

What can we and can't we infer from the recourse to the deposit facility ?

J. Boeckx,
S. Ide^(*)

Introduction

The two sizeable liquidity-providing operations conducted by the Eurosystem on 22 December 2011 and 1 March 2012 have not gone unnoticed. These operations, which enabled banks to borrow respectively € 489.2 and 529.5 billion for a three-year period, have attracted a great deal of attention in the various media and in market circles. They have helped the banks to easily cover their present and future funding needs. Following the turn for the worse in the financial crisis in late 2011, certain banks have indeed been faced with funding problems, for instance with customers withdrawing savings deposits or difficulties in issuing debt securities. In particular, the sharp rise in recourse to the deposit facility – an account with the central bank where banks can place their surplus liquidity at the end of the day at a penalty interest rate – has been given wide coverage by observers to illustrate the severity of the banking crisis and the growing mistrust among banks.

This article attempts to qualify two interpretations put forward for this recourse to the deposit facility. The first sees the daily fluctuations in amounts placed on the deposit facility as a day-to-day mirror image of tensions on the interbank market. Since banks have to meet on average a reserve requirement over a reserve maintenance period and they prefer to fulfill their requirements at the beginning of the period, there is a seasonal pattern with the fluctuating recourse to the deposit facility, which is not observed in the liquidity surplus on the money market. The latter is the sum of the recourse to the deposit facility and the banks' current account holdings with the Eurosystem over and above the reserve requirement. It

is thus this surplus that appears to be best placed for gauging tensions within the banking system – that is, the extent to which the central bank acts as an intermediary between the banks.

A second misinterpretation is the assertion that the heavy recourse to the deposit facility means that banks are not lending to the real economy and that they are hoarding the central bank liquidity with the Eurosystem. Since the relationship between the Eurosystem and its counterparties is a closed circuit, the wide recourse to the deposit facility tells us, in principle, nothing about individual banks' lending to the non-financial sector or to what use the banks are putting the central bank liquidity they receive.

The article is structured as follows. It starts off by setting out a series of basic concepts concerning the liquidity management of the Eurosystem, in particular the central bank balance sheet, the consolidated liquidity need of the banking system, the liquidity surplus that has emerged as a result of tensions on the interbank market and the way in which this surplus appears in the Eurosystem's balance sheet. It then goes on to explain why it is the liquidity surplus, rather than the amounts placed on the deposit facility, that constitutes an indicator of the difficulties the banks are facing to fund themselves. Lastly, with the help of a few examples, it shows that the level of the liquidity surplus does not actually tell us anything about the commercial banks' behaviour as regards lending to the real economy.

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1. Liquidity management of the Eurosystem: a few basic concepts

After the two liquidity-providing operations with a maturity of three years, the liquidity surplus – that is, the difference between the liquidity provided by the Eurosystem under its monetary policy operations and the consolidated liquidity need of credit institutions – had grown considerably in the euro area. It had already been constantly on the rise since July 2011, in parallel with the intensification of financial turmoil. As at 25 May 2012, the net supply of liquidity, involving mainly refinancing operations carried out with credit institutions, had reached € 1 170 billion, while liquidity needs came to 426 billion.

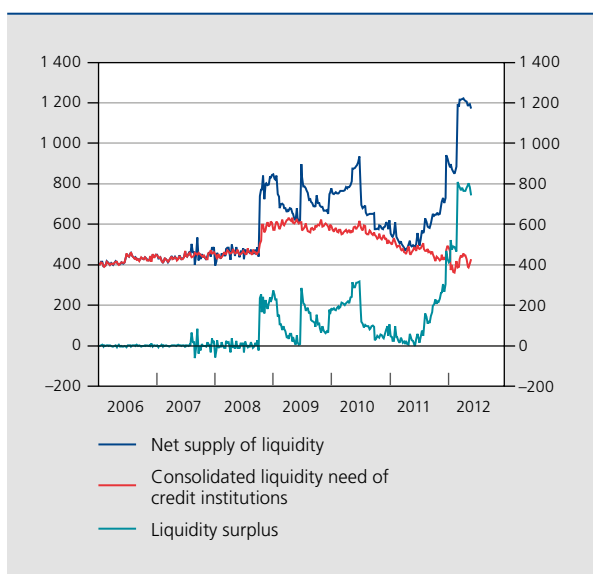
The consolidated financial statement of the Eurosystem provides a better understanding of how the liquidity need and surplus arise. On the assets side of the central bank balance sheet are items which have a positive impact on the liquidity available for the banking sector if they increase, while the liabilities side features those leading to liquidity absorption. The latter is facing liquidity needs because the autonomous liquidity-absorbing factors (such as banknotes in circulation or government deposits held with national central banks) are higher than the autonomous liquidity-providing factors (such as portfolio investment by the Eurosystem not for monetary policy purposes). The liquidity need is further increased by the minimum reserve requirements imposed on credit institutions.

The banking sector depends on the Eurosystem for refinancing this consolidated liquidity need (represented, respectively, by the red line and the red boxes in charts 1 and 2). This refinancing is mainly conducted through the Eurosystem refinancing operations, but can also be done via the marginal lending facility. Recourse to this facility is generally limited because it carries a penalty interest rate⁽¹⁾. Furthermore, securities purchases for monetary policy purposes also help to meet the liquidity need. Liquidity-providing operations increase the current account holdings (which appear on the liabilities side of the central bank balance sheet) of the counterparty to such transactions with the Eurosystem. Conversely, both the fine-tuning operations and term deposits absorb liquidity from the market (they both lead to lower current account holdings with Eurosystem), so that the Eurosystem liquidity provision is reduced.

When the interbank market is functioning properly, banks easily lend their surplus liquidity to banks in deficit. This means that the banking sector taken as a whole is only soliciting refinancing from the Eurosystem up to its consolidated liquidity needs. Furthermore, before the crisis deepened in September 2008, the Eurosystem adjusted its liquidity provision so as to match supply and demand and thus keep the overnight interest rate stable at a level close to the central policy rate. In this case, the liquidity surplus – defined as the recourse to the deposit facility and current account holdings over and above required reserves – is very small (depicted, respectively, by the green line and the green boxes in charts 1 and 2). However, when the market is hit by turbulence, the banks no longer trade their surpluses and deficits amongst each other, and the banking sector can no longer be considered as homogeneous. It then requires further central bank refinancing than what seems strictly necessary in light of the consolidated liquidity need, implying a larger liquidity surplus.

At present, some banks are actually confronted with excess liquidity, owing, for instance, to an inflow of savings deposits, but they are no longer willing to lend this surplus to other banks that have, say, recorded an outflow of deposits. At the end of the day, the banks in surplus prefer to deposit their excess liquidity safely at the central bank, while the banks in deficit obtain funding by resorting to refinancing transactions with the central bank, on a collateralised basis. That was facilitated by the October 2008 decision to conduct all refinancing operations at a fixed rate, with full allotment. So, liquidity provision is entirely dictated by demand, a marked departure from the

CHART 1 LIQUIDITY IN THE EUROSISTEM
(weekly data, billions of euro)



Source : Thomson Reuters Datastream.

(1) For a more detailed description, see also Aucremanne, Boeckx and Vergote (2007).

CHART 2 CONSOLIDATED AND SIMPLIFIED EUROSISTEM BALANCE SHEET

(€ billion)

Assets			Liabilities		
	2007 ⁽¹⁾	25 May 2012		2007 ⁽¹⁾	25 May 2012
Autonomous liquidity factors					
Net external assets	323,7	675,6	Banknotes in circulation	629,6	879,8
Other autonomous factors (net)	106,5	26,9	Government deposits	52,5	143,0
Monetary policy instruments					
Main refinancing operations	263,6	37,9	Current account holdings		
Longer-term refinancing operations	183,3	1061,8	Required reserves	187,4	106,6
Covered Bonds Purchase Programmes and Securities Market Programme	0,0	280,6	Current account holdings in excess of required reserves	1,9	-16,6
Marginal lending facility	0,2	2,1	Monetary policy instruments		
			Fixed-term deposits	0,0	212,0
			Fine-tuning operations (net)	5,4	0,0
			Deposit facility		
				0,5	760,1
Total	877,3	2084,9	Total	877,3	2084,9

Source: ECB.

(1) 2007 average.

situation prior to October 2008. At the time, liquidity was allotted by tender, with an amount fixed in advance – depending on the consolidated liquidity need – being allocated in accordance with the interest rate offered by the counterparties (NBB, 2009).

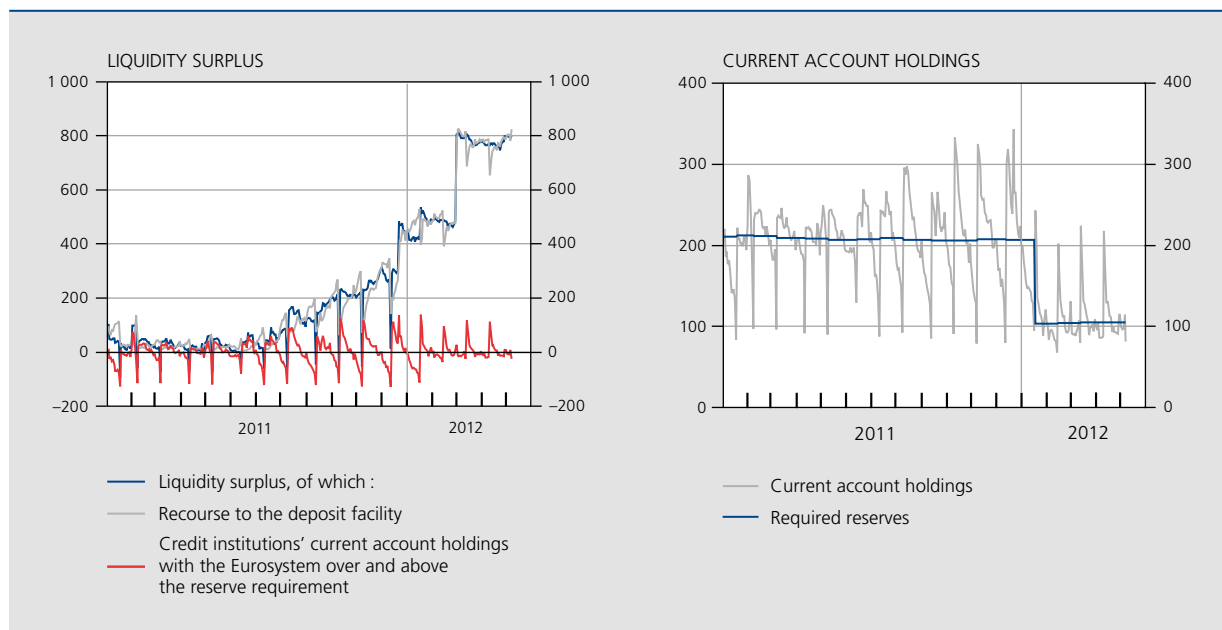
With the banks no longer willing to trade their liquidity surpluses easily, the banking sector taken as a whole disposes of more central bank liquidity than is necessary when the interbank market is working properly, as measured by the consolidated liquidity need. Thus, the size of the liquidity surplus does actually constitute an indicator of the extent to which the central bank has to assume the role of intermediary, and therefore also of the scale of mistrust among the banks themselves. The simplified Eurosystem balance sheet gives an illustration: at the end of May 2012, the assets side shows significant net supply of liquidity to the banking sector and, as a counterpart, on the liabilities side, a very large figure for liabilities towards the banking sector (current account holdings and recourse to the deposit facility). It is therefore quite right to claim that there is currently a considerable lack of trust between euro area banks; and, moreover, this statement of fact is corroborated by the still hefty risk premium incorporated into Euribor interest rates.

2. The liquidity surplus, rather than recourse to the deposit facility, as an indicator of tensions in the banking sector

There is a close link between the size of the liquidity surplus and the amounts placed on the deposit facility. However, these two variables do not correspond exactly because banks prefer to meet their average reserve requirements early in the course of the reserve maintenance periods, the latter running for about a month. This minimum reserve system effectively means that the banks must hold on average an amount on their current account with the Eurosystem over the reserve maintenance period. This amount is calculated according to the reserve base, which comprises most of the credit institutions' short-term liabilities, including deposits. The balance sheet at the end of a given calendar month serves to determine the required reserves for the reserve maintenance period starting two calendar months later. In this way, balance sheet data from the end of April serve as a basis for setting the required reserves for the reserve maintenance period beginning in June. The banks are remunerated for current account holdings at the rate for main refinancing operations – which stood at 1% when this article was

CHART 3 LIQUIDITY SURPLUS AND CURRENT ACCOUNT HOLDINGS

(daily data, billions of euro)



Source: Thomson Reuters Datastream.

being finalised at the end of May 2012 –, but only to the extent that these holdings cover the minimum reserves: excess reserves do not earn any interest. Because required reserves are remunerated at the rate for main refinancing operations, the reserve requirements are cost-neutral for the banks. The fact that the minimum reserves are only an average to be held over a reserve maintenance period leads to an automatic stabilisation mechanism for the overnight interest rate, because it creates a buffer that can absorb liquidity shocks affecting individual banks.

The banks generally choose to meet this obligation early in the course of the maintenance period and therefore start by depositing their liquidity surpluses on their current account (the frontloading process)⁽¹⁾, and then, after having constituted their minimum reserves, placing their surplus funds on the Eurosystem deposit facility. The latter at least brings a return, albeit limited, for the banks: at the time of writing this article at the end of May 2012, it stood at 25 basis points. So, it is quite normal – for a given liquidity surplus – to see an increase in the amount placed on the deposit facility as the end of the reserve maintenance period is approaching, without that reflecting any greater mistrust among banks.

Besides the two financing operations with a maturity of 3 years, the Governing Council on 8 December 2011 adopted two other measures impacting on the recourse

to the deposit facility, on excess reserves and the liquidity surplus. First of all, it was decided that there would no longer be a liquidity-absorbing fine-tuning operation on the last day of the reserve maintenance periods, as from the reserve maintenance period that started on 14 December. This type of operation is useful under a policy aimed at balanced liquidity conditions, as was the case before October 2008. It has the aim of countering any downward pressure on the overnight interest rate by reducing, at the end of the reserve maintenance period, the liquidity surplus that systematically emerged at that moment. In order to do so, counterparties had the option of placing liquidity with the Eurosystem for one day at an interest rate that was determined at an auction and was higher than the deposit facility rate. But in an environment of a large liquidity surplus and demand-driven liquidity conditions, these operations were no longer felt to be useful. So, since January 2012, the very sharp drop in the liquidity surplus and corresponding recourse to the deposit facility that could be observed at the end of each reserve maintenance period has disappeared. On the first day of a new reserve maintenance period, however, there is still a clear decline in recourse to the deposit facility, due to the preference of counterparties as mentioned above for constituting their average minimum reserves right from the start of the period.

(1) See NBB (2008) and NBB (2009) for further details.

Secondly, the Governing Council decided to cut the reserve ratio by half, as from the reserve maintenance period starting on 18 January 2012, bringing it down from 2 to 1%. In the context of a policy of full allotment in refinancing operations, minimum reserves effectively no longer play an important role in the steering of liquidity conditions. Indeed, the shock-absorbing role that the average reserve requirement plays in overnight interest rate fluctuations no longer seems to be relevant in the current ample liquidity conditions, since the overnight interest rate has been close to the deposit facility rate for some time now. Moreover, cutting the reserve ratio by half automatically reduces the consolidated liquidity needs. *Ceteris paribus*, the banks have less need to use the Eurosystem refinancing operations, and this frees up collateral pledged previously in the context of these operations. Moreover, the typical seasonal pattern of current account holdings has become less pronounced, as the counterparties seem to be more reluctant to substantially scale down their current account holdings. Thus, the seasonal pattern that emerges with recourse to the deposit facility has also become less pronounced.

Lastly, it should also be pointed out that the two 3-year longer-term refinancing operations (LTROs) led to a total allotment of liquidity worth some € 1 019 billion, which will remain in circulation at least until 30 January 2013, since these operations allow for an early repayment after one year. Assuming unchanged liquidity needs of roughly € 426 billion, as was the case on 25 May, this means that there will still be a liquidity surplus in any case, even if the banks could regain access to their traditional sources of funding and if, consequently, they no longer sought refinancing through open market operations. Against this background, a degree of caution would be appropriate when interpreting the liquidity surplus as an indicator of tension in the banking system. Thus, in the present context, it is more the change in – rather than the absolute level of – the liquidity surplus that seems to be the pertinent factor for gauging changes in this banking stress. This was also the case after the allotment, in June 2009, of a total of € 442 billion requested under a 1-year refinancing operation.

3. The liquidity surplus and individual credit institutions' balance sheets

Does the presence of these sizeable holdings with the Eurosystem mean that credit institutions are not using the funds that it has lent but are simply hoarding them with the central bank? Now, this seems to be a pertinent question, but one which should nevertheless not be answered in the affirmative, even if it cannot be denied that

lending and the creation of money by euro area banks are, at least for the time being, tenuous. Two real-life examples can briefly illustrate this, and we refer to Keister and McAndrews (2009) for some more detailed examples. Both cases also refer to the circumstances described by the ECB President at the press conference held after the Governing Council meeting on 12 January (ECB, 2012a): “[...] it is actually quite interesting to see that, by and large, the banks that have borrowed the money from the ECB are not the same as those that are depositing the money with the deposit facility of the ECB.”

Suppose that bank A obtains extra liquidity through a loan from the central bank (an increase in its current account holdings with the Eurosystem) and that it also grants a mortgage to a household (or subscribes to a government bond issue). This transaction is reflected in bank A's balance sheet by a loan to a household (or the holding government debt) on the assets side and by deposits of an equivalent amount on the liabilities side. The banks' current account holdings with the Eurosystem are not altered by granting the loan (or by the bond subscription). It is only when the household (or the government) in turn uses the funds received to pay its contractor (or its civil servants) that bank A's current account holdings actually fall. However, the contractor (or civil servant) then deposits these amounts, in their turn, with another credit institution, bank B, which thereby registers an inflow of funds into the current account that it holds with the central bank. This simple example shows that lending to the non-financial sector can increase while current account holdings by the banking sector as a whole with the Eurosystem remain unchanged. It is nevertheless worth noting that granting this loan (or the bond purchase), which effectively implies that a bank deposit is created in return, will push up the reserve base. This, in turn, will make the minimum reserves rise, so that the consolidated liquidity need will increase and, *ceteris paribus*, the liquidity surplus will be reduced. So, the funds allotted by the central bank gradually start to raise the minimum reserves and no longer appear as excess reserves or as recourse to the deposit facility⁽¹⁾. There is nevertheless some time lag before this happens, since the reserve base for a given reserve maintenance period is determined, as mentioned above, on the basis of the credit institutions' balance sheets two months earlier. In other words, even in cases where the liquidity provided by the central bank is immediately used by the credit institutions to grant loans, it can only appear, initially, in the form of excess reserves

(1) In theory, with a reserve ratio of 1%, one extra euro in central bank money can allow additional loans of € 100 to be granted, under the money multiplier theory. These loans effectively lead to extra bank deposits to the tune of € 100, which in turn increase the required reserves by one euro. For further details and explanations, see Aucremanne, Boeckx and Vergote (2007).

or higher recourse to the deposit facility. Moreover, with the reserve ratio at 1%, this phenomenon is of limited magnitude, since an increase in lending of € 100 billion only pushes up required reserves by € 1 billion.

Data available up to the end of April 2012 suggest that the growth in lending to the non-financial sector and in the broad money supply has remained quite modest. Yet this does not necessarily mean that the funds provided by the Eurosystem have not been used. A second example will help throw some light on this point. As suggested in Box 4 of the ECB's January *Monthly Bulletin* (2012b), the high financing needs that the banks will face over the coming years have been a decisive factor in the degree of interest that the longer-term refinancing operations have attracted amongst banks. Thus, if bank A uses the extra refinancing from the Eurosystem to repay interbank debts that have fallen due, its current account holdings with the Eurosystem will decline (after having increased initially by an amount equivalent to this bank's demand in the LTRO), while the current account holdings of bank B, which had granted the loan to bank A but did not want to roll it over at maturity owing to a lack of trust in bank A, will increase. Once again, it appears that the current account holdings of the banking sector as a whole with the Eurosystem do not change, even when they are used for interbank transactions. In these circumstances, it is precisely because the Eurosystem stands between the individual banks that those short of funding are not forced into fire sales of assets or to suspend their lending to the real economy too abruptly. A scenario where credit institutions short of funds find themselves obliged to suddenly deleverage would in turn have negative repercussions on

economic activity and thus entail downside risks to price stability. The large amount of central bank money put at the disposal of credit institutions by the Eurosystem can therefore be seen, from the angle of a mechanical money multiplier model, as a form of compensation for the sharp contraction of the money multiplier because of the financial crisis. That, in turn, helps to support normal creation of money and lending.

Conclusion

Some euro area banks are facing difficulty in ensuring funding via the financial markets. So, they are turning to the ECB for their refinancing needs, forcing the Eurosystem to play a bigger role as an intermediary. In accounting terms, this is reflected in an unusually high level of deposits by banks with the central bank, whether on their current account in the form of excess reserves, or on the deposit facility.

However, this accounting identity does not give any information about bank lending to the real economy: in fact, the central bank balance sheet only reflects the interaction between the central bank and its counterparties and says nothing at all about the interaction between the banks and the non-financial sector. To monitor this interaction, more appropriate statistics are available, such as monthly data on lending and creation of money by the euro area banks. Finally, in another article in this issue of the *Economic Review*, Cordemans and Ide (2012) go into a more in-depth analysis of the potential challenges that such excess liquidity implies for the conduct of monetary policy.

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