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## ECB's TARGET2 System- A Stealth Bailout?

In the ongoing Eurozone crisis, an interesting debate has surfaced with respect to TARGET2. TARGET2 is a payment system of European Central Bank (ECB). The debate is very interesting as some economists have criticized that TARGET2 is acting as a stealth bailout by ECB. While others say it is just a payment system and the flow of funds is a necessary condition for survival of any monetary union. The debate has become intense of late with leading European policymakers commenting on the issue.

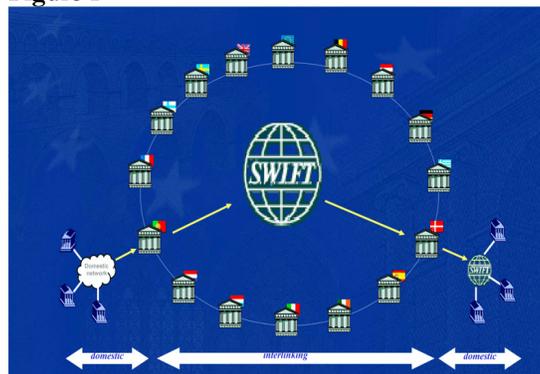
This paper reviews the basics of TARGET 2 system and the debate surrounding the payment system.

### I. ECB's TARGET2 System

In 1997, select European Union countries decided to adopt Euro as their single shared currency. In order to facilitate this transition to a single currency union, there was a need for a payment and settlement system that connected banking system of different member economies with European Central Bank. In other words, there was a need for a monetary union RTGS.

This sharing of currency led to formation of TARGET, an RTGS for the European Monetary Union. It stands for Trans-European Automated Real-time Gross settlement Express Transfer system. In the initial phases of formation of EMU, it was decided to link the already existing individual RTGS systems in the different economies together. This was called as TARGET (Figure 1).

Figure 1



Source: ECB

This system worked fine for the initial years as it allowed economies to work on their familiar RTGS systems and helped in transition to the new Euro currency. TARGET helped develop euro currency based money market allowing banks from different member economies to transact with each other in the overnight market. This was seen as a major achievement of TARGET system.

Over a period of time, EMU became a 17-member club in 2011 from a 12-member club in 1999. Apart from EMU members, six central banks from non-euro area countries were members as well - Bulgaria, Denmark, Latvia, Lithuania, Poland and Romania. This led to rise in volume of transactions



and the TARGET system in current form became highly complex. It needed a more scalable system which could just plug additional members with ease as even more members were waiting to join the system. There was also a need for a more cost-effective and integrated system.

This led to formation of the TARGET2 system. In TARGET2, the multiple RTGS systems were replaced by a single RTGS system (on a single platform also called as “Single Shared Platform” (SSP)). The overall flow of funds is still similar as seen in TARGET1, just that instead of multiple RTGS linking different central banks and banks, we have one single RTGS linking the various stakeholders (ECB, NCBs and Banks).

## II. Flow of Funds in TARGET/TARGET2 System

In a single country, the current accounts of financial entities get debited/credited via the RTGS. Only when the transaction is between central bank and commercial banks, central banks are involved in the transaction.

However in a monetary union RTGS, central banks play a much larger role. In EMU, National Central Banks (NCB) play a central role in clearing balances across the member economies. All the intra-member flow of funds (i.e from Germany to Greece etc) happens via NCBs. This helps in a smoother conduct of operations with national central banks acting as kind of counterparts providing credibility to the whole operation. Hence unlike single country where central bank just plays an overseer role, in a monetary union NCBs play a much larger and interventionist role (explained later) with ECB playing the overseer’s role.

In this TARGET/TARGET2 system, the flow of funds is different as we also have NCBs which play a crucial role in the transactions. Each NCB maintains what is called as a TARGET account with all the NCBs which is finally netted with ECB at the end of the market hour. The flow of payments in TARGET system can be best understood with the help of an example given in Appendix 1.

In the example in Appendix 1, we only look at one transaction between French importer and German exporter. However, there will be multiple such transactions both between Germany and other sixteen Euroarea members (and six non-Euro members). These several intra-member transactions lead to debit/credit in their central banks’ TARGET account. If it is a debit where the NCB owes money, NCB owes a TARGET liability to the intra-Euro system. If it is a credit where the NCB has a claim, it becomes a TARGET asset on the intra-Euro system. The NCB which owes debts pays an interest rate on the liability equal to ECB’s policy rate (currently 0.5%) which is paid to ECB. ECB in turn transfers this interest to NCB which has a claim.

Likewise, we have a net TARGET position of other NCBs as well. Together, they make the total net position of NCB’s on the Eurosystem. This total net TARGET position of NCBs then become reverse balances at ECB. Hence, if of all the NCBs have a total net TARGET asset position, it becomes a net TARGET liability of ECB and vice-versa. When we add the balance sheet of NCBs and ECB (called as Balance sheet of Eurosystem), the TARGET balances cancel against each other (explained later as well).

An important thing to understand here is TARGET2 system can be used for both current account and capital account transactions in the EMU. In appendix 1 we show a current account transaction between Germany and France. The same flow of transactions can also happen in case of capital flow transactions like FII or FDI investment in EMU economies. For instance, in case a German investor wants to invest in a French factory will lead to a similar flow of funds as seen in Appendix 1 with



arrows in reverse direction. Likewise, all inter-bank settlements in money markets are also settled via the TARGET2 system.

Hence, TARGET balances are a must in order to facilitate transactions across the monetary union. For the union to function, euro bank deposit in one country has to have the same value as in any other country. Without having a TARGET balance like mechanism, the union will cease to exist.

### III. European Crisis and TARGET2

As it is widely known, before the crisis Eurozone countries were having their own set of imbalances. The peripheral economies like Greece and Portugal were running large current account deficits. The core economies like Germany and Netherlands ran large current account surpluses. The surpluses generated by these core economies were in turn being invested in the peripheral economies via the capital inflows route. That is how we have such a large exposure of banking system of core Eurozone economies in the assets of the peripheral economies (sovereign debt, housing assets etc). Overall the balance of payment accounts were being balanced and no major stress was seen in the peripheral countries. Moreover, the focus was really on seeing the Eurozone as whole where current account balances were showing surplus for most of the time period since 1997.

These inter-country differences came to light as Greece's fiscal crisis surfaced. The growing imbalances within the Eurozone were seen as a central problem where periphery economies were continuously running deficits supported by the flows from core economies.

As the crisis deepened, broadly two things happened. One, Euro money market system froze with banks unwilling to lend to each other with higher difficulty faced by banks from peripheral economies. Second, there was a capital flight as people shifted deposits from banks in periphery economies to core economies. This led to problems for the banking system in the periphery economies as suddenly their sources of funds declined. In such a case, the reliance on central bank money increased leading to rise in TARGET balances as well.

We have reproduced the example shown in Appendix 1 in Appendix 2 to show how NCBs helped the troubled economies tide through the economic crisis.

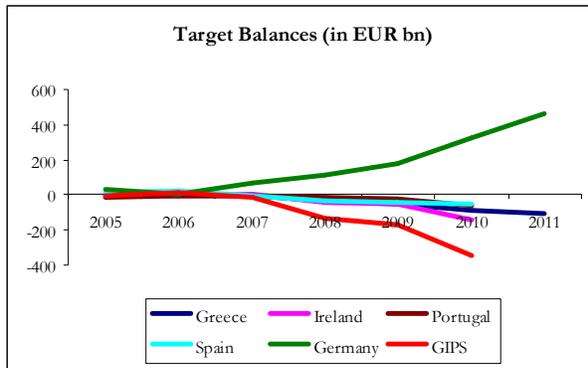
### IV. TARGET2 Balances in the European Crisis 2009

Before we get into the controversial debate over TARGET2 Balances, let us see also look at the TARGET balance amounts during the crisis. We look at select core and periphery economies which are at the centre of the crisis. Figure 3 clearly shows the different paths of TARGET balances of GIPS club (Greece, Ireland, Portugal and Spain) and Germany. It is interesting to note that in 2005, Greece had nil TARGET balances which increased to touch TARGET liability EUR 104.8 bn in 2011. We see similar surge in TARGET liabilities in other GIPS economies. The total TARGET liabilities in the GIPS rise from EUR 3.8 bn in 2005 to EUR 343 bn by 2010. Germany on the other hand sees TARGET assets rising from EUR 29.8 bn in 2005 to EUR 325.5 bn in 2010 (463.3 bn in 2011). More or less the TARGET liabilities of GIPS economies, matches the TARGET assets of Germany. It is interesting to note that one of the troubled economies Italy has always had net TARGET assets during the crisis and a core economy France had marginal net TARGET liability.

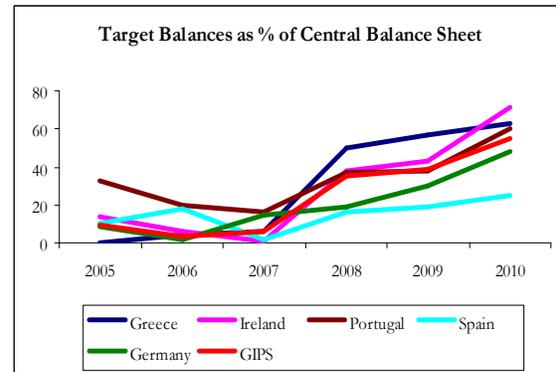
We can also assess this sharp rise by looking at TARGET balances as a percentage of total size of central banks balance sheets. Figure 4 shows that Greece's TARGET liabilities rose from 0% of balance sheet in 2005 to 63% in 2011. Germany's TARGET assets have risen from 8.7% in 2005 to



55.3% in 2011. The average size of TARGET balances as % of central banks' balance sheet increased from 9% in 2005 to 55% in 2010.

**Figure 2**


Source: Balance Sheets of Select National Central Banks

**Figure 3**


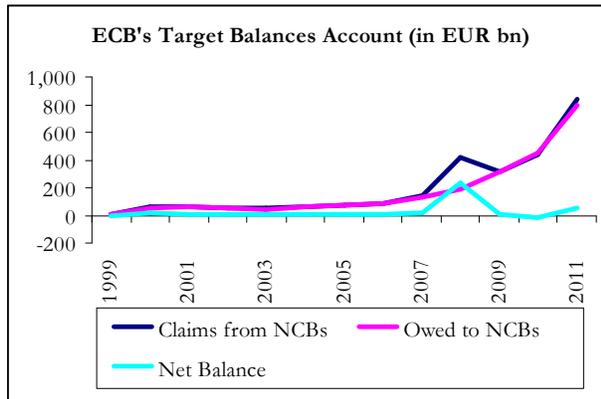
Source: Balance Sheets of Select National Central Banks

We should also look at the net TARGET position in European Central Bank. This is nothing but the reverse of the sum of net TARGET balances of all the 17 NCBs. So if all the 17 NCBs together have a net TARGET asset (or claims) on Eurosystem, it becomes a net TARGET liability for ECB. Hence, if we look at net TARGET balance of ECB, we get an overall aggregate picture of NCBs as well.

The figures below show how the gross TARGET balances of ECB have risen in the recent crisis. The net figure has been lower which is mainly because of netting in the TARGET system. TARGET2 claims from NCBs was around EUR 145 bn in 2006 which rises sharply to EUR 842 bn in 2011. We see a similar rise in amount of TARGET liabilities owed to NCB. This leads to lower net TARGET balance. Therefore, the overall reliance on TARGET system of financing has increased sharply but because of netting facility, the aggregate net liability is much lower.

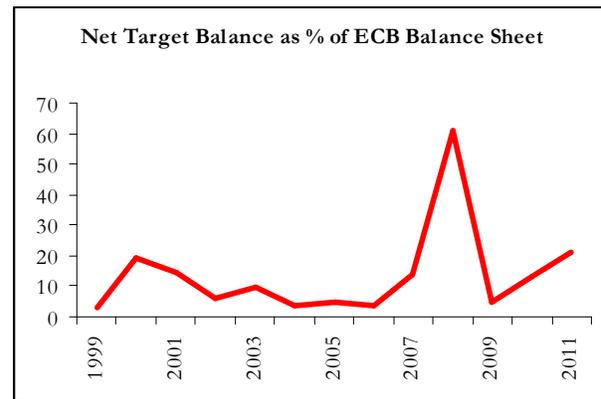
Before the crisis, net TARGET balances of ECB were usually around EUR 5-10 bn of claims on NCBs (implying the 17 NCBs has net TARGET liabilities of the same amount). The net TARGET balances as % of ECB balance sheet averaged around 8% before the crisis. In 2008, net TARGET claims of ECB jumped to 61% of ECB Balance sheet on account of swap facilities signed by ECB with Federal Reserve. Out of EUR 234 bn of net TARGET claim on NCBs, around 220 bn was on account of this swap facility. As ECB signed swap facility with Fed, it simultaneously entered into back-to-back swap transactions with euro area NCBs, which used the resulting funds to conduct US dollar liquidity-providing operations in their respective economies. Since the crisis, the TARGET balances have been highly volatile and in 2011 it showed a net TARGET claim worth EUR 49 bn equal to about 21% of ECB Balance Sheet.

Figure 4



Source: ECB

Figure 5



Source: ECB

We also compiled the total net TARGET position of the 17 NCBs and ECB in 2010 (Table 1). This shows how the whole system nets out to zero at the end of any day. The total net position of all NCBs against Eurosystem shows a net claims position of EUR 21.2 bn which becomes the net liability of ECB worth EUR 21.2 bn.

Table 1: Intra-Eurosystem debt arising from TARGET transaction -2010 (in EUR bn)			
Claims on Eurosystem		Liabilities to Eurosystem	
Germany	325.5	Ireland	145.2
Luxembourg	68	Greece	87.1
Netherlands	40.2	Portugal	60
Finland	20	Spain	50.9
Italy	3.7	France	28.3
Error	-0.3	Austria	27.5
		Belgium	13.9
		Slovakia	13.3
		Cyprus	6.4
		Slovenia	2.1
		Malta	1.3
		ECB	21.2
		Error	-0.08
<b>Total</b>	<b>457.1</b>	<b>Total</b>	<b>457.1</b>

Source: Whittaker (2011)

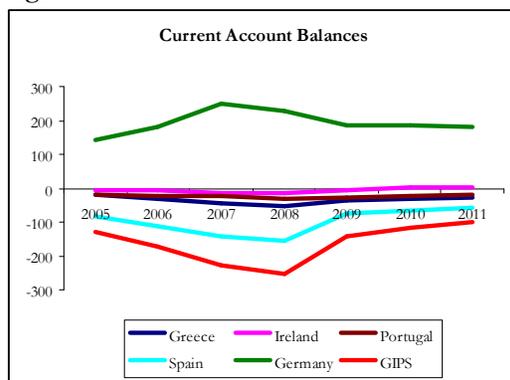
It is important to understand why these balances have risen. If GIPS economies had retained their own currency and fixed it to Euro the large outflow of foreign assets would have led to a devaluation of the Irish currency. In absence of own currency, unlimited flow of NCB balances becomes a necessary condition for the continued existence of the union. So, even though ECB may not like these rising gross TARGET balances, it cannot really do anything about it. The value of Euro has to remain the same in all the member economies. TARGET is one of the key mechanisms by which the transactions continue in Euro amidst members without any frictions and risks.

## V. TARGET2 Controversy – A Stealth Bailout?

These target balances have led to a raging debate amidst European economists. The central issue is whether rising target balances are funding current account deficits or replacing private capital outflows.

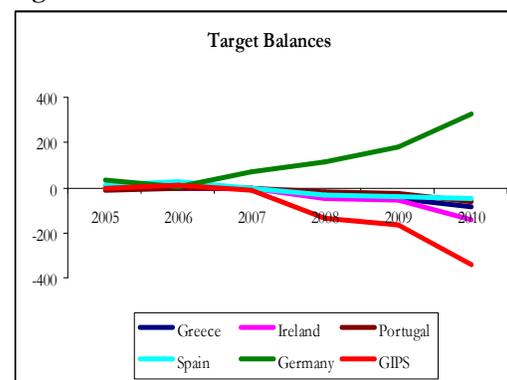
- TARGET2 and Current Account Deficits:** In above analysis we showed how select periphery economies ran current account deficits and also showed TARGET liabilities have risen in the same economies. Hans-Werner Sinn, a respected German economist opined that as private flows have declined post crisis, the CAD in these economies is being financed by rising TARGET balances. The below figures shows that there is indeed is a parallel trend in CAD and TARGET balances.

Figure 6



Source: IMF

Figure 7



Source: Balance Sheets of Select National Central Banks

In a separate note, Aaron Tornell and Frank Westermann (Greece: The sudden stop that wasn't, 28-Sep-11) agreed with Sinn. They showed how TARGET balances were useful in helping Greece finance its current account deficit. The TARGET balances form part of total capital flows in balance of payments. As private capital flows declined sharply, the rise in TARGET balances helped the periphery economies tide what otherwise could have been a serious crisis.

- TARGET2 and Capital inflows:** Prof. Sinn's initial claims created a stir. Some European economists responded by saying the problem is not with respect to CAD but with respect to reversal in capital account flows. Current account deficits were rising in periphery economies like Greece even before the crisis but did not reflect in rise in TARGET liabilities. Then some economies like Ireland have much higher TARGET balances than reported current account deficits. Hence, current account deficits leading to higher TARGET balances does not fit the analysis.

What has been a bigger problem is capital outflow from periphery economies to core economies. This has happened as savings have shifted from periphery economies to core economies. As peripheries relied extensively on external capital, this source has declined leading banks to rush for central bank funds. The TARGET2 balances have also risen as inter-bank euro money markets have frozen leading to banks scrambling for central bank funds.

The economists in this camp say that the European central banking system has not done anything different and is a rational response to the capital flight crisis and frozen money markets. This is normal response seen in other economies as well, where in case of decline of external capital, central banks become the lenders of last resort. As we have learnt from above in absence of own currency, rise in TARGET balances was pretty much on expected lines.



## VI. TARGET2 Is Not a Bailout

In the European system, this issue has become more perplexing given the special nature of the payment system. It seems as if Bundesbank has lent money to the central banks of Eurozone periphery economies. And if the periphery economies do not pay up, Bundesbank will face large losses which will then have to be bailed out by the German taxpayers.

However, in reality TARGET2 balances represent claims owed either against or towards the ECB. It is ECB which owes money via TARGET balances to Bundesbank and only ECB which has claims against central banks of GIPS economies. And together these balances become nil.

Another thing to note is that someone being on the TARGET liability side does not imply that there is a crisis in the same economy. TARGET balances are simply an equalizing mechanism of national central bank balance-sheets. For instance, TARGET liabilities can build up even despite a crisis as shown in Appendix 1. So, there are endless possibilities in this monetary system with flow of net TARGET balances looking similar in normal and crisis times.

In this whole discussion, the problem is not with respect to TARGET balances. Just like Fed and other central banks which have provided liquidity to its financial system, so has ECB. Just like Fed and others have used different tools to provide liquidity, ECB has done the same. Apart from providing domestic liquidity via LTRO it has also allowed TARGET balances to rise to keep the monetary system functional. By saying TARGET has bailed out the monetary union is akin to saying the RTGS systems in other countries have bailed out their respective economies!

The issue here is that just like we say for Fed, what happens when collaterals posted to get TARGET funds turn out to be bad assets. TARGET is a collateralized lending system and most likely banks in periphery economies would have given their government bonds as collaterals and other securities seen acceptable by ECB. If the value of these collateral declines sharply, it could lead to losses at Central Bank of Greece which may not be able to honor its TARGET liabilities to ECB. In that case, the loss spills over to the whole Eurosystem as ECB is jointly owned by all the NCBs.

As per the European monetary system rules, Euro area NCBs are liable for any losses of the ECB according to their subscription shares in the ECB, after excluding the non-euro area central bank shareholders e.g. Bundesbank is liable for 27% of loss, Banque De France share is 20% etc. The NCBs in turn are owed by respective governments and in extreme case NCBs could be bailed out by taxpayers.

Hence, the problem is not whether TARGET balances will be honored or not. But whether the quality of collateral accepted by ECB and NCBs is good enough. This same analysis holds for other central banks as well. For instance, there is often a discussion on the asset side of Fed balance sheet and quality of several assets bought by Fed to release liquidity in the system. The impact of additional liquidity created via TARGET or via Fed operations could be argued from an inflation angle but not really from a taxpayer funding angle as argued by others. And if you accept that additional liquidity was necessary to prevent the system from collapsing, even this inflation angle is ruled out.



## VII. Proposals to Unwind Target Balances

Dr. Sinn also proposed a few solutions to address these imbalances:

- **Imposing a cap on TARGET balances:** The above analysis clearly shows that TARGET account is not an imbalance but a balancing figure. Imposing a cap will be akin to creating a major hindrance in the functioning of the monetary system.
- **Introduce an annual settlement of intra-system debts as done in Federal Reserve:** There are 12 Federal Reserve districts with TARGET-like balances (called Interdistrict Settlement Account balances) arising between each of them. These balances are settled every April amidst District Feds. Technically, this is done by reallocating ownership shares in, and annual interest distribution of, a joint clearing portfolio run by the Fed.

Such a solution is not possible in Eurozone as balances are large. For instance if we had such a system settling Greece TARGET liabilities today would equal to nearly 65% of Greece GDP and around 90% of Ireland's GDP. These are clearly very large amounts. And as explained above, this TARGET liability can arise even in normal situations. So, it is not as if it affects only the crisis economies.

Moreover, comparisons with Fed are not really correct. Operations in the US are mainly executed through a centralised account (System Open Market Account), not through the individual balance sheets of the reserve banks (equivalent to the national central banks in the Eurozone). SOMA-assets are allocated across reserve banks in rough proportion to the capital paid. That is why similar imbalances due to monetary policy operations cannot arise in the US. (as pointed by Clemens Jobst, an economist at Austria Central Bank).

So what will lead to lower TARGET balances? This will be only possible when peripheral economies start growing and receiving private inflows once again. The private flows will replace the central bank money leading to lower gross TARGET balances.

## VIII. Final Thoughts

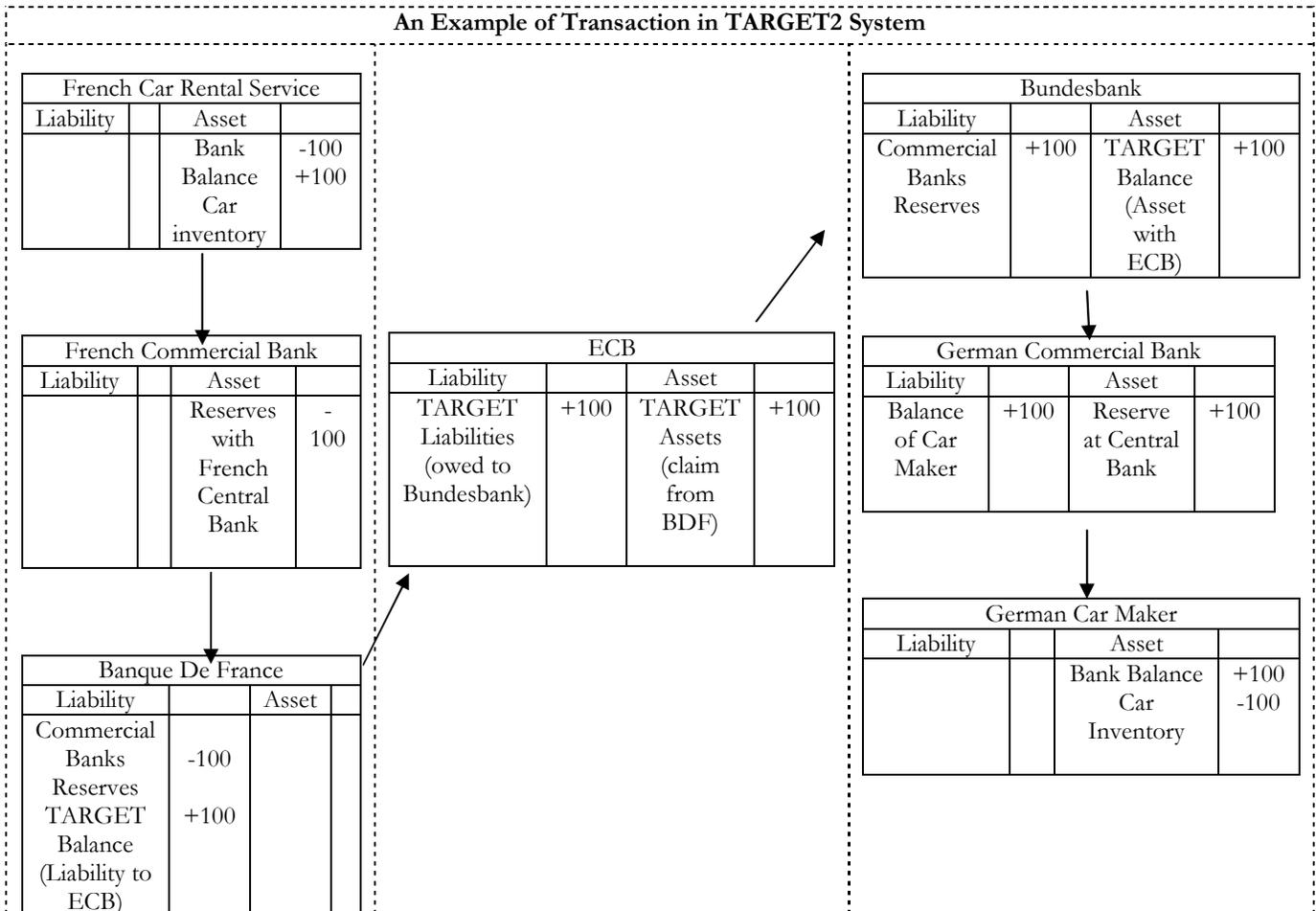
The above analysis is just a snapshot of the ongoing debate on TARGET balances. The debate started in 2011 amidst European economists and is far from being settled. When Prof. Sinn pointed out these rising TARGET imbalances, there was a feeling he had unearthed a covert strategy to bailout distressed Euro economies. However, his interpretations and remedies have been found wanting on many fronts as discussed in the above report. TARGET balances are central to functioning of a monetary union like Eurozone. Rising TARGET balances is not really a secret bailout, but a reflection of the deep ongoing capital flight from periphery economies. As these economies form a part of monetary union, rise in TARGET balances becomes the unfortunate victim in absence of adjustment via their own currency. The issue to resolve is to find ways to reverse the capital flight in the periphery economies.

The debate also helps one understand what is actually a very complex and important issue which economists takes for granted – the payment system. There has been a lot of interest lately on central bank balance sheets and the ways in which they have been expanded to ease the crisis. As these are special entities, the analysis usually gets very technical and confusing. In a monetary union, things are even more complex and lead to even more confusion and misleading analysis. ECB should publish a simple study to help clarify many of these issues with respect to its bank balance sheet and payment flows in a monetary union. It is clearly the need of the hour.



**Appendix 1: Flow of Funds in TARGET System**

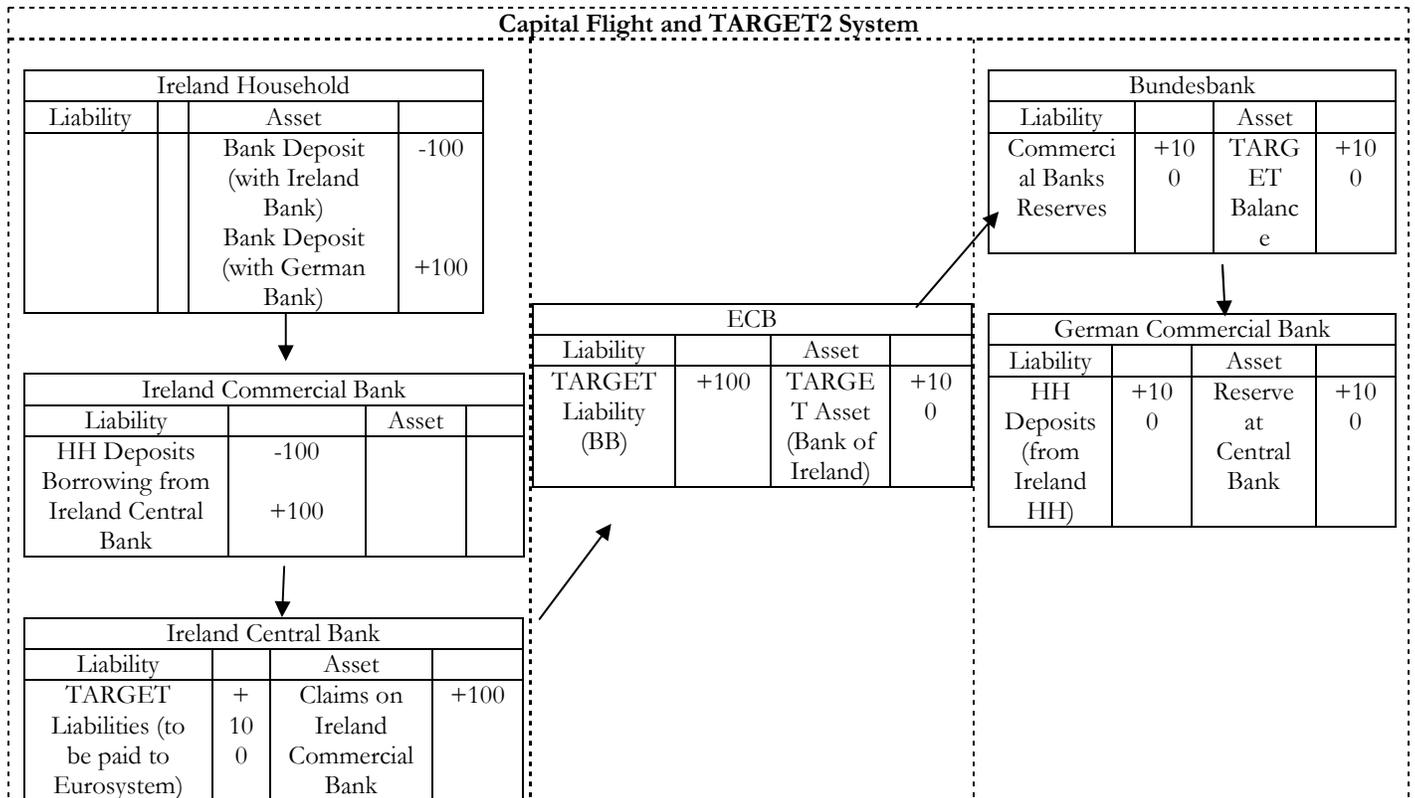
- A French car rental service decides to imports cars from German car-maker. The transaction value is EUR 100.
- French rental service asks its French bank to pay to the German bank of the car-maker.
- The French bank in turn asks Banque De France (BDF) to transfer the payments. BDF reduces the reserve of the French Bank and it ceases to circulate in France.
- BDF asks Bundesbank to transfer the payment to bank of the carmaker. Here the TARGET balance comes in the picture. BDF creates an electronic accounting entry where it increases the TARGET Liability to be paid to Eurosystem.
- Bundesbank on the other side creates a TARGET Asset to be claimed from Eurosystem. It also increases additional reserve held by the German Bank by EUR 100.
- As German Bank gets the payment via increased reserves at the central bank, it passes the same to the German carmaker via increase in the carmaker’s current account held at the bank.
- If we see ECB’s balance sheet, we see rise in TARGET liabilities matched by increase in TARGET assets. This leads to gross TARGET balances rising by EUR 100 but the net balances of ECB cancels and becomes nil.
- Even when we consolidate the balance sheets of ECB, Bundesbank and BDF the aggregate net balance cancel out. Hence, this distinction of gross and net TARGET balances is important here.





**Appendix 2: TARGET System in current crisis**

- An Irish household withdraws his deposit worth EUR 100 from an Ireland Commercial Bank and decides to deposit the same in a German Commercial bank.
- Ireland Commercial Bank communicates about the transfer to Ireland Central Bank and also borrows the withdrawn deposit money from Ireland Central Bank.
- Ireland Central Bank transfers the funds to Germany via TARGET system. As seen above, it creates a TARGET liability against Eurosystem worth EUR 100.
- Bundesbank in turn creates TARGET asset against Eurosystem and increases bank reserve of German Commercial Bank.
- German Commercial Bank in turn notes this shift in deposits and increases its deposit base.
- Finally, the Irish Household makes a change in its deposit holdings from Ireland Commercial Bank to German Commercial Bank.
- In this transaction, it is important to note the impact on balance sheets of central bank.
  - The balance sheet of Central Bank of Ireland increases by EUR 100 which was also required as the system faced deficit liquidity.
  - Balance sheet of Central Bank of Germany also rises by EUR 100 bn. Germany does not really need additional liquidity as its banks are healthy. In this case, Bundesbank needs to sell securities order to absorb the additional liquidity. Also the bank could stop relying on Bundesbank for borrowings. This indeed has been the case where German banks do not really use the liquidity facility of Bundesbank.
  - In ECB's balance sheet, as the net impact of this transaction is nil there will be no change in the balance sheet.
  - If we aggregate the balance sheet of the two NCBs and ECB, the TARGET balances cancel against each other becoming nil amounts.





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