

## THE EUROSISTEM'S QUANTITATIVE EASING MEASURES AND THE FINANCIAL ACCOUNT

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*This article shows how the ECB quantitative easing policy has generated excess liquidity within the euro area, promoting financial flows between countries. This contributed to a positive balance in the 2015 financial account of Spain's balance of payments excluding the central bank, which is higher than the surplus on the current and capital accounts. As a result, last year the Banco de España's negative external position increased, although the nature of these flows differs notably from that in the period of sovereign debt stress in 2012. On the whole, the net debtor position of the Spanish economy decreased in 2015, while major net investment flows into Spain were forthcoming from non-residents.*

### Introduction

In mid-2014 the ECB embarked on a new expansionary phase in its monetary policy, with the announcement of a series of non-conventional measures. These included the setting of a negative deposit facility interest rate, the provision of targeted longer-term refinancing operations (TLTROs) under highly favourable conditions, and the purchase of assets, initially securitisations and covered bonds and subsequently, in 2015, extended to sovereign bonds and other government securities. The application of these new measures entailed, as at March 2016, the acquisition of public and private securities by the Eurosystem for €833 billion and the granting of loans with terms of up to four years to credit institutions (CIs) for €425 billion. Although a considerable volume of prior loans has also been repaid, the result was a significant increase in the Eurosystem's balance sheet and a notable rise in excess reserves (deposits in the central bank exceeding the minimum regulatory requirements) of euro area CIs.

The Banco de España (BE) participated in these operations, granting funds to Spanish CIs through TLTROs and providing liquidity through security purchases. However, the volume of excess reserves of Spanish institutions in the central bank has hardly grown since then, which indicates that the net liquidity provided has gone to players resident in other euro area countries. As explained in this article, this raised the Banco de España's net external debt – mainly in the form of liabilities to the rest of the Eurosystem – the origin and nature of which differ notably from 2012. Back then, the Spanish economy was facing a crisis of confidence which sparked a significant outflow of funds abroad, mainly through portfolio divestments and the non-renewal of loans by non-residents. Last year, in contrast, portfolio investments in Spain amounted to €62 billion, with particularly high purchases of medium- and long-term Spanish government debt instruments. For its part, the reduction of loans and deposits from the rest of the world in the past year was more a reflection of the decisions adopted by residents (particularly credit institutions) to reduce their indebtedness in view of the abundant liquidity and the rise in available funds associated with the current and capital account surpluses.

This article focuses on the role played by the recent Eurosystem measures in the performance of the financial account of Spain's balance of payments in 2015. The following section describes how the provision of liquidity by a central bank, through loans or security purchases, results in increases in commercial banks' reserves in that central bank and how institutions' actions can change the distribution of those reserves among banks, but the total remains broadly unchanged. Thus, the expansionary impact expected from quantitative easing policies does not depend on the final destination of the reserves generated within euro area

credit institutions, but rather on the downward effect that the increase in reserves has on asset interest rates and the resulting incentive to grant and request new loans. Subsequently, the third section analyses the particular case of the Eurosystem, in which national central banks (NCBs) and the ECB co-exist in a single monetary area. This gives rise to intra-Eurosystem assets and liabilities (between the central banks of the area). We explain how these arise and their relationship with the external financial flows of the Spanish economy. Lastly, the fourth section reviews the course of these financial flows in the past year.

### The central bank's quantitative easing measures and their effects on liquidity

In a monetary area with a single central bank, when the latter acquires an asset from a resident CI, the counterpart of that transaction in the liabilities of the central bank is generally a deposit in the seller's name. These liabilities are normally referred to as "central bank reserves" and, together with cash, they constitute the monetary base. Only resident CIs are authorised to hold reserves in the central bank and, therefore, all the latter's transactions must involve a resident CI in some way.

Chart 1 shows the associated process. The left-hand column shows a situation in which the central bank purchases securities from a resident CI and the right-hand column shows a situation in which the purchases are made from third-party players (euro area residents or non-residents). In both cases, the central bank's balance sheet increases, with assets growing by the amount of the securities acquired and liabilities growing by the volume of the CIs' reserves. In the first case, the counterpart of this transaction in the balance sheet of the CI that sells the securities is a change in the composition of its assets: there is a reduction in securities held and an increase, of the same amount, in reserves, with no change in the balance sheets of the other players. In the second case, since the other players cannot hold reserves in the central bank, a resident CI acts as intermediary in the transaction, so the seller obtains deposits in a CI as the counterpart of the securities sold. In turn, the CI records an equivalent increase in deposits, on the liability side, and in central bank reserves, on the asset side.

Importantly, in either case the resident CIs end up with a higher volume of reserves. Something similar occurs with liquidity-providing monetary policy operations, where there is also an increase in the central bank's balance sheet, as a result of larger loans to CIs, on the asset side, and of larger CI reserves, on the liability side. Chart 2 shows the situation of the Eurosystem as a whole (i.e. as a single central bank) at 2014 and 2015 year-end, with an increase in the balance sheet between the two year-ends of €573 billion. This figure coincides almost exactly with the €571 billion increase in holdings of euro-denominated securities as a result of the debt purchase programme.<sup>1</sup> On the liability side, reserves increased by somewhat less (€402 billion) because other items also grew.

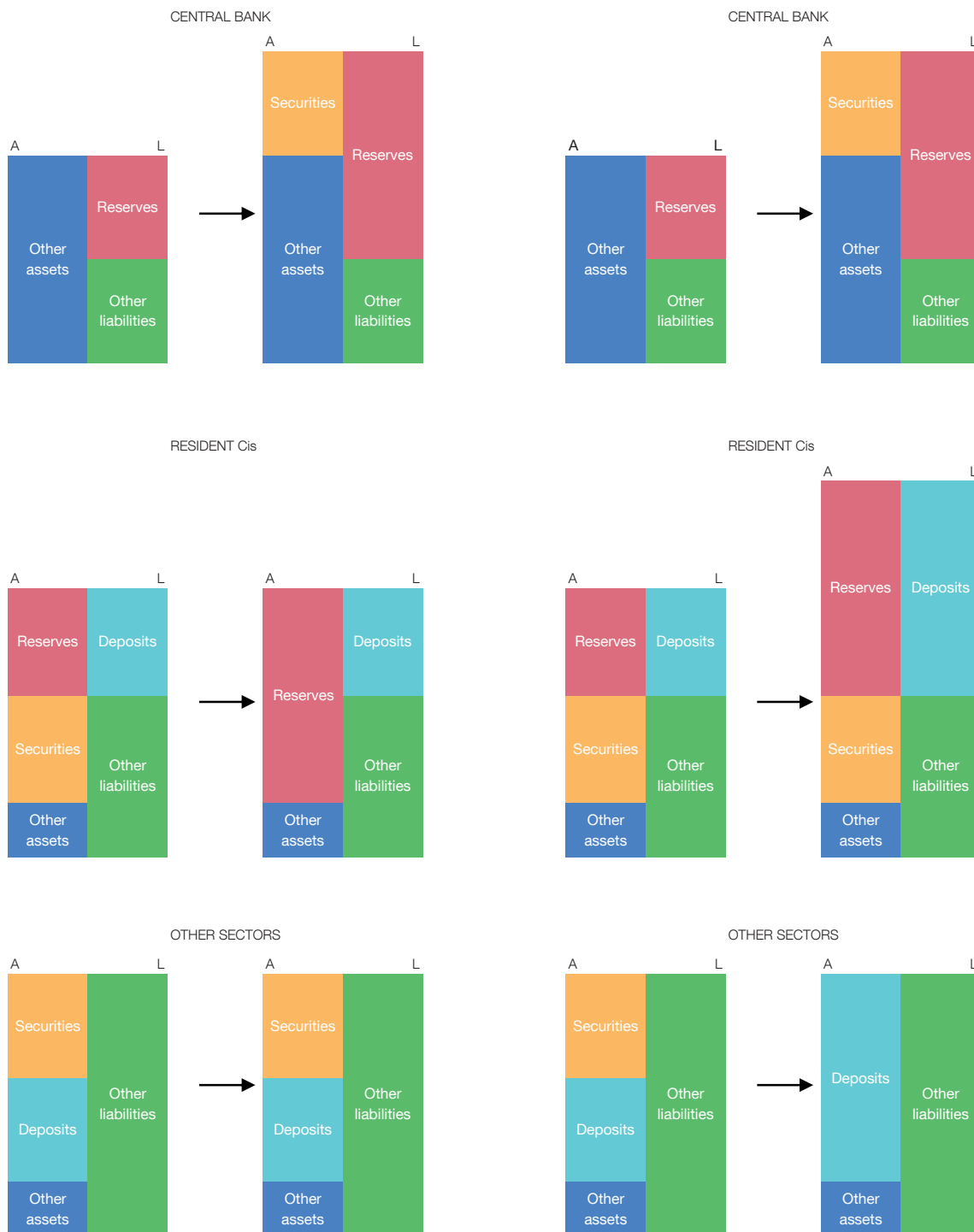
Faced with a higher volume of central bank reserves, individual CIs can reduce these reserves by using them, for example, to acquire assets or settle liabilities. However, since only resident CIs can hold these reserves, if a resident CI makes a payment with them, it has to be to another resident CI and the aggregate balance of reserves will not vary.<sup>2</sup> Only by acquiring assets from or settling liabilities to the central bank can the aggregate level of reserves be reduced. However, since the Eurosystem is acquiring securities, not selling

<sup>1</sup> Euro loans to MFIs did not grow in 2015 despite the liquidity provided in TLTROs, because in the same period the funds granted in the VLTROs carried out in 2011-2012 matured, and, at the same time, institutions reduced the volume requested in other Eurosystem liquidity-providing operations.

<sup>2</sup> Thus, for example, if the reserves are used to acquire new assets from an investment fund, the reserves are transferred as payment to the CI at which the fund has a deposit account. In the case of the granting of a loan, the reserves end up at the CI used by the individual or company owning the assets or supplying the goods and services acquired with the loan.

1 PURCHASE OF BONDS FROM RESIDENT CIs

2 PURCHASE OF BONDS FROM OTHERS (NOT RESIDENT CIs)

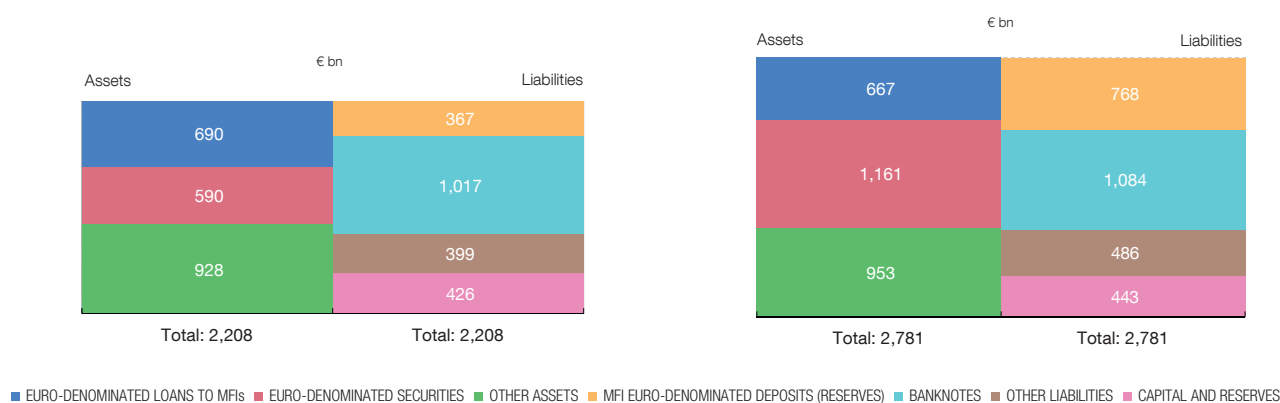


SOURCE: Banco de España.

them, CIs as a whole can only reduce reserves by converting them into cash or repaying loans received from the central bank. The former incurs storage, transport and insurance costs, which makes it less attractive. As for the latter, nowadays the bulk of loans received by CIs from the Eurosystem are long-term and, moreover, the institutions that have excess reserves are not necessarily the same institutions that hold funds lent by the Eurosystem.

1 DECEMBER 2014 (a)

2 DECEMBER 2015 (a)



SOURCE: European Central Bank.

a The sum of the items may not coincide exactly with the total due to rounding.

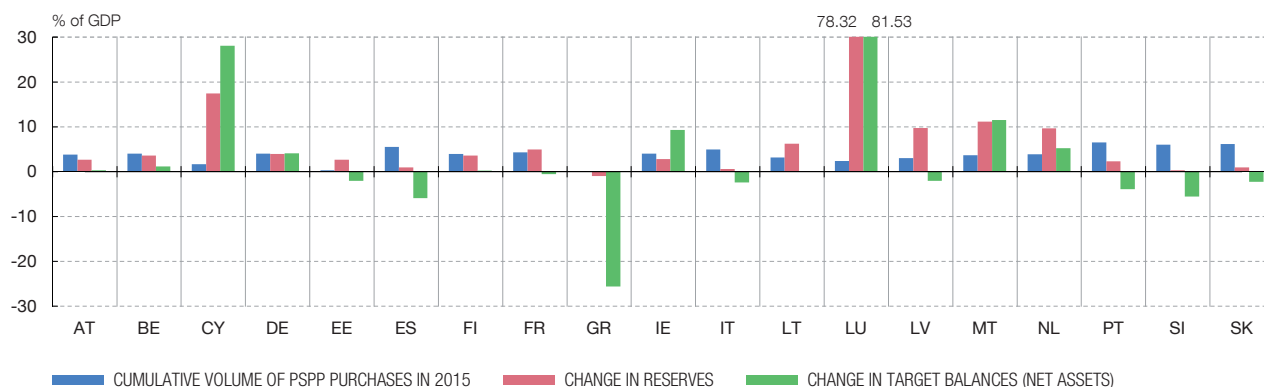
As a result of the foregoing, reserves will circulate between resident CIs depending on how willing they – and their clients – are to hold excess liquid assets. Holding such assets comes at a cost, namely the deposit facility interest rate (currently -0.4%). Therefore, whether they do so or not depends on the alternatives available. Purchasing other assets (or granting loans) will only generate higher expected returns (or lower costs) if these assets have a higher risk level. Alternatively, debt repayment is another option for the CIs that are in a position to do so (because their liabilities are short term or repayable early) and whose cost of debt exceeds the (negative) return on reserves. The outcome of these transactions will be a redistribution of reserves among resident CIs, such that they will tend to flow to those with a lower relative opportunity cost of holding excess liquidity.

This process may also involve transactions with non-residents of the area. However, as explained above, in a monetary area with a single central bank this does not alter the fact that the reserves must remain at a CI of the area. Moreover, assuming that the central bank does not intervene in the foreign exchange market, any cross-border purchase of assets (or settlement of liabilities) must have a counterpart transaction involving non-residents which finances the first transaction (usually an increase in non-resident deposits at a resident CI or a decrease in the latter's deposits abroad), so that the financial account of the balance of payments remains balanced.

### The case of the Eurosystem

The euro area is a special case of the foregoing analysis, since it is a single monetary area that is, however, composed of several countries with their respective central banks and the ECB. This has several implications. Firstly, the redistribution of central bank reserves described above no longer occurs only in one country but rather among euro area countries and, therefore, it affects their balances of payments.

Also, this introduces the additional possibility that, under the Eurosystem asset purchase programme, the NCB may purchase securities from a resident in another euro area country. In this case the premise in the previous section, i.e. that the counterpart is always an increase in the reserves of CIs resident in the country, is no longer true, but rather, by contrast, there is an increase in the reserves which the CIs located in the seller's country of residence hold in their respective NCB.



SOURCES: European Central Bank and Eurostat.

a Sovereign debt purchases in Greece were zero and in Cyprus they were less than the key, due to non-compliance with the conditions of the purchase programme during all or part of the period. In these two countries and in another in which the volume of existing sovereign debt was insufficient, the respective NCBs purchased other securities (supranational debt and replacement assets) to reach their capital key. These purchases are not included in the chart. The changes for Lithuania are from January 2015, when it joined the euro area.

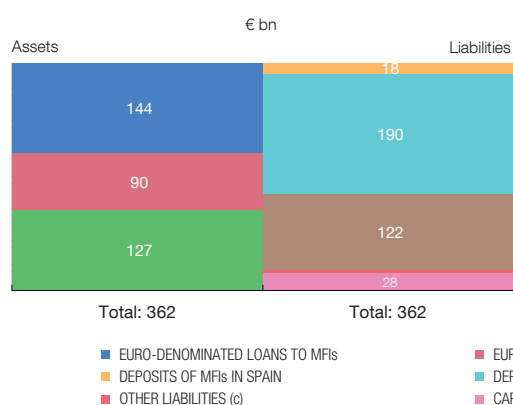
Lastly, the counterpart of payments between institutions of different euro area countries does not necessarily have to be a decrease (increase) in the deposits abroad (from abroad) of the paying institution; rather, if the payment is made through the TARGET system, as is usual, the counterpart is a change in the net position in TARGET of the respective NCBs (see Box 1).

In 2015, due to the design of the Eurosystem public sector purchase programme (PSPP), the purchases were largely made in a decentralised manner, by the various NCBs and in proportion to their ECB capital key, which is related to the population and GDP of each country. Thus, the balance sheets of all the NCBs in the area increased more or less proportionately, with growth in both their assets and their liabilities. This is illustrated in Chart 3, where the first bar for each country represents the purchases of general government securities in 2015 as a proportion of GDP. In the absence of other factors, this should also have resulted in an equivalent expansion of the reserves of each country's CIs in their respective NCBs. However, as the second bars in the chart show, this was not the case. In Spain, Italy, Portugal, Slovenia and Slovakia there was a much smaller increase in reserves, while reserves grew by more than government debt purchases in countries such as Cyprus, France, Luxembourg and the Netherlands, indicating a certain redistribution of liquidity among euro area countries.<sup>3</sup> Since this occurred largely through TARGET, the different results across countries are also reflected in the change in the position of each NCB in that system, as shown by the third bars of Chart 3. Thus, in the case of Spain, there is a decline in the BE's net position (higher liabilities), while in the case of Luxembourg and the Netherlands the net position rises. In any event, the relationship is not exact, since there are other factors (TLTRO, cash holdings, etc.) that also influence the changes in the balance sheet of each central bank that are not taken into consideration in the chart.

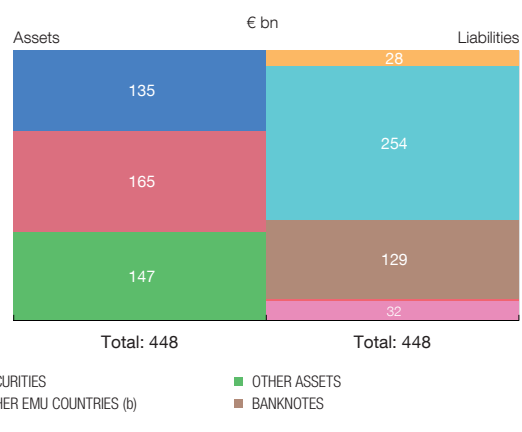
Chart 4 shows in greater detail the changes in the BE's balance sheet in 2015. In the year as a whole, it grew by just over €85 billion. On the asset side, the increase was mainly in euro-denominated securities, as a result of the PSPP. On the liability side, the chart shows

<sup>3</sup> For the account of the CIs themselves or third parties.

1 DECEMBER 2014 (a)



2 DECEMBER 2015 (a)



SOURCE: Banco de España.

- a The sum of the items may not coincide exactly with the total due to rounding.  
 b Mainly intra-Eurosystem liabilities (net debtor position in TARGET).  
 c "Other liabilities" amounted to €4.5 billion in December 2014 and €4.4 billion in December 2015.

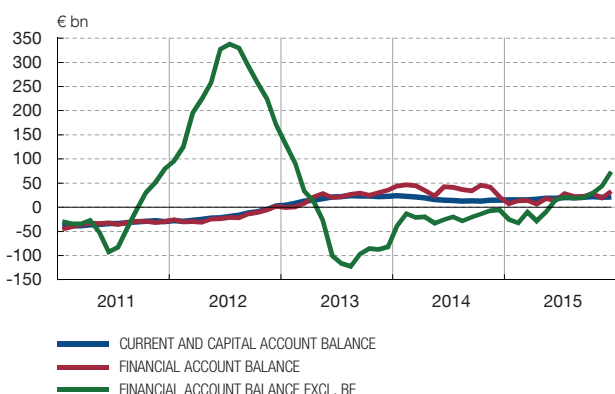
that the CIs' reserves in the central bank also rose, albeit by much less (scarcely €10 billion), while intra-Eurosystem liabilities (recorded under deposits of MFIs in other euro area countries) rose significantly.

Thus the evidence shows that a large portion of the net liquidity provided by the BE under the Eurosystem quantitative easing policy tended to flow abroad, either because the BE's purchases were directly from non-residents or because residents used the funds obtained to make payments abroad. In view of the high foreign debt of the Spanish economy, it is to be expected that the opportunity cost of maintaining the fresh liquidity as excess central bank reserves would be higher in Spain than in other euro area countries, which would explain this effect and would have contributed to the positive balance of the 2015 financial account of the Spanish economy excluding the Banco de España. Further, as explained in Box 1, the counterpart of these changes is an increase in the BE's intra-Eurosystem liabilities, which is analysed in the following section. It should be noted, however, that this does not mean that the Eurosystem's quantitative easing policy has been less effective in Spain. As noted above, its expected expansionary effect does not depend on the distribution of the reserves generated in the Eurosystem as a whole, but on the downward pressure exerted by these reserves on asset interest rates and the resulting greater incentive to grant and request new loans. Thus, regardless of the direction of the redistribution among institutions of the liquid assets generated, this effect on interest rates was even more intense in Spain than in the rest of the euro area.

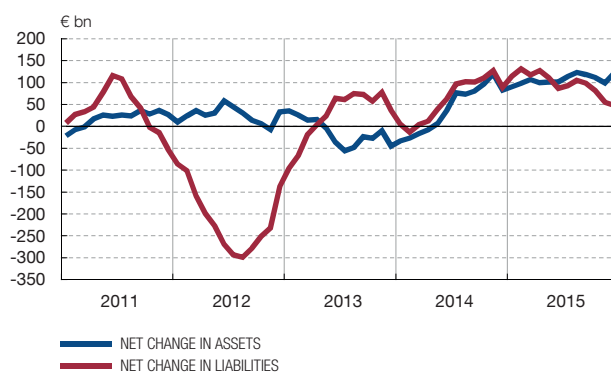
### Cross-border financial flows of the Spanish economy in 2015

In 2015 the Spanish economy posted a surplus of €21 billion on the current and capital accounts. This was the third consecutive year of positive balances following the almost zero balance in 2012 (see panel 1 of Chart 5). This surplus naturally coincides with a positive balance of the financial account (change in assets minus change in liabilities). However, as explained in the previous section, an analysis of the flows of the financial account of the balance of payments must take into account the fact that the foreign assets of the central bank (mainly foreign currency reserves and intra-Eurosystem assets) act largely as an adjusting item vis-à-vis changes in the other items. This explains why cross-border financial flows are generally analysed excluding the BE.

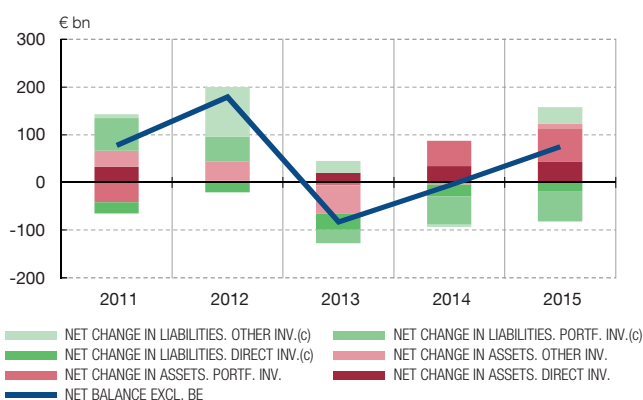
1 BALANCE OF PAYMENTS. 12-MONTH CUMULATED FIGURES



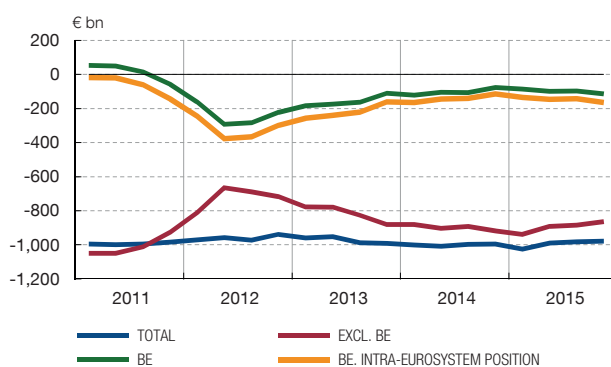
2 FINANCIAL ACCOUNT EXCL. BE (a). 12-MONTH CUMULATED FIGURES



3 CROSS-BORDER FINANCIAL FLOWS BY INSTRUMENT. EXCL. BE (b)



4 NET INTERNATIONAL INVESTMENT POSITION (ASSETS - LIABILITIES)



SOURCE: Banco de España.

- a Financial derivatives are recorded as a net balance of net amounts and are assigned to the net change in assets.
- b Excluding the change in financial derivatives, the amount of which is small.
- c Net changes in liabilities are depicted with the sign changed.

Excluding the BE, in 2015 the financial account posted a positive balance (growth in foreign assets exceeded growth in liabilities) of €74 billion (compared with the practically zero balance of €-6 billion in 2014). This result was influenced partly by the higher available funds of Spanish residents taken as a whole, as a result of the current and capital account surpluses, since a portion of these savings was used to purchase foreign assets or to repay debts to the rest of the world. However, Chart 5 shows that the balance of the current and capital accounts is only one of the determinants of the net external financial flows excluding the BE. They also depend very significantly on the portfolio decisions of residents and non-residents. As mentioned above, the Eurosystem’s actions have partly shaped these flows, since the liquidity generated in Spain was largely channelled abroad.

Panel 2 of Chart 5 shows that the positive balance of the financial account excluding the BE is because net foreign asset purchases by residents exceeded the net incurrence of new liabilities. The former rose from €83 billion in 2014 to €121 billion in 2015, standing at relatively high levels in historical terms, while the latter fell from €89 billion to €48 billion. Nevertheless, the net flow of liabilities remained positive, unlike in 2012, when the tensions associated with the euro area sovereign debt market crisis triggered major reductions in foreign liabilities.

The acquisition of assets from non-residents rose in the three main functional categories (see panel 3 of Chart 5), albeit more notably in portfolio investments (€70 billion) and direct investments (€43 billion) than in other investments (€10 billion). In portfolio investment, against a background of low interest rates and a greater tendency towards the geographical diversification of their portfolios, other resident sectors (ORSs)<sup>4</sup> increased their net purchases of foreign equity securities (equity and investment fund shares/units) by 48% (to €51 billion) with respect to the previous year. These same players also acquired fixed-income securities issued by non-residents amounting to €21 billion (up 3%). As regards direct investment, there were increases in that made by both other monetary financial intermediaries (OMFIs) (+23%) and ORSs (+26%). All in all, the net direct investment flow abroad in 2015 was still considerably below the highs of 2007 (€105 billion).

The reduction in the flow of liabilities in 2015 with respect to the previous year was very much due to the net reduction of other investment (€-35 billion as compared with a rise of €5 billion in 2014), which is mainly explained by the net decrease in interbank deposits (down €22 billion) due to the abundant liquidity generated by the Eurosystem's quantitative easing measures. Net foreign direct investment in Spain fell moderately (from €25 billion to €20 billion), while portfolio investment in assets issued by residents remained high, slightly above the year-ago levels (€62 billion as compared with €59 billion in 2014). As indicated above, this contrasts with 2012, when the financial market tensions and international investors' doubts regarding the Spanish economy triggered a net sale of Spanish securities in non-resident portfolios of €52 billion. In 2015, unlike three years ago, non-residents invested €70 billion in Spanish government debt securities, 96% of which were medium and long term.

Given that in 2015 the positive balance of the financial account excluding the BE (signifying higher payments on than receipts from cross-border financial transactions) exceeded the positive balance of the current and capital accounts – including errors and omissions – (signifying net receipts), the net flow of payments to the rest of the world was reflected in an increase in the BE's liabilities to non-residents. Since the foreign currency reserves and other net external assets and liabilities of the central bank grew by €11 billion, there was an increase in the net debtor position vis-à-vis the Eurosystem of €51 billion. This rise interrupted the downtrend which started in 2013 when euro area financial market tensions eased (see panel 4 of Chart 5).

The increase in the intra-Eurosystem net debtor position should not be interpreted as signalling a resurgence of the Spanish economy's financing problems. As explained in the foregoing section, the changes in intra-Eurosystem assets and liabilities reflect the net flows of receipts from and payments to the rest of the euro area. Sometimes these flows are not balanced and the economy experiences net outflows or inflows of funds. Nevertheless, this may have widely differing causes. In 2012, these payments largely resulted from divestments by the rest of the world of securities issued by residents and from the non-renewal of loans granted to residents by non-residents. In 2015, in contrast, as we have seen previously, non-residents continued to purchase large amounts of Spanish-issued securities, so the higher payments abroad can be explained by residents' purchases of foreign assets, against a backdrop of low interest rates and stronger preference for the geographical diversification of portfolios, and by the reduction of interbank liabilities to non-resident institutions by Spanish CIs.

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4 Other than MFIs and general government.



The net international debtor position of the Spanish economy excluding the BE fell in 2015 from €918 billion in December 2014 to €864 billion twelve months later as a result of the positive balance of the financial account, despite the counteracting effect of the net revaluation of assets and liabilities. Taking the BE into account, the improvement is smaller (from €995 billion to €978 billion). In any case, the aforementioned net debtor position is still very high, both in absolute terms and as a percentage of GDP (90%), which shows the need to persevere in maintaining positive balances of the current and capital accounts for an extended period of time.

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Intra-Eurosystem assets arise as a result of the functioning of the euro area as a single monetary area in which various countries participate. Due to their particular nature, since the euro area was created, the statistics of the Banco de España (BE) have included a presentation of the balance of payments and international investment position, additional to that recommended by the international manuals, which clearly distinguishes the Banco de

España's financial account and, in particular, the net intra-Eurosystem position.

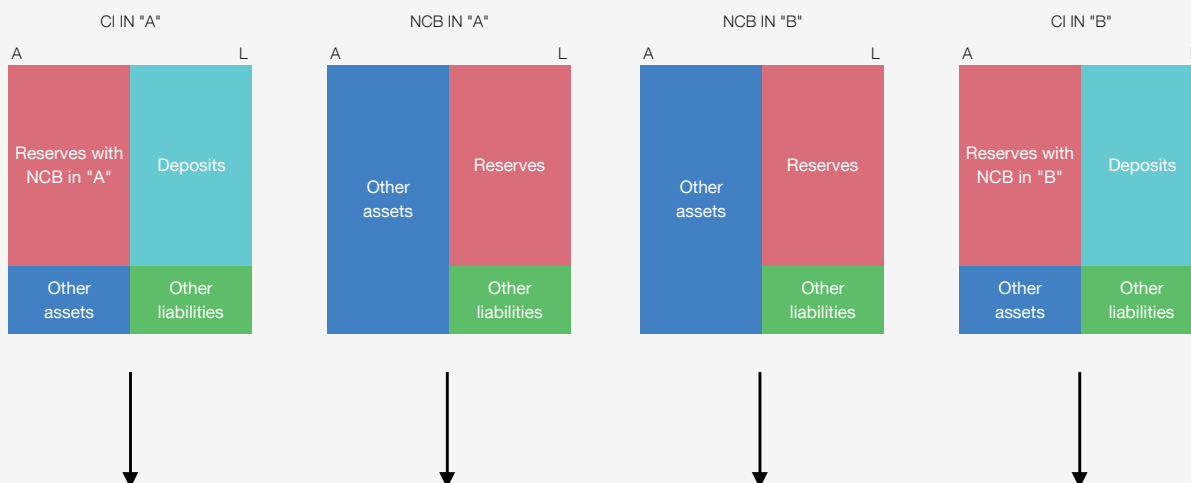
The accompanying chart shows an example of how these intra-Eurosystem assets are created.<sup>2</sup> The case considered is a payment (which may be associated with a commercial transaction, such as the purchase of a good or service, or a financial transaction, such as the granting of a loan or the purchase of a security) by a client

1 For a more detailed analysis, see the BE methodological note entitled "Banco de España claims on the Eurosystem and the treatment of euro banknotes in the Balance of Payments and the International Investment Position" (<http://www.bde.es/webbde/en/estadis/bpagos/bpabee.pdf>).

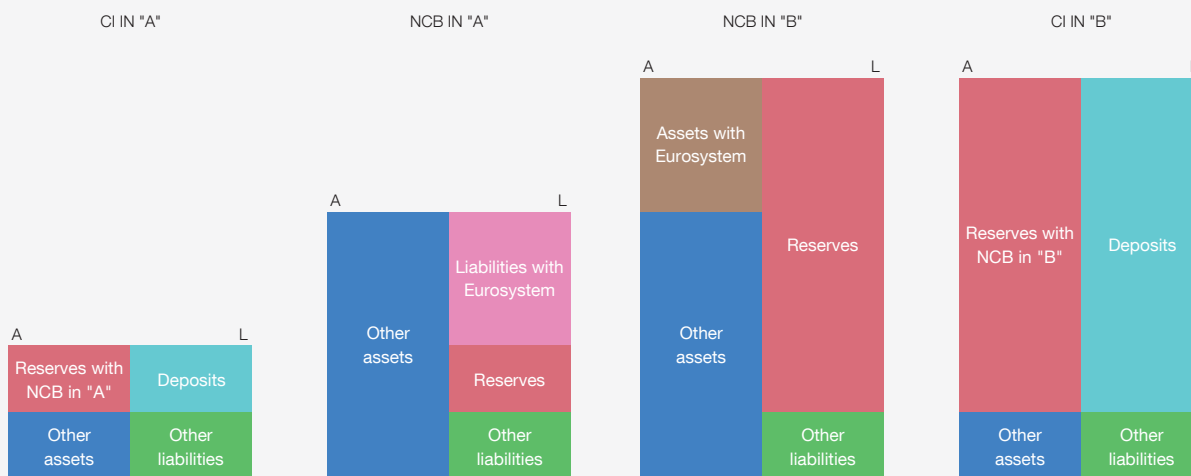
2 See also Box 4 in the ECB *Economic Bulletin* no. 6/2015 and the article entitled "TARGET balances and monetary policy operations" in the ECB *Monthly Bulletin* of May 2013.

EXAMPLE OF THE CREATION OF INTRA-EUROSYSTEM POSITIONS: PAYMENT BY A CLIENT OF CI IN COUNTRY "A" TO A CLIENT OF CI IN COUNTRY "B"

A INITIAL SITUATION



B FINAL SITUATION



SOURCE: Banco de España.

of a CI in country "A" to a client of another CI in country "B", both within the euro area, which is made through TARGET. TARGET transactions are settled in the central bank reserve accounts of the various participating institutions. Thus, starting from the initial situation portrayed by the top panels of the chart, the payment involves a reduction in the reserves of the paying institution (CI in "A") and an equal increase in the reserves of the collecting institution (CI in "B"). Both institutions, which act solely as intermediaries, transfer the related payment or receipt to their clients by charging or crediting the amount to their deposits in the CI.<sup>3</sup> If the payment is between clients of institutions in the same country, both institutions hold their reserves in the same NCB and the transaction is settled simply with a change in reserve holder on the balance sheet of that NCB. However, in this example, each CI has its reserves in a different central bank. Therefore, settlement of the transactions requires an adjustment to assets and liabilities within the Eurosystem. In principle, the transaction would take place through the opening of a debtor position of the NCB in "A" vis-à-vis the NCB in "B". However, TARGET's functioning stipulates that, at the end of the day, the bilateral positions between the different NCBs and the ECB are netted and become net positions of each of them vis-à-vis the rest of the Eurosystem (net TARGET position). Thus, for example, if the NCB in "A" has had more payments to than receipts from the other NCBs (as in this case), a net liability is generated. In parallel, a net asset arises at the NCB

in "B". All of these positions disappear when all the various components of the Eurosystem are consolidated.

In short, any payment (receipt) between a Spanish resident and a resident of another euro area country using the private financial system is settled through TARGET and it results in a change in the BE's TARGET position and in a change in Spanish CIs' central bank reserves.<sup>4</sup> When payments exceed receipts, reserves fall and intra-Eurosystem liabilities increase (or assets decrease), and vice versa when the former are less than the latter.

Thus, to a certain extent, intra-Eurosystem assets act, within the euro area, in a similar manner to the foreign currency reserves of central banks that do not form part of a monetary union. Net outflows of funds abroad reduce intra-Eurosystem assets and vice versa. However, there are significant differences between the two. While foreign currency reserves cannot be negative, intra-Eurosystem assets can be (i.e. intra-Eurosystem liabilities). Also, changes in intra-Eurosystem assets are automatic. They do not depend on the will of the central banks involved, but rather any euro area NCB is obliged to accept, as payment, deposits in another NCB in the euro area. This is the only way to ensure the existence of a single monetary policy in all euro area countries. It should also be noted that these liabilities are not callable and have no maturity.<sup>5</sup> Thus, in principle, if the situation is not accompanied by national banking system imbalances that require correcting (such as, for example, problems of a lack of collateral or an overdependence on very short-term financing), these positions may persist over time.

3 In the case of payments originated by CIs without intervention by clients, the change in reserves would be equivalent, but there would be no changes in clients' deposits. For example, if the payment relates to the repayment of prior interbank loans of the CI in "B" to the CI in "A", the counterpart would be lower interbank assets/liabilities in the respective CIs. If the payment relates to a purchase of bonds (or any other financial asset), the reduction in reserves of the CI in "A" would correspond to an increase in its holdings of bonds and the CI in "B" would record the opposite transaction. In any event, the change in reserves is identical to that of the case presented.

4 If the payment is not made through TARGET, the changes that are recorded will depend on how the operation is settled, but, as a counterpart in the financial account of the balance of payments, they will necessarily involve a decline in financial assets abroad and/or an increase in liabilities.

5 Also, they currently bear no interest, since their remuneration is set equal to the ECB's official interest rate, which is currently zero.

