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**TARGET imbalances at record
levels: Should we worry?**
- Daniel GROS, CEPS -

MONETARY DIALOGUE
November 2017

In-depth analysis for the ECON Committee





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

TARGET imbalances at record levels: Should we worry?

IN-DEPTH ANALYSIS

Abstract

The imbalances within the Eurosystem's Target 2 payment system are an indication that financial markets are not fully integrated. However, the increase in these imbalances in the wake of the large asset purchases (often called QE, for quantitative easing) that started in early 2015, should not be a particular cause for concern.

The imbalances had declined until the start of QE, accompanied by a reduction in risk premia. QE was associated with a further reduction in financial stress. There is thus little reason to believe that the increase since 2015 reflects renewed fears about a euro break-up.

The 'technical' nature of the increasing imbalances in the wake of QE is illustrated by the fact that the European Central Bank (the central institution of the Eurosystem) has also run up a negative Target balance of over €200 billion. No one would argue that this is motivated by a fear of a break-up of the euro area. There are reasons to believe that the recent run-up in the negative balances of Italy and Spain is due to similarly technical reasons.

This document was requested by the European Parliament's Committee on Economic and Monetary Affairs.

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Original: EN

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Manuscript completed in November 2017

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This document is available on the internet at:

<http://www.europarl.europa.eu/committees/en/econ/monetary-dialogue.html>

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EXECUTIVE SUMMARY

There exists a large literature on the imbalances within the Target 2 payment system of the Eurosystem with widely different interpretations of the meaning of these imbalances (see Sinn (2014)). This contribution does not pretend to make a new contribution to this issue. Its purpose is only to analyse the reasons for the renewed increase in the 'T2' imbalances since the start of the bond purchases, formally called the Public Sector Purchase Programme or PSPP, by the Eurosystem in early 2015.

A first general consideration is that the T2 imbalances had originally emerged along with large risk premia with the outbreak of the financial crisis. Until the start of the bond purchases (dubbed QE, for quantitative easing), the T2 imbalances were taken as an indicator of financial tensions. The imbalances increased until the peak of 2012, associated with the widespread fear of a break-up of the euro area. After ECB President Mario Draghi pledged to do "whatever it takes", the imbalances fell, along with the risk premia. But this relationship was broken in early 2015, because the bond purchases led to a further reduction in financial stress. These circumstances constitute a first reason to believe that the increase since 2015 has not arisen because of renewed fears about a euro break-up.

A second reason for suspecting that the recent T2 imbalances have a 'technical' nature emerges if one looks more carefully at the individual components of the Eurosystem. One needs to distinguish between the national central banks (NCBs) and the European Central Bank as the separate legal entity of the system. The often-repeated statement that 'the ECB' is buying €60 billion worth of bonds per month is not actually correct. Only a fraction (10%) of the Public Sector Purchase Programme (PSPP) is implemented by the ECB, with the remaining 90% of the purchases implemented by the NCBs. The ECB buys only the bonds of multinational or international institutions, whereas the NCBs are supposed to buy only their own government's bonds.

It is little known that the ECB (the central institution of the Eurosystem) has also run up a negative Target balance of about €200 billion, which corresponds 1:1 to its bond buying. But no one would argue that this is motivated by a fear of a break-up of the euro area.

T2 balances thus arise mainly because the decentralised implementation of monetary policy and the resulting uneven distribution of the central bank deposits. This applies particularly to QE. If the entire bond purchasing programme of the Eurosystem had been implemented centrally by the ECB (as opposed to the individual NCBs), there would have been only one big negative balance for the ECB, and all the other NCBs would have seen their balances increasing.

1. INTRODUCTION

Target imbalances have recently reached record values (and continue to increase almost every month). The most widely watched numbers are the positive balance of Germany (over €800 billion) and the negative balances of Italy and Spain (over €400 billion each), as of September 2017. A first impression is thus that the phenomenon plays out mainly between Germany and the two large southern euro area countries, Italy and Spain. There are other countries with large positive balances, however, such as Luxembourg or the Netherlands, and another large core country, France, whose Target balance has never moved much, complicating the picture.

The Target balance for Germany (or rather for the Bundesbank, to be precise) as of September 2017 represents an increase of over €400 billion relative to the trough reached just before the start of the massive asset purchases – formally called Public Sector Purchase Programme (PSPP) or quantitative easing (QE). Similarly, for the central banks of Italy and Spain, taken together, the (negative) target balances of September 2017 represent an increase of around €500 billion. A continuation of the present trends suggests that at the end of the PSPP (now scheduled for 2018) the T2 claims of the Bundesbank could go up to €1,200 billion and those of the Banca d'Italia and Banco de España could each reach close to €600 billion.

These large figures have given rise to concern. The purpose of this contribution is to analyse the genesis of this renewed increase, which coincided with the start of QE, not to provide an analysis of the overall phenomenon. The analysis will thus concentrate on the way asset purchases of central banks affect their own balance sheets.

A key observation will be that there is one entity, which has also, and for the first time, run up a large negative T2 balance. This is, perhaps surprisingly, the ECB (understood here as the legal entity which, together with the national central banks, forms the Eurosystem). Understanding the emergence of the negative T2 balance of the ECB constitutes the best way to understand how Target imbalances arise. Looking at the Target 'imbalances' of the ECB shows immediately that the PSPP has been associated with an increase in Target imbalances only because of its decentralised implementation.¹

The next section recounts some technical features of the accounting of bond purchases by central banks. This is then followed by a description of the evolution of the Target balances of the ECB and of some key NCBs (Banca d'Italia, Banco de España and the Bundesbank). Section 4 speculates briefly on why these patterns have arisen. Section 5 concludes.

¹ See Gros (2017b) and Gros et al. (2015a) on the implications of the risk-sharing arrangements for the PSPP. Gros (2015) and (2016) looks closer at the fiscal implications of the PSPP.

2. BACKGROUND: THE MECHANICS OF T2 (IM-)BALANCES

Understanding the T2 requires first of all an examination of the factors that can lead to a Target 2 imbalance.

One point, which is usually overlooked, is that target imbalances arise also from the allocation of cash. It so happens that the demand for euro bank notes is much stronger at some NCBs than at others. This phenomenon concerns in particular the Bundesbank, which issues a large share of the total. The intra-euro area accounting, however, attributes a small proportion (8%) of the distribution of total cash holdings to the ECB and assumes that the remainder is distributed pro-rata according to the capital key to all NCBs. This is why the accounts of the Bundesbank also contain a very large intra-area liability. The net intra-area position of the Bundesbank is thus much smaller than its Target balance.²

The increase in the demand for euro notes has been significant over longer periods (Gros, 2017a), but relatively small and regular over the short run. Moreover, the pace of cash accumulation has not noticeably accelerated since 2015. The run-up in Target balances thus cannot be attributed to a sudden change in the demand for cash. But the apparent cross-border movements of cash, which are behind these accounting entries related to the distribution of notes, are also relevant to the issue at hand. It is possible that some of those who sold bonds to the ECB decided to keep their receipts in cash instead of bank deposits.

We now turn to the mechanics of central bank purchases of assets.

When a central bank buys any asset it must find a willing seller. The seller might be a bank, or some non-bank entity, but even in the latter case the sale must go through a bank. The end result of any QE operation is thus that the net position of the central bank vis-à-vis the banking system falls by the amount of the purchase.

In practical terms, this means that when the Eurosystem buys €2,000 billion of government and other bonds, this must lead to an increase in deposits of commercial banks with the Eurosystem by an equivalent amount. In accounting terms, this implies that the following relationship should hold (in the aggregate):

Asset purchases = increase in deposits (excess reserves) at central bank

This accounting balancing applies of course only to the banking system as a whole, but not necessarily to the individual bank through which the bonds were acquired. For example, a bank might sell the central bank a bond held previously by an insurance company. The central bank 'pays' for the bond with a deposit it gives the bank. The bank that executed the sale might not want to hold the deposit at the central bank and use it to buy some other asset. But this would only transfer the central bank deposit to another bank. The banking system as a whole cannot get rid of the deposits created by the central bank unless the original purchase of bonds is reversed.

Mutatis mutandis, this also applies to the individual NCBs within the Eurosystem. Each purchase by an NCB results first in an increased deposit there. However, the holder of the deposit thus created might want to buy assets in other jurisdictions to re-balance his/her own portfolio. It is thus only to be expected that in an integrated financial market large purchases of government bonds result in considerable cross-border portfolio rebalancing. In the accounts of the NCBs, Target claims or liabilities are actually put in the items "claims on MFIs" or "liabilities to MFIs" (monetary financial institutions). This makes sense if one

² A first implication of this observation is that there are those who fear that in the event of a euro break-up the Bundesbank would concentrate not on the Target balance, but rather on the net position of Bundesbank within the Eurosystem.

considers a central bank to be just like any other bank (or MFI). This leads then to the following accounting relationship which determines the Target balance:

T2 balance = Asset purchases of NCB - increase in deposits (excess reserves) at NCB

The simple relationship between asset purchases and deposits (excess reserves) of commercial banks at the central banks(s) is complicated in the case of the Eurosystem by the fact that the Eurosystem (or rather its constituent NCBs) also lends to banks at the same time as it tries to increase the deposits of banks. This means that some of the asset purchases of the Eurosystem could find as their counterpart not an increase in deposits, but a reduction in borrowing.

It follows that asset purchases must have as their counterpart the algebraic sum of the increase in the deposits of the banking system with the Eurosystem and the reduction in borrowing from the central bank.

The overall accounting relationship at the aggregate level is thus:

Asset purchases = increase in deposits (excess reserves) at central bank minus reduction in lending (of NCBs to commercial banks).

The importance of this 'double-faced' relationship of the Eurosystem with the banking system (as both lender and borrower) can be seen in the overall stocks on both sides of the balance sheet of the Eurosystem. In September of this year, the Eurosystem had thus about €780 billion in borrowing outstanding (claims of the Eurosystem on banks) and at the same time deposits of €1,800 billion (claims of banks on the Eurosystem).

Moreover, since the start of QE, banks have actually increased their borrowing from the ECB over the two-year period. For example, over the last year, the deposits of MFIs with the Eurosystem have increased by €870 billion and at the same time banks have increased their borrowing by about €260 billion.

The bond purchases have been very regular, with amounts announced by ECB decisions well in advance. The borrowing of banks from the lending facilities, especially the TLTRO has been much less regular and more difficult to predict (since it is up to banks to decide how much to take up from the TLTRO (targeted longer-term refinancing operations) on offer). This might be one of the reasons why the increase in Target balances has been somewhat irregular.

One can only speculate whether the banks that have deposits with the Eurosystem (on which they have to pay negative interest rates) are also the same ones that have borrowed from the Eurosystem. This is possible since central bank deposits are very short term, whereas the borrowing is mostly long term (three years) under the TLTRO.

Since one observes the phenomenon (banks increasing borrowing from and depositing with the Eurosystem) at all NCBs, it seems unlikely that it is due to stress in some national banking systems.

Whatever the reason for the simultaneous borrowing and lending, the increase in gross positions introduces an additional element in the link between asset purchases and Target balances, because the increase in TLTRO borrowing differs in magnitude from country to country.

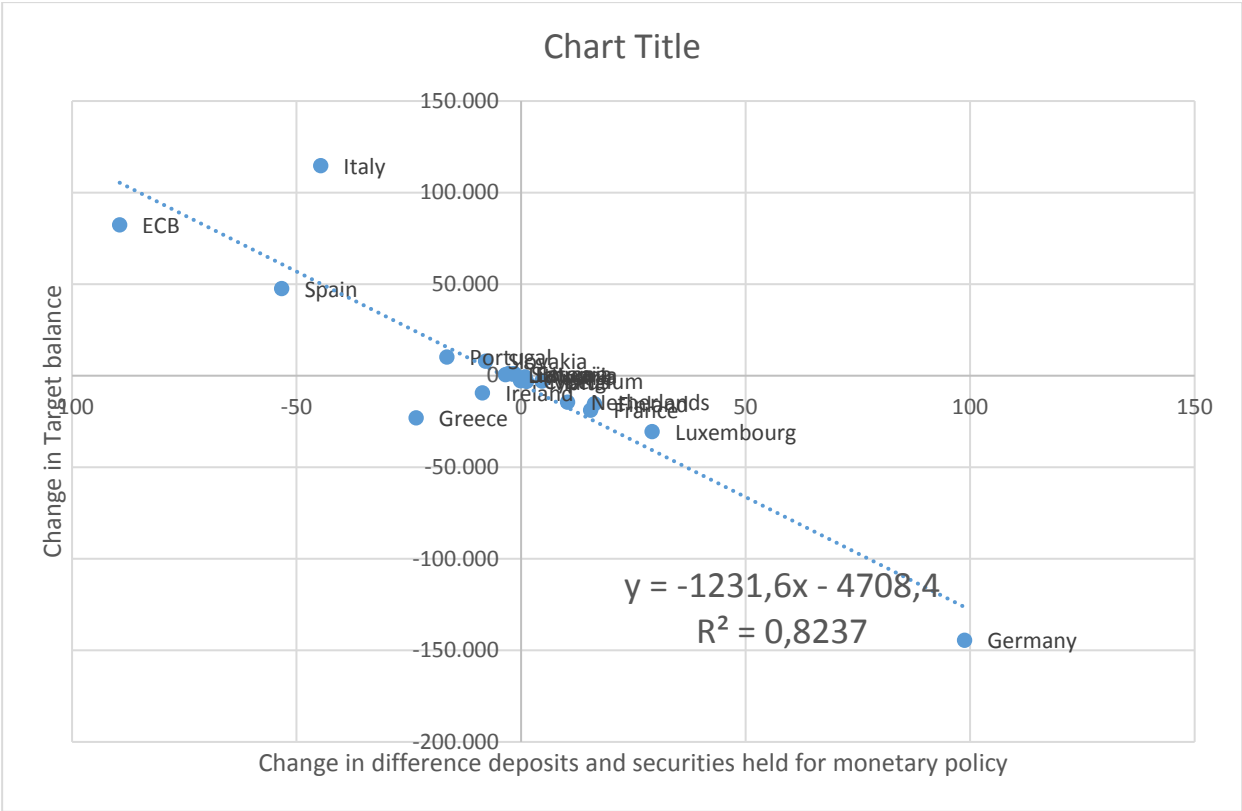
Target imbalances are thus determined by a new accounting relationship:

T2 balance = Asset purchase of NCB - increase in deposits (excess reserves) at NCB plus increase in lending (of NCB to commercial banks).

These accounting relationships provide a simple framework for explaining observed patterns in Target imbalances: The overall increase in central bank deposits held by commercial banks

with the Eurosystem was pre-determined by the scale of the bond purchases (minus any repayments of bank borrowing from the Eurosystem). But when one NCB ends up with a smaller increase in deposits than its pro-rata share of bond purchases, it will have to record an increase in another liability, namely a negative T2 balance. This implies that one should observe an increasing relationship between deposits and T2 balances. Those NCBs whose increase in deposits was less than the amount purchased will have experienced an increasingly negative T2 balance and vice versa. This is indeed what one observes, as depicted in Figure 1 below.

Figure 1: The relationship between target imbalances and the net position of NCBs vis-à-vis the banking sector



Source: ECB.

This relationship is far from perfect because there are a host of other factors that affect the balance sheets of the NCBs. The annex provides the results of a statistical exercise (a regression in which the impact of the individual elements on Target balances is identified separately).

What needs explaining is the particular cross-country pattern that has arisen, i.e. why some countries have tended to accumulate negative balances and others positive balances.

3. DIFFERENCES IN FINANCIAL STRUCTURE AS REASONS FOR TARGET IMBALANCES

The overall increase in T2 balances has not been of the same value as the bond buying in the Eurosystem (which is recorded as an increase in the item “securities held for monetary policy purposes”), but it has been roughly proportional in a ratio of 1:4. For example, between July 2016 and September 2017, the total purchases amounted to over €970 billion and T2 imbalances increased by about €260 billion.

It seems that the expectation was that the NCBs would find willing sellers mainly within their own countries. Moreover, given that the banks in the peripheral countries had accumulated particularly large amounts of domestic bonds on which they had made considerable capital gains, one could have expected that these banks would be willing sellers of some of these bonds. But this has not been the case. Reported holdings of sovereign debt of euro area banks have not decreased by a significant amount since the start of the PSPP. At first sight this is surprising since banks can use either government bonds or central bank deposits to satisfy the liquidity requirements under the LCR (liquidity cover ratio). However, this applies in the first instance to short-term bonds, which are often held for liquidity purposes. But the PSPP concentrated on longer-term maturities, which are often held by non-bank institutions, such as insurance companies.

There have thus been few domestic sellers of government bonds. ECB (2015) reports that about 80% of all purchases were cross border (either within or outside the euro area) and about one-half involved sellers from outside the euro area.

At first sight this would indicate that the PSPP has led to a large repatriation of national public debt. This would only be partially correct, however, given the importance of investment funds (see also Minnena (2017)). If a fund domiciled in Luxembourg sells an Italian government bond to the Banca d'Italia, the transaction would be recorded as cross-border even if the shares in this fund are owned only by Italian residents.

But similar operations in the other directions seem also to have taken place. Italian residents might invest the proceeds of sales of Italian government bonds in Luxembourg investment funds. This would also lead to a negative T2 balance of the Banca d'Italia. But when the shares in the investment fund (e.g. a UCITS) are owned mainly by Italians, the investment ‘abroad’ does not necessarily mean capital flight since the Luxembourg UCITS could be mainly a vehicle for investing in Italian assets.

3.1. The special position of the ECB

As mentioned earlier, the official name of QE for the ECB is the Public Sector Purchase Programme (PSPP), which comprises two tranches:

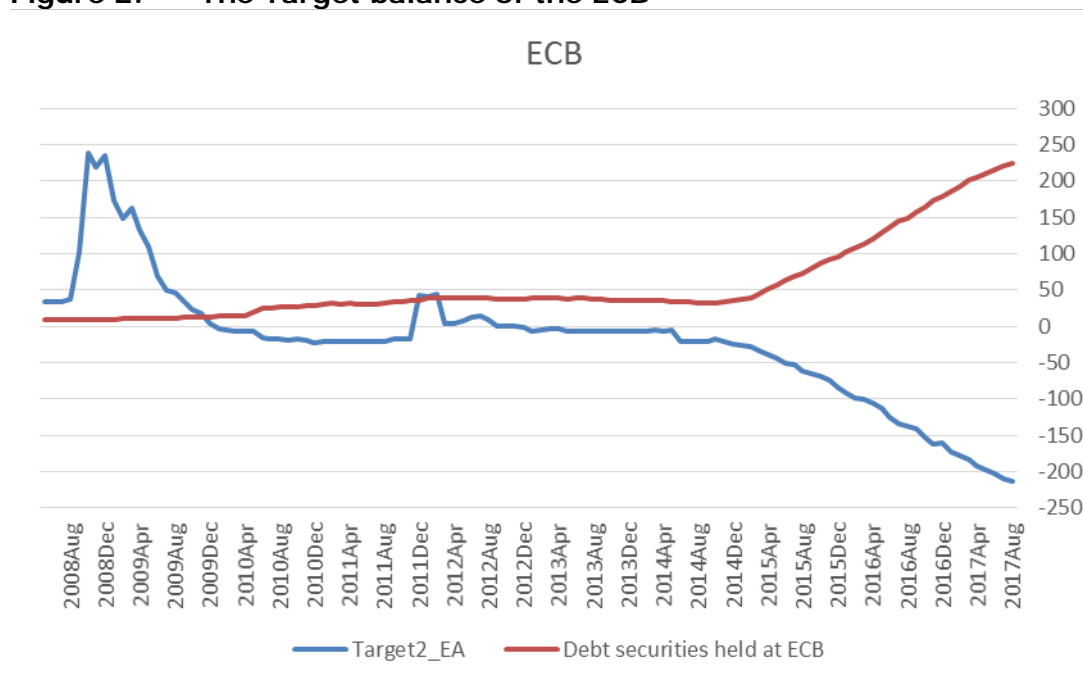
- One part, about 10%, is executed by the ECB, which is buying only the bonds of international institutions.
- The remainder, about 90%, is assigned, pro rata according to their ECB capital shares, to the individual NCBs which buy only the bonds of their own government.

The ECB has thus bought about €200 billion of bonds since early 2015. But it has also accumulated a negative Target balance of the same amount.

It is relatively straightforward to understand why the ECB has accumulated a negative Target balance: the funds received by those who sold the bonds could not be ‘parked’ with the ECB. This is why any asset purchases by the ECB necessarily result in a negative target balance of the ECB. The balancing item must then be found in an accumulation of excess reserves somewhere in the Eurosystem, at some NCBs, which thus must have a positive (or less

negative) balance as a result of the purchases of the ECB. The figure below illustrates the almost perfect (negative) correlation between asset purchases by the ECB and its Target balance.

Figure 2: The Target balance of the ECB



Source: European Central Bank.

(During the initial period of the financial crisis, the ECB had a large positive Target balance because at that time the ECB had injected a large amount of liquidity into the banking system as banks were requesting financing from the Eurosystem, and the ECB could provide this only via NCBs.)

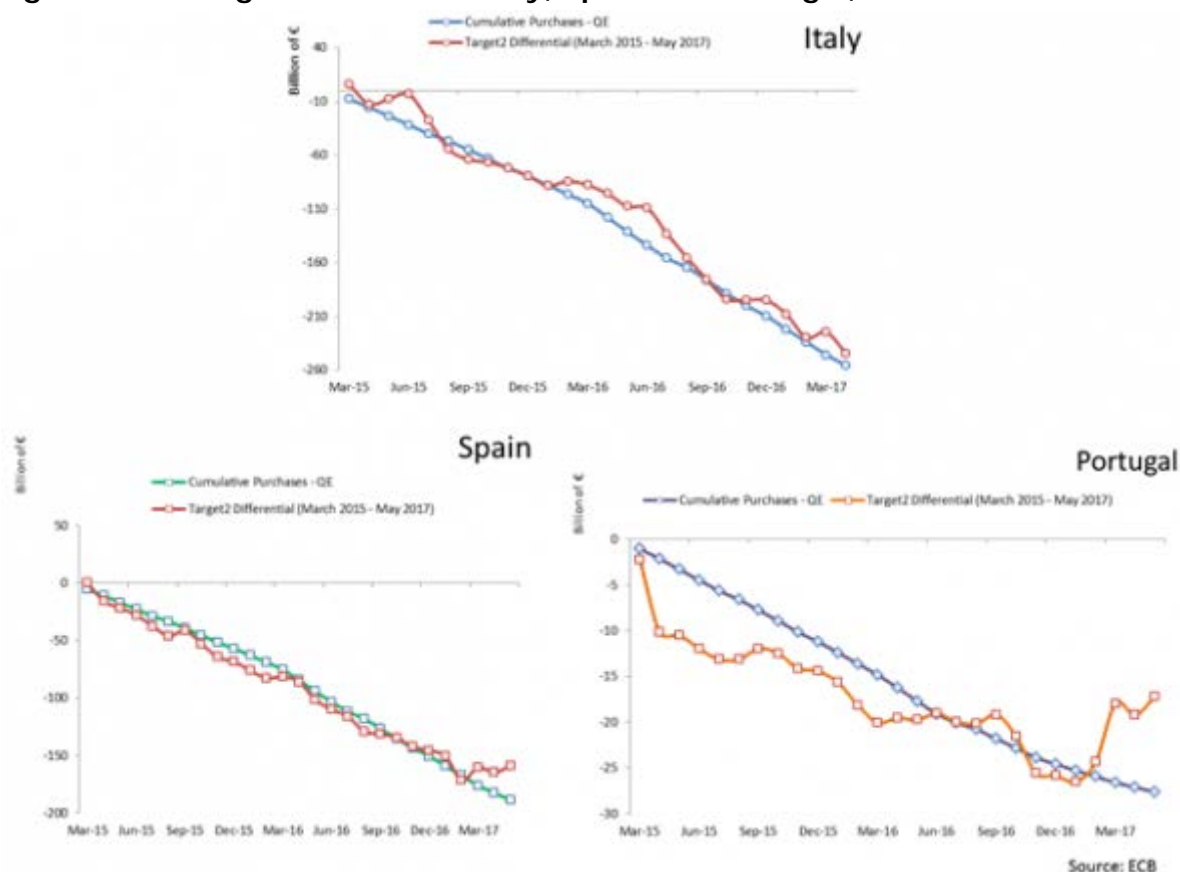
3.2. Target balances at some key national central banks

As documented by Minnena (2017), the Target balances of the three largest countries that still record a significant risk premium deteriorated almost one to one with the asset purchases undertaken by their respective NCBs (Banca d'Italia, Banco de España and Banco de Portugal). (See Figure 3)

The one to one relationship between asset purchases by the NCBs of these countries and their Target balance has given rise to the impression that central bank purchases have just financed capital flight.

The counterpart of the negative balances of the three 'IPS' countries (Italy, Portugal and Spain) have been the positive balances of Germany (along with Luxembourg (€180 billion) and the Netherlands (€120 billion)) which have increased almost one to one.

The biggest increase in Target balances since the start of QE has thus been recorded by the three countries that are home to subsidiaries of banks from outside the euro area and also the countries with the largest international holders of Italian and Spanish bonds. For example, when the Spanish central bank buys a Spanish government bond from a German insurer, the payment is likely to flow directly into the German financial system and to remain there. As explained above, this leads to corresponding Target balances of the Bundesbank and the Banco de España.

Figure 3: Target balances of Italy, Spain and Portugal, 2015-17

Source: Minnena (2017).

Furthermore, as emphasised by Minnena (2017), the German (or the Dutch and Luxembourg) banks also intermediate the operations of banks outside the euro area that tend to use their local subsidiaries to make purchases. When a London-based hedge funds sells to the Banca d'Italia, the payment is likely to pass through a German subsidiary of the bank that is executing the sale.

Target balances are of course recorded also in the balance of payments as official capital. For a country with a balanced current account any increase in official capital inflows must be offset by private outflows (for a detailed analysis for Italy see Banca d'Italia (2016)). In this sense one can consider Target balances as 'capital flight'.

However, as explained above, some of the 'outflows' of private capital might just be purchases by Italian residents of shares in mutual funds domiciled in Luxembourg which is recorded as a capital outflow even if these funds are invested in Italian assets.

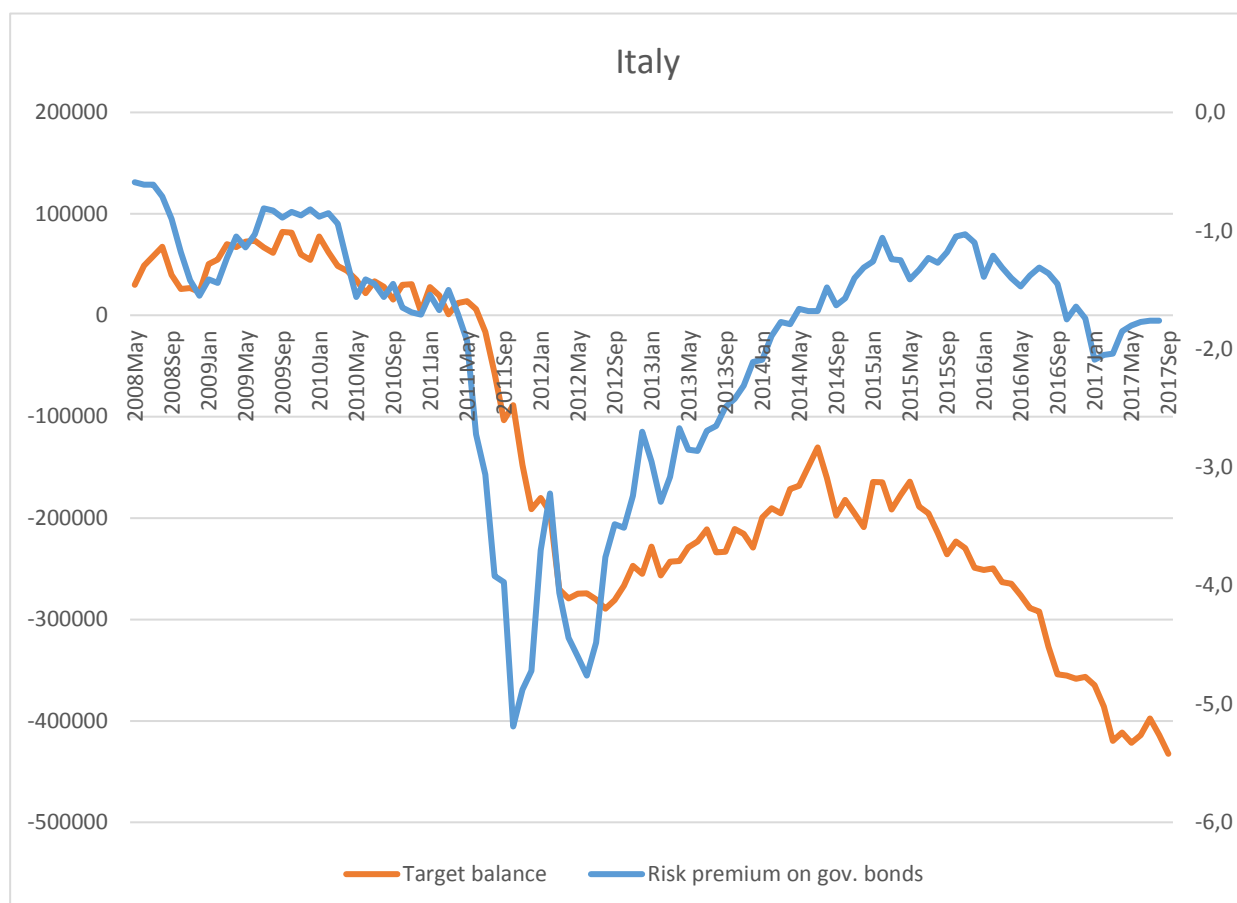
4. SHOULD ONE WORRY?

Technically one could of course consider the fact that the financial institutions that are selling government bonds to the southern European NCBs tend to keep their balances in Germany (and in Luxembourg and the Netherlands) as capital flight. However, there are a number of reasons why this interpretation seems far-fetched.

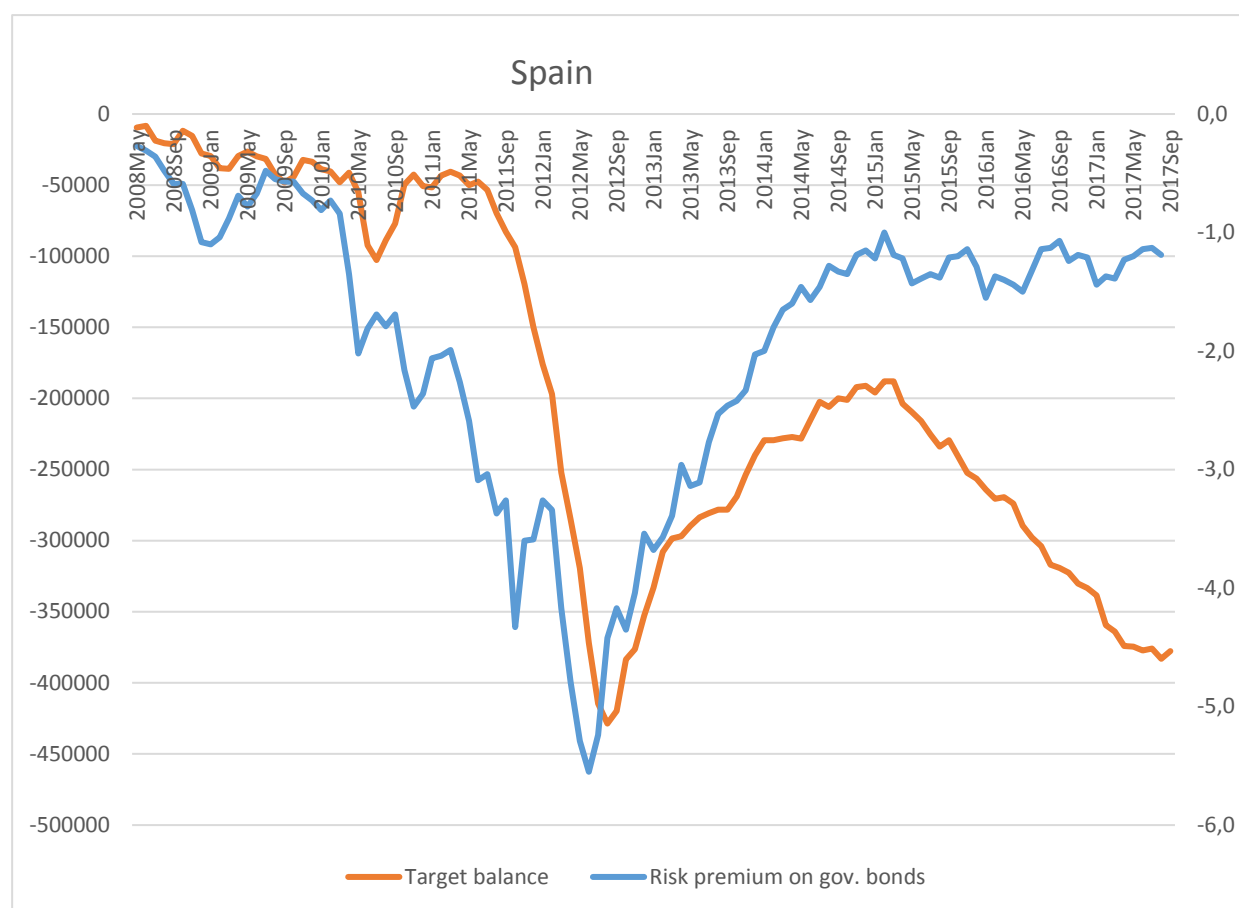
First of all, risk premia have not increased and banks in the countries where Target balances have become negative do not report any difficulties in accessing inter-bank markets. The disconnect between Target balances and the risk premium is readily apparent for Italy and Spain in Figure 4 below.

Figure 4: Target balances and the risk premium

Panel a)



Panel b)



Source: ECB and European Commission.

Secondly, as explained above, the Target balances reflect the geographical differences in the distribution of central bank deposits relative to the purchases of securities by the NCBs and the ECB. *A priori* one would expect these deposits to migrate to those countries where banks have the greatest liquidity surplus. The largest liquidity surpluses have arisen naturally in the countries with the largest current account surpluses, namely Germany and the Netherlands. Luxembourg of course plays a special role owing to its headquarters function. It is thus not surprising that its Target balance is at €180 billion (about one-fifth that of Germany, although its economy is about 200 times smaller).

Finally, one must consider the case of Greece, whose NCB did not participate in the asset purchases under the PSPP. If there had been a generalised capital flight, one would have expected the Target balances of Greece to deteriorate as well. But this has not happened. On the contrary, the Greek target balance has gradually improved since the sharp increase recorded following political tensions in early 2015, as shown in Figure 5 below.

The pre-announced reduction in the asset purchases within the PSPP should provide a first occasion to test the link between asset purchases and the increase in Target balances.

Figure 5: Target balance of the Bank of Greece



Source: ECB.

5. CONCLUSIONS

The renewed increase in the Target 2 'imbalances' since the start of the large bond purchases under the PSPP is a sign that the financial markets in the euro area are not totally integrated and homogenised. There is little reason to believe, however, that the run-up in the negative balances of Italy, Spain and Portugal reflects a loss of confidence in the euro membership of these countries. These accounting entries ultimately reflect the working of a monetary union (as opposed to a fixed exchange rate system) (Klein (2017)).

The large Target imbalances are a consequence of the decentralised implementation of the common monetary policy. If all of the bond purchases had been undertaken by the ECB (instead of the NCBs) most countries would have recorded positive balances.

The overall conclusion is thus that the increase in Target balances does not have any important implications for the setting of the common monetary policy. But the decentralised implementation of the policy might be re-considered in future.

Ultimately, confidence in the euro relies on a sound macroeconomic environment. With most of the peripheral countries now growing, whilst maintaining current account surpluses, there is little reason to expect a return to the financial market stress and fears of a break-up of the euro area that erupted in 2011-12.

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ANNEX

This table reports the result of a panel regression (GLS) with random effects for the four largest euro area countries over the 15 months for which detailed data are available, 60 observations.

R-sq: within = 0.4083

between = 0.9131

overall = 0.5043

Dependent variable: Target2 balance	Coef.	Std. Err.	z	P> z
Securities held for monetary policy purposes	-.99	.497	-2.01	0.045
D1.	-.44	.197	-2.25	0.024
Lending to banks	.559	.0928	5.94	0.000
Deposits by banks	-4.504	1.276	-3.53	0.000
Other intra-euro area assets (from cash distribution)				
D1.				

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ISBN 978-92-846-2193-4 (paper)
ISBN 978-92-846-2194-1 (pdf)

doi: 10.2861/674216 (paper)
doi: 10.2861/00962 (pdf)

