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Should we be concerned about TARGET balances?

- Karl WHELAN -

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Should we be concerned about TARGET balances? MONETARY DIALOGUE November 2017

DIRECTORATE GENERAL FOR INTERNAL POLICIES
POLICY DEPARTMENT A: ECONOMIC AND SCIENTIFIC POLICY

Should we be concerned about TARGET balances?

IN-DEPTH ANALYSIS

Abstract

This document was provided to Policy Department A at the request of the Economic and Monetary Affairs Committee. The paper describes how the Eurosystem's processing of cross-border banking transactions via its TARGET2 payments system produces a set of assets and liability items on the balance sheets of national central banks. The factors determining the evolution of TARGET-related balances are discussed and the risks associated with these balances are addressed.

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EXECUTIVE SUMMARY

- TARGET2 is the second version of the Eurosystem's real-time settlement system for payments between banks.
- Settlement of cross-border banking transactions within the Eurosystem via TARGET2 has an effect on the balance sheets of national central banks (NCB).
- For example, when money is transferred from a bank account in Spain to a bank account in Germany, this generates a TARGET-related liability for the Spanish central bank and a TARGET-related asset for the German central bank.
- TARGET balances add up to zero but the sum of the absolute value of these balances has grown substantially since 2008.
- The first period in which TARGET balances built up, from 2008 to 2012, was the result of deposit flight from euro area crisis countries as banks in these countries borrowed from the Eurosystem to replace funding that moved to the perceived "core countries" in the euro area. This lead to the Bundesbank having a large TARGET-related asset while many other countries had increasing TARGET-related liabilities.
- TARGET balances largely declined from 2012 through to the end of 2014 as the euro crisis eased and confidence was restored to the banking systems of crisis countries.
- TARGET balances have risen again since early 2015 and now stand at record levels.
- The ECB has argued that the recent build-up in TARGET balances are essentially a mechanical by-product of the Eurosystem's purchases of sovereign bonds from foreign investors.
- This is partially true but there is also evidence that portfolio rebalancing by Spanish and Italian banks and investors (which has seen them sell domestic sovereign bonds to the Eurosystem and reallocate their money into foreign assets) has also played an important role. There is little reason to be concerned at these developments.
- There is some concern in countries with TARGET-related assets that these assets could be at risk if a country with TARGET liabilities leaves the euro. This paper describes the likely outcome of this scenario and explains why any credit losses in these circumstances will be uncorrelated with the size of TARGET assets.
- There are risks to Germany should it lose its TARGET-related asset in a full and un-cooperative euro break-up scenario. However, most or possibly all of the value of this loss could be offset by an increase in seignorage revenues accruing to a post-breakup Bundesbank.
- It may be possible to devise a system of settling TARGET balances but it is not possible to design a system that inoculates all euro area members from credit risk nor is it clear that these alternative systems will provide a superior outcome for TARGET creditors after a euro break-up.
- Risks to TARGET creditors are best managed by enforcing the ECB's operational risk guidelines and by ensuring the euro remains intact as a common currency

1. INTRODUCTION

The global financial crisis of the past decade has seen central banks around the world to introduce a range of radical new policy measures. One consequence of these measures is that central bank balance sheets have increased hugely. The euro area has seen perhaps the most radical set of changes. Eurosystem monetary policy operations moved away from being relatively small fixed allotment auctions of short-term liquidity to large medium-term loan programmes without any fixed limits. More recently, the asset purchase programmes (APP)—known to most people as the ECB's Quantitative Easing programme—have produced a further significant increase in the size of the balance sheets of all the central banks that participate in the euro.

While central bank balance sheets have not traditionally attracted much attention from either the public or academic economists, the rapid increase in the size of Eurosystem central bank balance sheets has led to more attention being paid to some of the large items that feature on them. Of particular interest to many has been the rise in what has become known as TARGET balances. TARGET balances are a set of asset and liability items that feature on the balance sheets of Eurosystem national central banks (NCBs). Some members of the Eurosystem have positive TARGET balances and some have negative balances with the sum of the balances adding to zero. The balances are generated by financial transactions that require money to be transferred from banks in one euro area member state to another. In some cases, the transactions that generate higher gross TARGET balances can be associated with banking sector distress but increasing balances can also reflect other types of capital flows.

In this paper, I describe how TARGET balances arise and address the factors underlying the movements in these balances in recent years. In particular, I emphasise the role of an element that the ECB has not highlighted in its discussion of movements in TARGET balances since 2014: Banks and investors in Spain and Italy selling their domestic government bonds and moving the money into foreign assets.

The paper also discusses whether increases in TARGET balances are a warning sign for the financial system. While earlier increases in these balances were a sign of financial distress in many member states, I conclude that while the mechanisms underlying the more recent increases in TARGET balances don't quite match with the ECB's official interpretation, they should also not be a cause for concern.

Finally, the paper examines whether positive balances represent a risk to certain Eurosystem member states because of the possibility that countries with TARGET2 liabilities could exit the euro and decide not to honour these liabilities. I argue that the common monetary policy of the Eurosystem necessarily involves the sharing of risks among the participating countries. While one could argue for different ways of settling intra-Eurosystem liabilities than is currently adopted, it is not possible to eliminate these risks while maintaining the euro area's common monetary policy. As such, TARGET balances represent some of the risks associated with sharing a common currency but changing the way these balances operate while still operating a common monetary policy would do little to reduce the underlying risks.

2. HOW TARGET BALANCES ARE DETERMINED

This section describes how the Eurosystem's role in processing interbank payments has affected the balance sheets of its national central banks and describes how various monetary policy decisions have influenced the build-up of the Intra-Eurosystem credits and debts, which have become known as "TARGET balances". I provide two specific examples of how monetary policy actions affect TARGET balances.

2.1. Central bank balance sheets

Unlike Milton Friedman's helicopter drop story, central banks usually create money either by issuing loans to banks or via open market operations to purchase financial assets. This means that central banks build up large stocks of assets over time. At any point in time, the value of a central bank's assets may exceed the amount of money they have created when acquiring these assets. This may be because acquired assets have risen in value, because some of the profits generated from the bank's assets have been retained rather than passed over to governments or because the bank may have received assets from government independent of money creation.

To communicate their financial position to the public, central banks release a balance sheet, with one side summarising the assets they own. The other side of the balance sheet contains an item labelled "liabilities" which summarises the money central banks have created. In addition, the balance sheet shows the difference between the current value of assets and the money that has been created, and labels this "Capital". Typically, the two largest items in the "liability" section of central bank balance sheets are currency and reserve accounts that commercial banks operate with the central banks. Bank notes do not earn any interest and so these are essentially zero cost liabilities for central banks. In some monetary policy frameworks, central banks pay interest to commercial banks on their reserve balances, which would make these more concrete liabilities.[1]

A stylised central bank balance sheet would thus look something like the following.

Table 1: A stylised central bank balance sheet

Assets	Liabilities and Capital
Loans to Banks	Currency in Circulation
Securities	Reserve Accounts
Other Assets	Capital

2.2. Payments systems and intra-Eurosystem credits

The balance sheets of the Eurosystem's national central banks (NCBs) are complicated by their involvement in processing commercial bank payments and the way this involvement is reflected in central bank accounts.

All commercial banks in the euro area are legally required to maintain a reserve account with their national central bank. This makes the Eurosystem the ideal body to handle large

[1] Of course, in the euro area today, the deposit rate is negative, meaning the Eurosystem is charging banks money on their reserve balances, so central banks are making money from items classified on their balance sheets as liabilities!

payments between banks because it can apply credits and debits to these reserve accounts to settle payments. Banks with customers who wish to transfer money to another bank end up with their reserve account being debited while banks that customers want to transfer money towards have money transferred into their reserve accounts.

TARGET2 is the second version of the Eurosystem's real-time settlement system for payments between banks.[2] TARGET2 payment transactions are settled one by one on a continuous basis in "central bank money" i.e. credits and debits to reserve accounts. In 2016, the system handled over 90% of the total amount of large-value euro payments and the system handled an average of 342,000 daily transactions with an average daily value for total transactions of €1.7 trillion, equivalent to about 15 percent of annual euro-area GDP.[3]

Transactions in which money is transferred from one bank within a country to another bank within the same country have no impact on the balance sheet of a Eurosystem central bank as the credit and debits to reserve accounts simply offset each other. However, due to the way the Eurosystem handles international transactions, movements of money from one country to another do affect the composition of NCB balance sheets.

Consider, for example, the case of a deposit transfer from a bank in country A to a bank in country B. In this case, the TARGET2 payments transaction sees a bank country A having its reserve account reduced in value while a bank in country B has its reserve account increased in value. Since reserve accounts are recorded as liabilities in the accounts of NCBs, then without any additional transaction, the central bank in country A would have reduced liabilities and increased capital and the central bank in country B would have increased liabilities and reduced capital.

To avoid payments transactions affecting the net capital position of NCBs, the Eurosystem provides NCBs with credits and debits in the form of bilateral positions vis-à-vis the ECB, recorded on the balance sheets as either "Intra-Eurosystem Claims" or "Intra-Eurosystem Liabilities". Specifically, at the end of each day, all TARGET2 transactions are aggregated and netted out and each NCB has its position vis-à-vis the ECB adjusted. These intra-Eurosystem credits and debits have become known over time as TARGET balances.

TARGET balances show up in the balance sheets of Eurosystem NCBs. We can amend the stylised balance sheet to look like either one of the examples in Tables 2 and 3 depending on whether the NCB has a positive or negative TARGET balance. Intra-Eurosystem assets pay interest at the same rate as the Main Refinancing Operation (currently zero) with the payments financed by interest charged on Intra-Eurosystem liabilities. That said, intra-Eurosystem claims stemming from TARGET2 transfers are counted as part of the calculation of the monetary income earned and shared by the institutions comprising the Eurosystem, so on net the interest paid or earned on these balances does not affect the annual flow of income to participating NCBs.[4]

[2] TARGET stands for Trans-European Automated Real-time Gross settlement Express Transfer system.

[3] See ECB (2017a).

[4] See https://www.ecb.europa.eu/ecb/legal/pdf/celex_32016d003601_en_txt.pdf.

Table 2: A stylised central bank balance sheet with a positive TARGET2 balance

Assets	Liabilities and Capital
Loans to Banks	Currency in Circulation
Securities	Reserve Accounts
Intra-Eurosystem Claims	Capital
Other Assets	

Table 3: A stylised central bank balance sheet with a negative TARGET2 balance

Assets	Liabilities and Capital
Loans to Banks	Currency in Circulation
Securities	Reserve Accounts
Other Assets	Intra-Eurosystem Liabilities
	Capital

2.3. Two examples

Here we provide two examples of how international financial transactions have an impact on the balance sheets of Eurosystem NCBs. The first involves a bank borrowing money from the Eurosystem to facilitate depositors moving money to a bank in a different euro area member state. The second involves NCBs purchasing sovereign bonds that are issued by their national government from investors who have bank accounts in another euro area member state.

2.3.1. Central banks financing deposits moving country

As the global financial crisis of 2008/09 morphed into a full-fledged existential crisis for the euro area, banks in a number of countries with high debt levels began to come under severe pressure. Bond market investors and large corporate depositors became concerned about losing money in bank failures or perhaps having their assets redenominated into a new currency if the country left the euro. At certain times and places, such as Ireland in 2010, the result was effectively a full-scale bank run. In general, there was a movement of deposits away from high-debt countries towards countries such as Germany which were viewed as being part of the “core” of the euro area.

The ECB's first set of responses to these developments focused on allowing banks to survive withdrawals of funding by loosening the requirements for banks obtaining loans from the Eurosystem and providing funding for longer periods of time. Instead of auctioning off a fixed amount of liquidity, the ECB moved to approving all borrowing requests provided banks had the necessary eligible collateral. In time, the ECB Governing Council also became more flexible on collateral requirements, with many Emergency Liquidity Assistance (ELA) programmes being approved which allowed banks to borrow from their NCB against collateral that was not included in the ECB "single list". As the euro crisis deepened, the ECB also approved large increase in bank lending via its Long-Term Refinancing Operations (LTROs).

To see how central bank lending replacing deposit funding affects NCB balance sheets, consider an example in which Mr A decides to move €100 from his deposit account in Spain with Santander to his account at Commerzbank in Germany. In this example, Santander decides not to reduce their reserve account with the Banco de España and instead requests a loan from the Banco de España. The Banco de España creates money and loans this to Santander via a credit to their reserve account. The Banco de España also incurs a €100 intra-Eurosystem liability to the ECB. The ECB offsets its new intra-Eurosystem asset owed to it by Banco de España by incurring a €100 liability to the Bundesbank, which in turn credits Commerzbank's reserve account. Commerzbank also incurs a €100 liability in the form of an increase in the deposit account that Mr. A holds with them.

Table 4: Example of how deposit flight financed by NCB loans affect balance sheets

Participants	How Their Balance Sheets Are Affected
Mr A	• Reduced deposits of €100 at Santander • Increased deposits of €100 at Commerzbank
Santander	• Reduced liabilities to Mr A of €100 • Increased liabilities to Banco de España of €100
Banco de España	• Increased assets via €100 loan to Santander. • Increased Intra-Eurosystem liabilities of €100
ECB	• Increased assets via €100 owed to it by Banco de España • Increased liabilities via €100 owed to the Bundesbank
Bundesbank	• Increased Intra-Eurosystem assets of €100 • Increased reserve liabilities to Commerzbank of €100
Commerzbank	• Increased reserve assets of €100. • Increased deposit liability to Mr A of €100.

Table 4 above illustrates how everyone's balance sheets change as a result of these transactions. In terms of central bank balance sheets, the size of the balance sheets of both the Banco de España and the Bundesbank has increased. The Banco de España has an additional asset in the form of a loan to Santander and an additional intra-Eurosystem liability; The Bundesbank has an additional intra-Eurosystem asset and an increase reserve account liability to Commerzbank.

2.3.2. Central banks purchasing sovereign bonds

Another relevant example is the case where an NCB purchases a government bond and pays for it by crediting a bank account of the former bondholder which is at a bank in a

different member state. To be concrete, imagine the case where the Banco de España creates money to purchase €100 worth of Spanish government bonds from Mr. A, who has a bank account in Germany with Commerzbank.

Mr. A's wealth is unchanged, as he has swapped €100 in Spanish government bonds for €100 in his Commerzbank account. Commerzbank gets a credit in its reserve account with the Bundesbank, which gets a €100 increase in its Intra-Eurosystem liabilities to the ECB. The ECB in turn gets a €100 asset in the form of debt incurred to it by the Banco de España. The Banco de España's balance sheet expands by €100, with additional assets in the form of extra Spanish government bonds and an additional €100 in Intra-Eurosystem liabilities.

Table 5: Example of how sovereign bond purchased by an NCB from a foreign investor affect balance sheets

Participants	How their balance sheets are affected
Mr A	• Reduced Spanish government bonds of €100 • Increased deposits of €100 at Commerzbank
Banco de España	• Increased assets via €100 of Spanish government bonds • Increased Intra-Eurosystem liabilities of €100
ECB	• Increased assets via €100 owed to it by Banco de España • Increased liabilities via €100 owed to the Bundesbank
Bundesbank	• Increased Intra-Eurosystem assets of €100 • Increased reserve liabilities to Commerzbank of €100
Commerzbank	• Increased reserve assets of €100. • Increased deposit liability to Mr A of €100.

3. RECENT MOVEMENTS IN TARGET BALANCES

This section presents the evidence on movements in TARGET balances since 2008 and provides an interpretation of the events underlying these movements.

3.1. The evidence

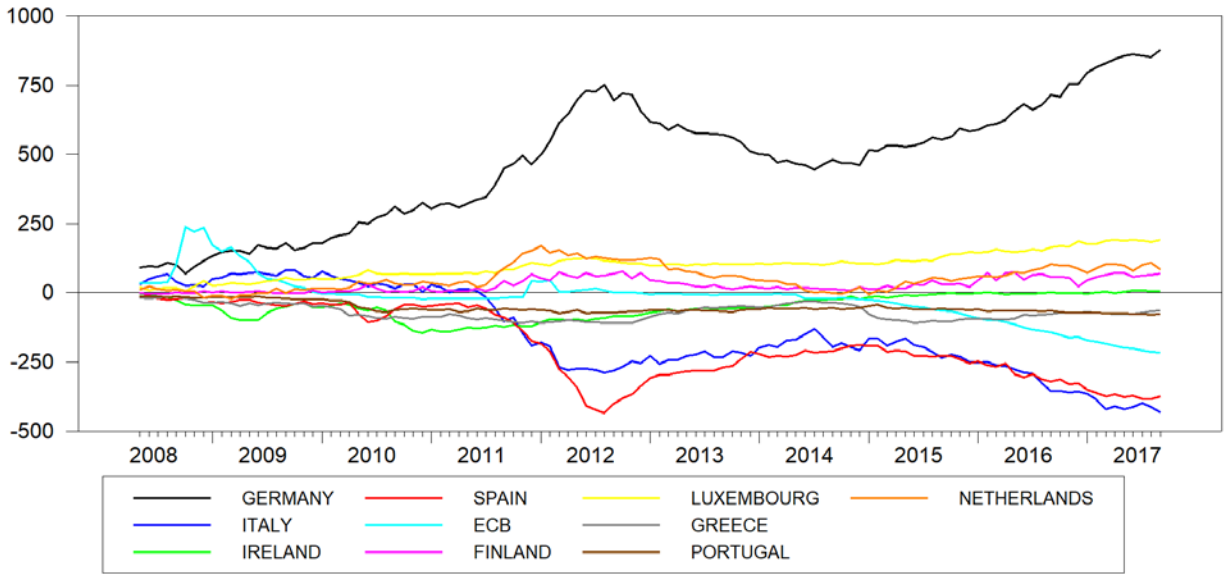
Figure 1 below provides evidence in movements in these balances for 10 selected countries and also the ECB. A couple of clear patterns emerge from the figure.

The first is that TARGET balances were relatively small prior to the crisis but that some of the balances have become extremely large: In September 2017, Germany's positive TARGET balance equalled €879 billion, which is over 25 percent of current German GDP. Luxembourg, Netherlands and Finland have also built up large claims relative to their levels of GDP. On the other side, there are a larger number of NCBs with negative balances with Italy (€432 billion in September 2017) and Spain (€373 billion in September 2018). The ECB itself had a negative TARGET2 balance of €215 billion in September 2017.

The second noticeable pattern is that there are four clear phases evident since 2008.

- **Early 2008 to July 2011**: TARGET balances gradually increase with the sum of all positive balances going from €186 billion in May 2008 to €416 billion in July 2011.
- **August 2011 to August 2012**: As the euro crisis deepens, the total sum of positive TARGET balances goes from €454 billion in July 2011 to €1.09 trillion in August 2012.
- **August 2012 to early 2015**: After Mario Draghi's famous "whatever it takes speech" in summer 2012, the size of TARGET balances generally falls, with total positive balances falling to €613 billion at the end of 2014.
- **Since early 2015**: In the period since early 2015, coinciding with the introduction of the ECB's QE programme, there has been a steady increase in the size of TARGET balances with total positive balances standing at a record-high of €1.241 trillion in September 2017.

Figure 1: TARGET2 balances for the ECB and a selection of countries (billions of Euros)



Source: ECB Statistical Data Warehouse.

3.2. Explaining movements in TARGET balances: 2008-2014

The two examples presented in the previous section help to explain the movements in TARGET balances seen in recent years. The two types of transactions described there – increased central bank funding for banks coping with deposit flight and central bank purchases of sovereign bonds – have been the key drivers of the expansion of the Eurosystem over the past decade.

Figure 2 provides a simple decomposition that explains how the Eurosystem's balance sheet has grown. It shows the total assets held by the Eurosystem as well as three components which together add up to total assets: Lending to banks, securities and other assets. The figure shows that the swings in Eurosystem assets from 2008 to 2012 are largely determined by movements in loans to banks with loans easing off from the 2008 level as the global financial crisis eases in 2010 and then increasing substantially during 2011-2012 as the euro crisis intensified. Loans to banks declined again after Mario Draghi's "whatever it takes" speech and the subsequent announcement of the OMT programme in 2012 and total Eurosystem assets returned to their 2011 levels during 2014. Loans to banks have been relatively flat in recent years until a pick-up in March 2017 due to the Targeted Long-Term Refinancing Operation (TLTRO) introduced that month which provided extremely attractive four-year financing to banks with the amount of financing available dependent on the extent to which banks increase their own lending.

Figure 3 shows that these loan-driven movements in the ECB's balance sheet do a good job of explaining the total size of TARGET balances during the period 2008 to 2014.

3.3. Explaining movements in TARGET balances since 2015

Figure 2 also illustrates the source of the most recent expansion in total Eurosystem assets, which began in early 2015. This expansion has been driven by the ECB's Quantitative Easing programme, known officially as the Asset Purchase Programmes (APP), the largest of which is the Public Sector Purchase Programme (PSPP) which has purchased sovereign bonds of euro area member states, with each NCB buying sovereign bonds issued by their own countries.

3.3.1. The ECB's explanation

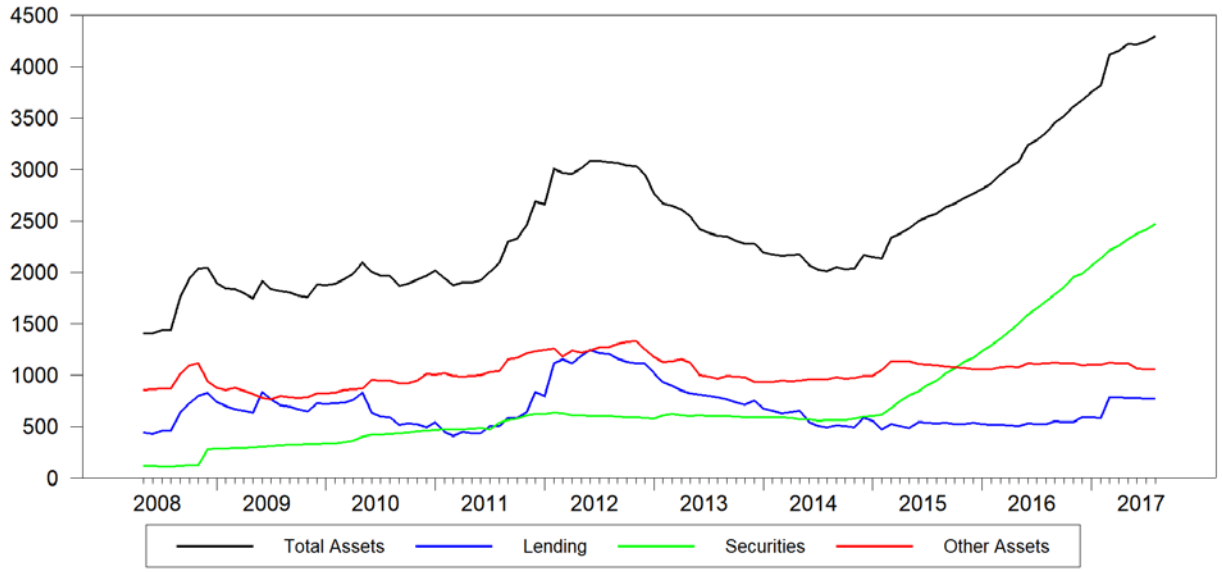
In a couple of its publications, the ECB has argued that the mechanism driving the recent increase in TARGET balances is that many of the sovereign bonds acquired have come from investors outside the NCB's own countries and this has required cross-border transfers that have affected TARGET balances in the way described in the second example in the previous section.

For example, ECB (2017b) stated:

> *"A very large majority of APP purchases involve counterparties located in a different country from the purchasing central bank. In volume terms, around 80% of all APP purchases have involved non-domestic counterparties. Furthermore, around 50% of APP purchases have involved sellers resident outside the euro area. This has given rise to substantial cross-border flows of central bank money, affecting national TARGET balances and leading to structural inflows of central bank money in countries hosting large numbers of non-resident counterparties (such as Germany)."*

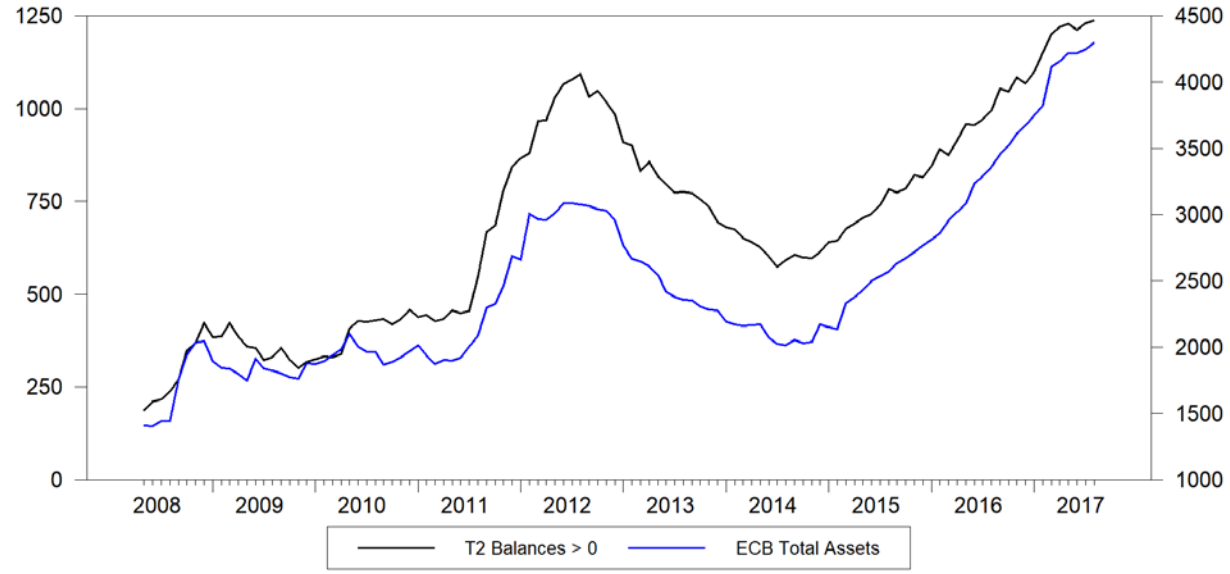
Implicit in this explanation is that the signal being sent from the current round of increases in TARGET balances is completely different from the early 2008-2012 increases. The ECB's argument is that while the earlier increases in TARGET balances reflected capital flight from periphery due to lack of faith in the health of banks and\or confidence in the future of the euro, the more recent build-up of simply reflects the mechanical consequences of the members of the Eurosystem buying bonds from counterparties outside their own states.

Figure 2: Composition of Eurosystem total assets (billions of Euros)



Source: ECB Statistical Data Warehouse.

Figure 3: Total positive TARGET2 balances (right scale) and Eurosystem total assets (left scale) (billions of Euros)



Source: Authors calculations based on data obtained from ECB Statistical Data Warehouse at http://sdw.ecb.europa.eu/reports.do?node=1000004859.

At face value, this explanation works quite well. And indeed, Figure 3 above provides some visual evidence for the idea that the Eurosystem balance sheet expansion of the past few years has driven TARGET balances upwards in a similar way to previous rounds of balance sheet expansion. It shows a strong relationship between total positive TARGET balances and the size of the Eurosystem's balance sheet, with the relationship in recent years being a relatively strong one.

3.3.2. The more nuanced truth

Despite this evidence linking recent movements in TARGET balances directly with the ECB's asset purchases, the ECB's explanation for the recent increase in TARGET balances does

not capture the full story. Before examining the specific factors driving the increase in TARGET balances, a number of quick points are worth making.

First, there is no *a priori* reason for there to be a mechanical link between the Eurosystem sovereign bond purchases and TARGET balances. If an NCB purchases a bond from someone who receives payment into a bank account within the same country, then this transaction has no impact on TARGET balances.

Secondly, it is worth distinguishing between gross and net effects of purchases when considering how the PSPP has affected TARGET balances. It may indeed be the case that most of the purchases made by NCBs have been from investors with bank accounts in a different country but many of these transactions would have offsetting effects on TARGET balances. In other words, the Banca d'Italia may be buying Italian government bonds from German investors but, at the same time, the Bundesbank may be buying German government bonds from Italian investors. So large amounts of PSPP activity could still, on net, have very little effect on TARGET balances.

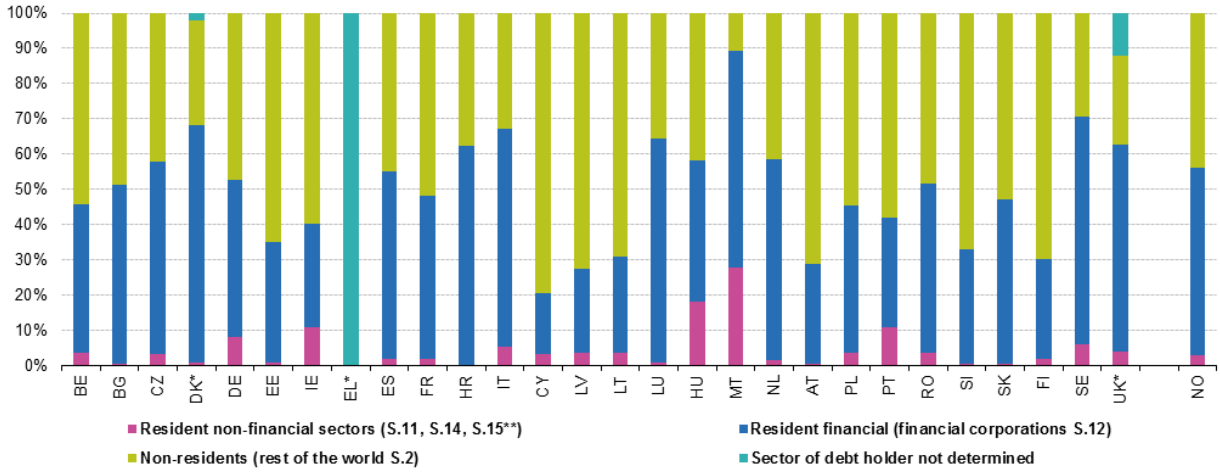
Third, there is no *a priori* reason why the PSPP acquisitions from foreign investors should see total gross TARGET balances increase, i.e. why those countries with TARGET assets should see that asset grow larger and those with TARGET liabilities should see those liabilities grow. If you take the previous example of Italy and Germany, evidence shows that a higher fraction of German debt is held by non-residents than is the case for Italian debt: See Figure 4 for 2016 figures from Eurostat on the composition of ownership of public debt. Indeed, as of March 2017, there was €1.08 trillion in German public debt held by non-Germans and only €663 billion in Italian public debt held by non-Italians.[5] If those who have sold public bonds to the Eurosystem were a representative sample of existing bond holders, then one might have expected to see the German TARGET asset and the Italian TARGET liability both decline, i.e. the opposite of what has actually happened.

Fourth, there is also an important qualifier to the ECB's statement about 50% of purchases being from non-domestic counterparties. A footnote in the discussion of TARGET balances in ECB (2017b) admits "*Counterparties may not necessarily be the legal owner of the security; they may be acting as intermediaries, holding securities and managing transactions on behalf of the owners*." So, in reality, we don't really know that most of the Eurosystem's purchases were ultimately from non-residents.

Getting a clearer picture of the factors driving TARGET balances in recent years requires a closer examination of exactly which components are driving the balances. Most NCBs have relatively small TARGET balances so most of the large movements are accounted for by a relatively small number of components. On the asset side, 86 percent of total positive TARGET balances in September 2017 were accounted for by Germany and Luxembourg. On the liability side, 88 percent of negative balances are accounted for by four institutions: the ECB, Banco de Portugal, Banca d'Italia and Banco de España and all of the change in balances since the start of the APP can be accounted for by these four institutions. Once these four components are explained, we can understand why TARGET balances.

[5] These figures come from Bruegel's data set on sovereign bonds holdings available at http://bruegel.org/publications/datasets/sovereign-bond-holdings/.

Figure 4: Composition of the ownership of Euro area sovereign debt



* (partially) missing information
** non-financial corporations, households, non-profit institutions serving households

Source: Eurostat http://ec.europa.eu/eurostat/statistics-explained/index.php/Structure_of_government_debt.

Examining these four institutions, it turns out that the first two balances (the ECB's balance and the Banco de Portugal) fit well with ECB description of the evolution of TARGET balances while the second two (Banca d'Italia and Banco de España) do not fit so well.

The ECB: The ECB's Intra-Eurosystem liability has increased from €28 billion in February 2015 (the month prior to the beginning of the PSPP) to €215 billion in September 2017. This increase corresponds roughly to the ECB's acquisitions as part of the APP, which assigns 8 percent of the total purchases. None of the commercial banks in the Eurosystem hold reserve accounts with the ECB so, by definition, all of its asset purchases generate an intra-Eurosystem liability.

Portugal: Holdings of sovereign bonds by the Portuguese central bank have gone from 0.8% of total Portuguese public debt at the end of 2014:Q4 to 15.6% at the end of 2017:Q1. Consistent with the ECB's story, this increase in domestic holdings has been almost exactly offset by a decline in the share of holdings by non-residents from 56 percent in 2015:Q1 to 42 percent in 2017:Q1.[6] Sovereign bond holdings by the Banco de Portugal rose by €23 billion and Portugal's TARGET liability also changed by about €20 billion over the same period.

If these examples fit well with the ECB's story, Spain and Italy fit much less well.

Spain: The Banco de España increased its holdings of Spanish government debt by €184 billion from December 2014 to March 2017, so it owned 15 percent of all sovereign debt by March 2017 compared with 3.5 percent in December 2014. A relatively small amount of these purchases appear to have come from non-residents because the share of this debt owned by non-residents has risen from 40 percent at the end of 2014 to 42 percent in March 2017. In contrast, the share of sovereign debt held by non-central-bank Spanish residents has fallen from 57 percent to 42 percent, with most of this decline accounted for by banks, whose share of sovereign debt ownership fell from 30 percent at the end of 2014 to 20 percent in March 2017.

[6] All figures quoted here on shares of ownership of sovereign bonds come from Bruegel's data set on sovereign bonds holdings.

What have those who sold bonds to the Banco de España done with the proceeds? It is not possible to track individual purchases but the Spanish balance of payments accounts do show a large increase in external portfolio investment.[7] Over the same time period, Spain's TARGET liability increased from €190 billion in December 2014 to €374 billion in March 2017, an increase that exactly matches the size of the Banco de España's bond purchases. This suggests domestic residents have diversified away from Spanish bonds and increased their holdings of foreign assets.

Italy: The Banca d'Italia increased its holdings of Italian government debt by €195 billion from December 2014 to March 2017, so that it went from holding 5.7 percent of the outstanding debt in December 2014 to holding 15.6 percent of it in March 2017. This reallocation of debt towards the Banca d'Italia partially stems from a reduced share for non-resident owners, which dropped from 38 percent in December 2014 to 35 percent in March 2017. It also reflects reduced holdings of Italian government debt by non-central-bank residents: Their share in holdings of Italian debt fell from 57 percent in December 2014 to 50 percent in March 2017. Over the same period, Italy's TARGET liability has increased from €209 billion in December 2014 to €420 billion in March 2017. Again, the increase in the TARGET liability is quite close to the total amount of sovereign bond purchases by the Banca d'Italia.

In a discussion of its TARGET balance, the Banca d'Italia has acknowledged that its widening TARGET liability partly stems from "*the rebalancing of residents' portfolios towards assets other than Italian government securities and bank bonds, which has gone hand in hand with increased asset purchases and liquidity injections on the part of the Eurosystem.*" The Italian Balance of Payments statistics show a substantial increase in the external assets of the "other sector" in its accounts, which means the economy excluding government, the central bank and commercial banks. This has been driven by an increase of about €260 billion in external portfolio investment (debt securities and equity and other investment funds) by this sector.[8]

Quantitatively, the changes in the Spanish and Italian balances have played a bigger role in the increase in total balances than those of Portugal and the ECB. Since February 2015, the Spanish and Italian balances have risen by €441 billion, while those of Portugal and the ECB have only risen by €220 billion. Overall, this suggests that the ECB's explanation that widening TARGET balances have stemmed simply from NCBs making purchases of sovereign is at best only partially correct. Bond purchases from residents in Spain and Italy, who have then deposited the funds received abroad, have also played a large role.

[7] See Table 17.23 of the Banco de España's Statistical Bulletin. Available at https://www.bde.es/webbde/en/estadis/infoest/bolest17.html.

[8] These figures are available from Table 6b of various editions of the Italian Balance of Payments statistics, which can be found at https://www.bancaditalia.it/pubblicazioni/bilancia-pagamenti/2016-bilancia-pagamenti/index.html.

4. SO SHOULD WE BE CONCERNED?

Here I discuss whether rising TARGET balances are something we should be concerned about, whether positive TARGET balances represent a risk for member states who have them and how these risks might change if intra-Eurosystem balances were settled regularly rather than allowed build up to high levels.

4.1. TARGET balances as a signal of problems

It is fairly clear why the ECB's official publications want to get across the message that the recent build-up of TARGET balances is nothing to worry about and is just a mechanical consequence of their asset purchases programmes. This is because the previous build-up of TARGET balances from 2008 onwards, and particularly during 2011-12, was a sign of severe pressure on parts of the European banking system.

The high levels of these balances that developed over 2011-12 meant that what had previously been obscure central bank balance sheet items became the subject of a lot of journalistic and academic discussion, much of unfortunately misleading or overly alarmist. That said, the mechanism through which TARGET balances rise via deposit flight from countries with weak banking systems became well-established. Given this, the ECB was probably disappointed to see commentary over the past year suggesting that the recent increase in TARGET balances was a sign of another bank run on Europe's periphery and has been determined to stress a different message.

My assessment is that the ECB is essentially correct to stress that the recent increases in TARGET balances represent different economic events to the 2008-2012 period and should not cause concern. This is partly because the mechanism stressed by the ECB (purchases from foreign investors or purchases by the ECB) accounts for a significant fraction of the increase in TARGET balances.

However, it is also the case that a large part of the increase in balances stems from domestic Spanish and Italian banks and investors selling bonds to their NCBs and then re-investing the proceeds abroad. Is this something that should cause concern? On balance, I would say no.

The Eurosystem's large asset purchases must, by definition, lead to a rebalancing of private sector portfolios. If the Eurosystem owns more sovereign debt, then the portfolios of the other sectors must hold less. Both Italy and Spain had high shares of sovereign bonds in domestic ownership in early 2015 when the Eurosystem began its asset purchases and so it was likely that a large fraction of the Banca d'Italia's and Banco de España's bond purchases would be from domestic residents.

Should we then be surprised or discouraged that these investors then moved their money out of Spain and Italy to acquiring foreign assets? Perhaps not.

One interpretation is that the reduction in resident holdings of domestic bonds represents an easing of the crisis conditions of the worst years of the euro crisis. In each of the crisis countries, there was an increase in the amount of sovereign debt held by domestic banks. With governments under pressure in financial markets due to rising yields, domestic banks were generally under pressure to help governments out by making bond purchases, particularly if these banks had received forms of financial assistance from the government. These pressures have eased in recent years, so it should not be surprising to see domestic bank holdings of their national sovereign bonds decline and this has been seen in recent years in Italy and particularly in Spain.

It is also worth noting that the earlier periods of deposit flight out of Italy and Spain were never reversed, so many of the investors who sold to the Banca d'Italia and Banco de España would also have opened foreign bank accounts during the earlier period of 2008-

2012. It is perhaps not so surprising that these investors, having already diversified their assets away from the domestic financial system, would be more open than previous domestic investors to acquiring foreign assets.

Finally, the diversification of Italian and Spanish banks and investor portfolios away from their high concentration on domestic sovereign bonds is to be welcomed. Purchasing sovereign bonds of your own country is a poor hedge against risk for banks, households and firms: If your country suffers a crisis that could lead to you losing income or making losses on assets, then also being invested in the debt issued by the same country leaves you further exposed to the same idiosyncratic source of risk. So the pattern of diversification observed over the past two years should, on balance, be viewed as a positive thing.

4.2. Risks associated with positive TARGET balances

If the recent movements in TARGET balances are not, in themselves, worrying, there are still some people out there that worry about these balances for different reasons. Specifically, in some of the countries where NCBs have large positive TARGET balances, most notably Germany, there is a concern that the returns to the public from this asset could be risky because of the possibility of some countries exiting the euro or perhaps a full euro break-up.

Here, I briefly consider how two scenarios would affect countries with large positive TARGET balances: The exit of a single country from the euro and a complete euro break-up.

4.2.1. Single country exit

To be concrete, let's consider the case in which Greece leaves the euro. As of September 2017, Greece had a TARGET liability of €64 billion. It is possible that upon leaving the euro, Greece could announce that is reneging on its €64 billion debt to the euro area but, on balance, this is unlikely. Because there is no maturity date for TARGET liabilities, the claims can be honoured simply by making the necessary interest payments. As of now the relevant interest rate (the MRO rate) is zero and the cost of making these payments would likely be relatively low for a long time.

In the case of any exit, it is also likely that Greece would need official external support from the IMF and EU to cope with a major balance of payments crisis. Honouring its TARGET-related interest obligations would very likely be a condition of such a programme. On balance, the TARGET-related risks to Germany associated with a single country exit from the euro of this type appear to be very low.

Even if a country such as Greece did exit and renege on its TARGET liabilities, there would be no immediate impact on Germany via its TARGET asset. Because the Bundesbank's Intra-Eurosystem claims are on the ECB there would be no alteration of this claim after a Greek reneging on its liabilities. However, this development would, over time, have implications for the ECB's balance sheet as well as its profit and loss account. In terms of its balance sheet, writing off its Intra-Eurosystem claim on the Bank of Greece would result in the sum of its Intra-Eurosystem claims and liabilities being negative rather than zero. In terms of its profit and loss account, when TARGET balances begin again to pay and receive positive interest, the interest payments the ECB would receive from Intra-Eurosystem debtors would no longer cover its interest obligations to Intra-Eurosystem claimants.

In this case, the NCBs would likely be called upon to recapitalise the ECB to compensate for the loss of its Greek TARGET2 claim. Because Germany has a 26% share among euro area member states in the ECB capital key, this would imply a one-off cost of 26 percent of €64 billion, i.e. €16.5 billion, which is about 0.5 percent of one year of German GDP.

Note that Germany incurs a cost here, not because it has a large TARGET balance but because it is a large rich country with a high ECB capital key. To give another example, Luxembourg had a TARGET asset of €190 billion in September 2017 but it would contribute only €180 million should the ECB require recapitalisation because of a €64 billion TARGET-related loss. So a country having a large TARGET asset is not, in itself, a risk factor in this case.

4.2.2. A full Euro break-up

A more extreme scenario is one in which there is a complete break-up of the euro and all countries with TARGET liabilities renege on these. This is a highly unlikely scenario but it is still worth exploring to get an upper bound on how bad things could get for the largest TARGET creditor, Germany.

A first point to make is that while Germany's TARGET asset of €879 billion as of September 2017 is huge, its net claim on the Eurosystem is substantially smaller because it also has an intra-Eurosystem liability relating to banknote issuance of €349 billion. So the net impact on the Bundesbank's balance sheet would be a €530 billion reduction in net assets. This banknote liability stems from the fact the Eurosystem shares seignorage revenue from banknote issuance according to capital key but the Bundesbank has been printing far more notes than its capital key would imply. As of September 2017, the Bundesbank has issued 54 percent of all euro banknotes compared with its banknote allocation key of 23.5 percent: The fondness of German citizens for cash payments undoubtedly plays a role in this development though there may be other contributing factors.[9]

In terms of the subsequent flow of income for the Bundesbank, it would lose revenue from its TARGET-related asset and it would cease sharing in the former Eurosystem's monetary income. However, since the assets generating monetary income currently yield zero and would likely yield low interest rates for many years in the scenario where the euro stays in place, this may not be a large loss. In contrast, the steady increase in the Bundesbank's banknote-related liability—which has been going up by about €30 billion each year—would cease. On a net income basis, the elimination of a €30 billion per year increase in liabilities is likely to be far larger than the income yielded from a €530 billion reduction loss in net Intra-Eurosystem assets.[10]

Over the longer term, it seems likely that if the euro were to break up, leading to the re-introduction of 19 new national currencies, there would likely be a substantial re-allocation of the demand towards currencies that were seen as a good store of value. This would probably mean a greater increase in seignorage revenues for the Bundesbank than the €30 billion figure just reported.

On the other side, the Bundesbank would be left with a large amount of commercial bank deposits and should it seek to use interest on deposits as a monetary policy tool, then it would have to come up with the income required to pay this interest when it chose to raise interest rates. On balance, which of these two effects would be larger in the long-run would require detailed examination. However, it is likely that the net effects on German wealth of this (admittedly unlikely) scenario are nowhere near as bad as is sometimes imagined.

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[9] The calculation for total banknote issuance by the Bundesbank was done by adding the €349 billion intra-Eurosystem banknote-related adjustment to the figure of €268 billion listed in the September Bundesbank monthly report as the figure for the liability under "banknotes in circulation". This latter just reports the amount the ECB is supposed to print under its banknote allocation. This gives a total of €617 billion in banknotes printed by the Bundesbank as of September 2017. The total for the Eurosystem is €1.142 trillion.

[10] See Whelan (2014) for a more detailed discussion of these issues.

4.3. Could risks be mitigated by settlement of TARGET balances?

Given concerns about the risks posed to creditors by the Eurosystem's current procedure of recording rolling and unsettled TARGET balances, an interesting question is whether the Eurosystem should move to settling these TARGET balances at a regular frequency, such as once a year.

4.3.1. Settlement with monetary-policy-related assets

The obvious assets to use for settling TARGET balances would be those assets acquired as part of monetary-policy-related programmes approved by the ECB Governing Council. So, for example, the Banca d'Italia could settle its TARGET liability by handing over assets such as refinancing loans to banks and Italian sovereign bonds purchased in the PSPP, with the precise mix of assets decided by an agreed-upon formula. These assets could be taken by the ECB and re-allocated to TARGET creditors.

Would a plan of this sort reduce risks for countries with large TARGET credits? Possibly, but most likely it would make little difference.

In the case of a single country exit, the impact on TARGET creditors would depend on how the Governing Council decided to handle risk-sharing related to losses on assets used to settle TARGET balances. I would imagine that it would be decided that any such losses should be shared among NCBs according to their capital key. This would ultimately mean the losses to the creditor countries would be higher or lower depending on whether recovery rates are higher from seeking the exiting NCB to repay its TARGET debt or from attempting to recover full value from the individual assets (such as sovereign bonds and bank loans) that had been used to settle the TARGET balances. Most likely, an un-cooperative exiting government would ensure that both strategies produced a low return which a cooperative exiting government would ensure a full return in both cases.

In the case of a full and un-cooperative break-up of the euro, TARGET creditors would be left holding large amounts of assets originating in other former members states instead of a large (and perhaps redundant) intra-Eurosystem debt. Recovery rates could be higher under this settlement mechanism but it is going a bit too far into the realm of fiction to figure out how this would work.

4.3.2. Settlement with senior bonds

One could imagine introducing more comprehensive ways of protecting TARGET creditors from risk. For example, Sinn and Wollmershäuser (2012) proposed settlement via "national government bonds backed by real estate property" a proposal that Sinn (2012) amended so that the bonds can be collateralised by "state-owned real estate or senior rights to future tax revenue."

It is questionable whether this "senior debt" proposal would necessarily provide Germany with a better outcome during an uncooperative euro breakup. Why should we assume that states would walk away from their TARGET2 liabilities and yet still honour what may well be seen as "odious" debts issued to settle these same liabilities? A proposal of this sort seems likely to make a euro breakup less cooperative rather than more.

What is unquestionable is that proposals of this type would be hugely damaging to countries with TARGET liabilities. It would result in many of these countries experiencing a large rise in their gross government debt to GDP ratios. Of course, the public sectors in these countries would also have gained offsetting assets in the form of additional loans to banks or sovereign bonds that total the same amount. However, these assets would carry credit risk while the collateralised senior debt would be designed to be honoured even in the case of a default (or at least honoured as long as the country remained a member of the Eurosystem.) Sovereign bond investors would view the regular bonds issued by these

countries as having greatly increased their loss-given-default because they would be moved significantly further back in the queue and the prospect of sovereign default would be greatly increased.

This approach to settlement would also place serious strains on the ability of the ECB Governing Council to continue running a common monetary policy in the euro area. States with central banks that were required to provide large amounts of loans to their banks would see their sovereign credit risk rising because of the need to issue new senior government debt. This would make it even more difficult than at present for the ECB's monetary policy to operate in a similar way across the whole of the euro area. The ECB Governing Council issuing instructions that leads to automatic issuance of senior debt that puts pressure on sovereign credit assessments would also become another factor putting pressure on states to leave the euro.

5. CONCLUSIONS

TARGET balances are essentially unique to the Eurosystem's operating rules and had received almost no attention prior to the onset of the euro crisis in 2011. Once these balances became large, they began to receive a lot of attention and commentary and not all of it was accurate. For example, early commentary included spurious claims that higher TARGET balances represented a "stealth bailout" for certain crisis countries, that TARGET liabilities were seen by financial markets as a form of "senior" sovereign debt and that increasing TARGET balances would force the Bundesbank to sell its gold.

Today, it is now widely understood that this commentary was misleading and the ECB deserves credit for making data on TARGET balances available in a transparent manner as well as regular commentary on these balances in its official publications. There is a widespread acceptance now that TARGET balances represent the outcome of an agreed common monetary policy interacting with the freedom of movement of capital that is a crucial part of the efficient operation of the European single market. It is also well understood how the increase in TARGET balances prior to 2012 represented the interaction of deposit flight from the euro area's crisis countries combined with the ECB's agreed full-allotment monetary policy.

As a result, higher TARGET balances have been seen as an indicator of capital flight from Europe's periphery. The ECB has been keen to stress, however, that the increases in TARGET balances since early 2015 are different from those that took place during 2008-12 and that they are essentially a mechanical by-product of the Eurosystem's purchases of sovereign bonds from foreign investors. This is partially true but there is also evidence that portfolio rebalancing by Spanish and Italian banks and investors (which has seen them sell domestic sovereign bonds to the Eurosystem and reallocate their money into foreign assets) has also played an important role. While these developments do not fit with the ECB's preferred explanation of recent developments in TARGET balances, I have argued that they are fairly benign.

Some economists in Germany remain concerned that the Bundesbank's large TARGET asset represents a threat to German financial interests. I have argued in this paper that these risks are over-stated but these balances do represent a source of uncertainty, particularly in the case of a full and un-cooperative break-up of the euro. That said, it is essentially impossible to run a common monetary policy across 19 states and yet have each participating central bank inoculated from risk. Alternative proposals for settling TARGET balances on an annual basis would either involve different types of risks for creditor countries or else undermine the smooth operation of a common monetary policy across the euro area. Overall, the risks to TARGET creditors are best managed by enforcing the ECB's operational risk guidelines and by ensuring the euro remains intact as a common currency.

REFERENCES

- European Central Bank (2017a). TARGET Annual Report, May 2017. Available at https://www.ecb.europa.eu/pub/pdf/other/ecb.targetar2016.en.pdf.
- European Central Bank (2017b). "The ECB's asset purchase programme and TARGET balances: monetary policy implementation and beyond." Box in the ECB Economic Bulletin, Issue 3, 2017. Available at https://www.ecb.europa.eu/pub/pdf/ecbu/eb201703.en.pdf.
- Sinn, Hans-Werner (2012). "Fed versus ECB: How Target Debts Can Be Repaid", Vox EU, March 10. Available at http://voxeu.org/article/fed-versus-ecb-how-target-debts-can-be-repaid.
- Sinn, Hans Werner and Timo Wollmershäuser (2012). "Target Loans, Current Account Balances and Capital Flows: The ECB's Rescue Facility". *International Tax and Public Finance*, Volume 19, Issue 4, pages 468-508.
- Whelan, Karl (2014). "TARGET2 and Central Bank Balance Sheets" *Economic Policy*, Volume 29, pages 79-137.

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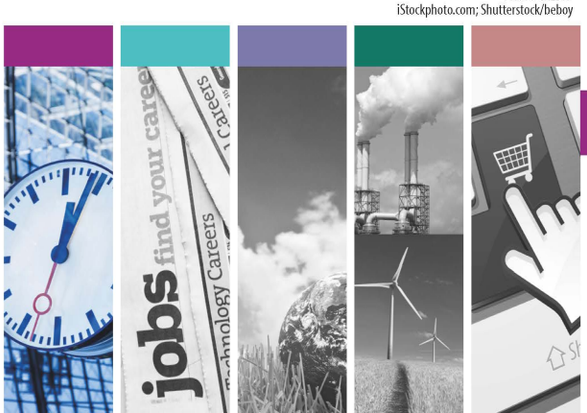

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