack of confidence on borrowers which is undermined by the austerity climate in which they operate. The EZ banking situation is lively described by Vèron and Wollf (2013):

“Europe’s banking problem is an essential element of the ‘doom loop’ but is also harmful in its own right, in a way that predates the sovereign debt crisis (...). Unaddressed banking system fragility, often the result of the bias of many policymakers towards supervisory forbearance, results in a vicious cycle of its own in which banks keep extending credit to insolvent borrowers to avoid the pain of recognizing losses on non-performing loans (...). The banks’ lending is increasingly absorbed by borrowers who will not repay, while creditworthy new borrowers are starved of credit. While aggregate credit figures may show no evidence of credit contraction, in reality the allocation of credit is increasingly dysfunctional and results in an increasingly severe drag on economic growth, and on employment as a consequence. This perverse spiral has been vividly described as ‘zombie banks lending to zombie borrowers’, a metaphor coined in the US S&L crisis (...) and often applied to the Japanese crisis of the 1990s (...). Sadly, the same pattern is increasingly recognizable throughout Europe.”

Both these authors and the IMF (2013) incite Europe to take short-term action and not limiting itself to redesign the long-period supervision and resolution framework.

³¹ Standard Long-Term Refinancing Operations (LTRO) by the ECB are usually one-year loans. LTRO2 launched in December 2011 lent funds for three years. Garber (2010) notes:

“a euro-zone government could, if it had to, continue to finance itself via the ECB even if it could not sell new bonds to the market because of fears of default. Under this scenario, a government might sell its bonds to a local bank, which draws funds from the ECB through its NCB, depositing the new securities as collateral at the NCB. The government could then use the funds to pay private creditors in other countries who are not rolling over existing debt. The ECB then effectively replaces the old creditors of the sovereign and the lender for ongoing deficits—indirectly via the collateral at the NCB”.

³² As Lavoie aptly notes:

“As long as the yield on securities is higher than the main official rate, this is a profitable operation for domestic banks (unless the government defaults). But of course, ... it would be much simpler if the ECB and the national central banks could purchase sovereign debt on a regular basis or at least whenever their yields went out of line” (Lavoie 2011 [2013]: 24)

³³ JHK (2012:) aptly interpret T2 balances as a “higher order” form of reserve, analogous to the official reserves in a FERR:

“TARGET2 asset balances held by NCBs are net positive settlement balances of a “higher order” form of reserve. TARGET2 liability positions become deficit (borrowed) positions in these higher order reserves. This “higher order” form of reserve might be identified as a special type of reserve held by national central banks with the ECB, or a “supra-reserve”. This concept abstracts from the regular “lower order” case in which commercial banks hold reserves with a single central bank.”

³⁴ Cecchetti et al. (2012: 6) argue for instance that:

“With the onset of the global financial crisis, as euro area interbank markets became less and less liquid, euro area banks became partially dependent on the recycling of surpluses through the Eurosystem.”

Similarly, Bank of Italy’s Cecioni and Ferrara (2012: 24):

”When evaluating the potential cross-country risks deriving from TARGET2 balances it should be taken into account that ... through its interventions, the Eurosystem has replaced the private sector located in creditor countries in the exposure to the peripheral debt. As a result, member states’ net external positions did not change; rather, private net credit positions were substituted by national central banks’ balances with the ECB and shared across euro-area countries according to their capital key.”

³⁵ As noted by Whelan:

“The ability of the GIIPS central banks to create money to loan to banks has indeed been crucial in facilitating the deposit transfers that have generated the increased TARGET2 balances. In fact, rather than an external bailout, the process that generated increased TARGET2 balances is perhaps most accurately seen as a “self-bailout” of the periphery’s commercial banks by its central banks.” In implementing this “self-bail out”, however, the NCBs “have not reflected independent decisions by peripheral governments but rather the implementation by independent central banks of a jointly-agreed Eurosystem monetary policy.” (Whelhan (2012b: 17).

³⁶ The troublemaking role of Germany is noted by Mundell (1961: 358 (5)) in his famous paper.

³⁷ See the examples in § 3 and 4 of Febrero and Uxò (2012).

³⁸ A simple numerical example might help. Suppose $I_S = 100€$ and the Spanish marginal propensity to save and import respectively $s = 0.2$ and $m = 0.2$. Spain’s income results to be $250€$ and $S_S = I_S = M_S = 50€$. Assuming $s = 0.2$ and $m = 0$, German income is $250€$ and $S_G = 50€$.

³⁹ The point is well developed by JKH (2012: 27-8):

“While Germany is not exposed to a risk share that correlates exactly with the relative size of its TARGET2 asset, the size of its TARGET2 asset does indicate growth in the risk that it may be exposed to according to its committed share. So the fact that its TARGET2 asset is growing is not to be ignored. And with growth in the depth and breadth of aggregate credit risk, there emerges the compounding complication that Germany’s formula share of loss absorption (currently about 27 per cent) may default into a de facto larger share, based on the risk that other Eurozone members may fall into circumstances in which they would not be able to meet their own loss share obligations. One must consider the scenario where larger events overtake intended system design, in which an NCB might end up defaulting on its shared obligation. This is conceivable when considering the possibility of Eurozone structural breakup, where a number of countries with outsized existing TARGET2 liability positions might leave the Eurosystem and fail to meet their liability obligations within it. Not only could the aggregate risk grow larger in such a scenario, but the number of countries capable of sharing in related losses could shrink as well. This suggests a potential negative convexity effect

of accelerating aggregate losses combined with decreasing numbers of Eurozone members able to absorb them. Troubled countries may grow in number. And therefore the number of remaining countries capable of absorbing ever greater losses shrinks, and the share of those remaining countries in absorbing the losses grows. And this revised de facto loss distribution could be more concentrated than the original 17 member pro rata capital key formula... Critics of Sinn implicitly assume that the loss allocation and funding mechanism would function as intended under all circumstances, and that fiscal resolution of losses works according to formulae created under assumptions of continuing Eurosystem viability. This is a non-trivial assumption in the current environment.”

⁴⁰ For instance Whelan (2012a) has argued:

“With fiat currencies, a central bank’s asset holdings could fall below the value of the money it has issued – the balance sheet could show it to be ‘insolvent’ – without impacting on the value of the currency in circulation. A fiat currency’s value, its real purchasing power, is determined by how much money has been supplied and the various factors influencing money demand, not by the stock of central bank assets. ... The new Deutschmark would, like the euro, be a fiat currency and there would be no need for all D-marks to be fully backed by hard assets held by the Bundesbank. If German officials were concerned about the need for the Bundesbank’s balance sheet to show assets greater than liabilities, then they could agree for the Bundesbank to write itself a cheque equal to the value of the TARGET2 credit and to top it up each year with interest. There would be no need to also top up its liabilities, so the Bundesbank’s technical solvency will have been restored without raising any taxes on German citizens.”

Following Whelan, De Grauwe and Ji argued:

“In the fiat money system we live in, the Bundesbank could destroy all its assets without any effect on the value of the money base – as long as people continued to trust the Bundesbank to maintain price stability. Economists who are confused on this point are usually thinking about central banks in gold-standard terms. Back then the central bank’s assets (gold) had a very direct impact on the value of the monetary base – after all, the central bank promised to back paper money with gold. The ECB (and most central banks of large developed countries), however, has made no such promise. The value of its liabilities, therefore, is not dependent of the value of the assets it holds”. (2012a; see also 2012b: 12).

Press commentators like Reuter’s Felix Salmon (2012) popularised Whelan’s view.

De Grauwe and Ji (2012a; 2012b: 12) seem, however, about the possible inflationary outcomes of a convertibility in (neu)DM of the (speculative) capitals transferred in Germany by non-residents:

“The only risk is that many non-residents may try to convert their euro banknotes in Germany, profiting from a conversion rate that is more attractive than the one on offer in their own countries. This risk could create a situation in which the Bundesbank is forced to convert so many euros into marks that the amount of marks in circulation after the conversion is too large to maintain price stability in Germany. In fact this is the only risk the Bundesbank faces, i.e. it may be put in a situation that it loses control over the issue of German marks. If that happens, inflation would set in and German residents would suffer losses.” (2012b: 12).

From here the naive proposal that Germany should convert in DM only the deposits of residents. (Presumably deposits of residents are converted at a $1\text{€} = 1\text{ neu-DM}$ parity, while those by the non-residents at a lower parity; e.g. if one nuova-Lira is worth 0.8 DM, the conversion is at $1\text{€} = 0.8\text{ neu-DM}$). De Grauwe’s proposal is a de facto German partial default in its foreign liabilities. This proposal seems unconvincing from a legal point of view, especially if a differential treatment is accorded to EZ and non-EZ non-residents. But if an equal treatment is accorded, extra-EZ investors will not be particularly happy if they suffer capital losses.

⁴¹ “TARGET2 liabilities incur interest charges at the ECB’s refinancing rate which are then passed on to those central banks that have accumulated TARGET2 credits, so a TARGET2 credit provides the same

amount of income to the Bundesbank as its assets obtained from normal monetary policy operations.” Whelan (2012a).

⁴² Rebel economist (another well-know blogger) notes: “Buba received an interest-bearing claim on the eurosystem. The problem is that this claim may cease to exist if the eurosystem ceases to exist, whereas the Buba will probably still honour its euro reserves liabilities converted to New DMs. The hole in the Buba balance sheet is a hole in the German national balance sheet.” (comment 41 to Whelan 2011)

⁴³ In comment 59 to Whelan:

“<http://www.bundesbank.de/download/volkswirtschaft/zahlungsbilanzstatistik/2011/balanceofpayments112011.pdf> - page 138 - TARGET2 claims is counted in Germany’s International Investment Position. If what you said was true, they would not have. It is given the same status as assets held in US dollars.”).

⁴⁴ Salmon, comments at Salmon 2012:

“if you want to worry about ‘consolidated wealth on the national balance sheet’, feel free. But I don’t see anybody comparing countries on the basis of their national balance sheets — because no one has a clue what that number is. Some unknowable number will fall by some unknowable percentage, with no real-world effect? Excuse me if I don’t get too excited about that.”

Whelan, comment 19 at Whelan 2011:

“‘Buba’s external assets is part of wealth for Germany.’ The target 2 credit is not foreign-currency denominated assets. It does not play the same role as the large accumulation of foreign assets that some Asian central banks have run up. Replacement of one domestic currency asset (the euro asset that is the Target 2 credit) with another (the D-mark check in the magic vault after euro breakup) will keep things exactly as they were before and won’t affect Germany’s holdings of foreign-currency denominated assets.”

⁴⁵ As another witty blogger commented:

“Professor Whelan’s response seems to boil down to this: If the Eurosystem fails, the German taxpayers won’t feel a thing because their central bank will replace that receivable from the defunct Eurosystem with its own newly-created local currency. By that logic, Germany should immediately ramp up its dishwasher (and other goods) production and export to the rest of the world without worrying about the rest of the world’s ability to pay, because the Bundesbank will cover any losses via printing press. Really?” (comment to Salmon 2012).

Or just print DM without being bothered by producing export goods, as perhaps some hard-liner MMTs would like to suggest

⁴⁶ To the objection that: “... a German-produced truck went from Germany to Greece. Then a lot of bits of paper (IOUs) flowed the other way, from Greece to Germany, via the ECB. If the ECB goes bust, when do the Germans get their truck back? (Or, when do the Germans get back some real good or service, not just a bit of paper, in exchange for the truck?)” (comment 30 to Whelan 2011), Karl Whelan replies:

“I assume by ECB goes bust, you mean the end of the Eurosystem and the return of a system of national currencies. Pretty clearly the Germans won’t want the now-dirty-and-smelly truck back. So what have they got instead? They received euros, which then got redenominated into new D-Marks, which will likely rapidly appreciate relative to the weighted average of the currencies of the other 16 euro members. The end of the euro is not a return to barter or the end of fiat currency systems. The Germans can likely go back to Greece and buy two trucks with their new D-Marks, so don’t feel too sorry for them.” (comment 37).

⁴⁷ Of course also the German T2 claims would correspondingly fall.

⁴⁸ As said, in case of a euro rupture we do not believe that all the T2 liabilities/claims will disappear. Negotiations will take place, so the amount of T2 assets/liabilities will only be reduced. We assume a 100% write off for simplicity.

⁴⁹ Since the new-Drachma will likely depreciate against the (neu)DM, the amount of olive oil the German will buy with DM is larger than the amount he could buy with 500€ of claims on Greek goods. Anyway, with a euro break-up and the (potential) disappearance of the T2 liabilities the Greek doesn't pay the tractor with the olive oil, but he *sells* the oil to the German exporter.

⁵⁰ So the T2 imbalances originate *both* from the difficulty of deficit countries to find private loans to finance present CA deficits, and from the refusal of former lenders to roll-over loans that financed past CA deficits. A third cause, generally considered less relevant (so far), is capital flight by residents of deficit countries.

⁵¹ T2 does not actually cause any current harm to the German economy, as the debate has shown. This does not imply that Germany does not incur any risk, as any creditor country does. T2 might just postpone the day of reckoning.

⁵² De Grauwe is now a strong supporter of the ECB intervention and of the idea that behind the explosion of the sovereign spread there is the renunciation to monetary sovereignty. The medal should, however, go to the MMTs that made this point since at least the late 1990s, and to some great heterodox economists of the past. Over-enthusiasm about the rediscovery of the power of central banking, has perhaps led De Grauwe to hastily subscribe Whelan's positions.

⁵³ De Grauwe and Yi 2012a was inspired by Whelan (2012a) and later partially recanted in De Grauwe and Ji (2012b); De Grauwe (2012c) admitted that he was wrong, and abandoned Whelan's positions; see also blogger Ramanan (2012b).