IN-DEPTH ANALYSIS

Requested by the ECON committee

Monetary Dialogue Papers, September 2023

European Parliament

The future of ECB liquidity policy

Economic Governance and EMU Scrutiny Unit (EGOV)
Directorate-General for Internal Policies
PE 747.862 September 2023

EN

The future of ECB liquidity policy

Abstract

The ECB is reducing its sovereign bond holdings and needs to consider the appropriate size of its balance sheet over the longer-term and the best operational framework for supplying liquidity to the banking system. This paper recommends the ECB substantially reduce its balance sheet but should maintain an ample reserves approach by keeping its full allotment policy for refinancing operations.

This document was provided by the Economic Governance and EMU Scrutiny Unit at the request of the Committee on Economic and Monetary Affairs (ECON) ahead of the Monetary Dialogue with the ECB President on 25 September 2023.

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

AUTHOR
Karl WHELAN, University College Dublin

ADMINISTRATORS RESPONSIBLE
Drazen RAKIC
Giacomo LOI
Maja SABOL

EDITORIAL ASSISTANT
Adriana HECSER

LINGUISTIC VERSIONS
Original: EN

ABOUT THE EDITOR
The Economic Governance and EMU Scrutiny Unit provides in-house and external expertise to support EP committees and other parliamentary bodies in shaping legislation and exercising democratic scrutiny over EU internal policies.

To contact Economic Governance and EMU Scrutiny Unit or to subscribe to its newsletter please write to:
Economic Governance and EMU Scrutiny Unit
European Parliament
B-1047 Brussels
E-mail: egov@ep.europa.eu

Manuscript completed in September 2023

This document was prepared as part of a series on "Excess liquidity in the euro area: developments and implications", available on the internet at:
https://www.europarl.europa.eu/committees/en/econ/econ-policies/monetary-dialogue

DISCLAIMER AND COPYRIGHT

CONTENTS

LIST OF ABBREVIATIONS

APP	Asset purchase programme
ECB	European Central Bank
EONIA	Euro OverNight Index Average
ESTER	Euro Short-Term Rate
LTRO	Longer-term refinancing operation
MRO	Main refinancing operation
ONRRP	Overnight Reverse Repurchase Program
TLTRO	Targeted longer-term refinancing operations
TPI	Transmission protection instrument
QE	Quantitative easing

LIST OF FIGURES

EXECUTIVE SUMMARY

- **The ECB has begun to reduce its balance sheet.** Thus far, the reduction is mainly due to TLTRO III loans being gradually repaid but the Eurosystem is also allowing its sovereign bond holdings to mature and not be replaced. A continuation of this pattern will see a reduction in the reserve balances held by commercial banks in the deposit facility.
- **The ECB faces longer-term decisions about how it should implement monetary policy.** Should it maintain a large supply of liquidity and continue using its current operational tools or should they transition to a smaller balance sheet?
- **Some economists argue for a return to the ECB's pre-2008 procedures of keeping the supply of reserve balances very tight.** This paper presents a number of arguments against a return to these procedures.
- **The Federal Reserve decided in 2019 that it would not return to its pre-crisis operational framework for monetary policy.** It plans to continue providing an "ample supply" of reserves and using administrative rates, such as the interest rate paid on reserves, to control market interest rates.
- **One reason for this policy is that, since the global financial crisis, the demand for reserve balances from banks is larger and more unpredictable.** This reflects regulatory changes and changes in risk management at banks.
- **The events in US financial markets in September 2019 show that demand for reserves from banks can be unpredictable.** They also show that failure to supply enough reserves to the banking system can lead to financial instability.
- **The ECB should substantially reduce its balance sheet in the coming years.** There are many reasons for this including the need to comply with the prohibition on monetary financing, the need for space to deploy the Transmission Protection Instrument (TPI) effectively and the desirability of reducing the political tensions associated with the fiscal implications of a large Eurosystem balance sheet.
- **However, the ECB should continue to operate an ample reserves environment.** Like the Fed, the ECB is likely to find it difficult to estimate the underlying demand for reserve balances from the banking system. There are also no good macroeconomic arguments for returning to its pre-2008 policy of auctioning off a fixed supply of liquidity each week.
- **The most efficient way for the ECB to operate an ample reserves environment is by continuing to provide liquidity in the form of fixed-rate full-allotment refinancing operations.** This approach does not require extensive (and perhaps fruitless) efforts to estimate the day-to-day demand for reserves from the banking system.

1. INTRODUCTION

The implementation of monetary policy has changed profoundly over the past fifteen years. The long period of low or negative interest rates saw all major central banks introduce quantitative easing (QE) programmes. These programmes hugely increased the size of central bank balance sheets and left commercial banks with much larger quantities of reserve balances than they had previously held. These high reserve balances have required the introduction of new monetary policy tools once the focus of policy moved to raising interest rates to control inflation. The principal new tool has been the payment of interest on reserves. This approach has been used successfully by all the major central banks to recently implement tighter monetary policy.

Beyond the current tightening cycle, central banks face longer-term decisions about whether they should maintain a large supply of liquidity and continue using their current operational tools or whether they should transition to a smaller balance sheet and change their operational approach. At the most extreme, some economists such as Angeloni (2023) and Borio (2023) argue for a return to the ECB's pre-2008 procedures of keeping the supply of reserve balances very tight.

This paper discusses some of the issues the ECB will need to consider when deciding its future operational framework for liquidity provision. The paper is organised as follows.

Section 2 describes how monetary policy works in an environment where reserve balances are scarce and why a different policy framework is required when quantitative easing programmes have created a supply of reserves greater than demanded by the banking system. The evolution of the ECB's approach to monetary policy and the changes over time in the supply of reserve balances in the Eurosystem are also discussed.

Section 3 presents some arguments in favour of central banks maintaining a relatively large supply of reserves to the banking system and specifically argues against the ECB going back to its pre-2008 operational procedures in which it "auctioned off" a fixed supply of liquidity each week.

Section 4 reviews some arguments for the Eurosystem substantially reducing its balance sheet from its current size, thus cutting back on the supply of liquidity to the banking system. While I support the ECB maintaining an ample supply of reserves, taken together these arguments make a strong case for the ECB to execute a significant reduction in the supply of reserve balances over the next few years.

Section 5 reviews options available to the ECB in implementing an ample reserves liquidity policy, stressing that the key difference between the future operational framework and the pre-2008 approach should be the retention of the fixed-rate full-allotment method for supplying liquidity to banks.

2. MONETARY POLICY AND LIQUIDITY PROVISION

We will start with a discussion of the overall relationship between monetary policy and the provision of liquidity and how this has changed in recent times.

All commercial banks are required to maintain so-called "reserve accounts" with their central bank—that this money is kept "in reserve" rather than loaned out or used to buy securities is the basis of the term "fractional-reserve banking". Banks need to keep money in these reserve accounts for three reasons.

First, to be able to continue supplying cash to their customers: When a commercial bank orders a supply of cash from the central bank to put in its ATM machines, this amount is deducted from its reserve account with the central bank. Without sufficient reserve balances, it cannot obtain cash.

Second, to satisfy regulatory requirements, such as minimum reserve requirements set by central banks and the Liquidity Coverage Ratio (LCR) introduced in the Basel 3 accord (which we will discuss in more detail below).

Third, to honour payments requests by customers. Commercial banks use their reserve accounts at central banks to settle payments with other banks via payments systems such as Fedwire and TARGET2. These payment-related demands, which stem from the activity of their depositors, can be unpredictable so some reserves need to be held for precautionary reasons.

Central banks can adjust the supply of reserves as follows. To increase the supply, central banks can make a loan to a bank, crediting that bank's reserve account with a push of button, thus creating money from nowhere. Alternatively, central banks can purchase a security via an "open market operation" and pay for it by crediting the reserve account of the commercial bank with whom the seller holds their deposit account, again with money being created from nowhere. If they wish to reduce the supply of reserves, central banks can reverse these processes, taking loan repayments from commercial banks or selling securities and thus retiring money that had previously been created.

Traditionally, central banks kept the supply of reserves relatively low. This meant there were often banks that were short of their desired level of reserves. A shortage could be addressed in one of two ways. Banks could borrow reserves from other commercial banks, usually via short-term "money market" transactions. The lending bank would be willing to engage in this transaction because it allowed them to earn interest on their excess reserves—until recent decades central banks did not pay interest on reserve account balances. Alternatively, banks could borrow reserves from the central bank.

Central banks have generally focused on controlling the average cost of borrowing money over short periods as their operational target for implementing monetary policy. In the Eurosystem, the ECB used the Euro OverNight Index Average (EONIA) as its measure of the average rate, before switching in 2019 to the Euro Short-Term Rate (ESTER), a measure based on a broader range of quotes that the ECB produces itself.

In the era where reserves were kept scarce, there were various ways to control short-term market interest rates. The Federal Reserve adjusted the supply of reserves daily via open market operations: Making the supply of reserves scarcer reduced the number of banks willing to loan reserves at the existing interest rate and thus the market interest rate would have to move upwards if it were to continue equating supply and demand for borrowed reserves.

In contrast, the ECB's approach prior to 2008 was to provide a fixed amount of liquidity to the banking system in the form of loans in its weekly "main refinancing operation" (MRO). The liquidity was "auctioned" off with banks having to make offers on the interest rate they were willing to borrow at

and those banks making the highest offers getting the loans. Interest rate policy was implemented by the ECB setting a "minimum bid interest rate" that would be accepted. In practice, the average interest rate on these loans did not vary much from the minimum bid rate and this rate acted as the baseline for interest rates set in money markets.

The ECB also had (and still has) two other "standing facilities" to influence market interest rates: A deposit facility that pays interest on reserve balances and a marginal lending facility that charges a higher rate than the MRO rate for emergency borrowing. These rates served to provide upper and lower bounds on interest rates, with this type of monetary policy framework being known as a "corridor" system: Banks would not borrow at interest rates above what was available from the marginal lending facility and would not lend money at interest rates below what was available from the deposit facility.

Figure 1 shows that prior to 2008, market interest rates (the red line) would sometimes have days when they would spike up or down but they generally tracked very well with the MRO interest rate (the green line) while always staying with the corridor set by the standing facilities.

In more recent years, the huge supply of reserves created by QE programmes has meant that market interest rates can no longer be adjusted by varying the scarcity of reserves and there was limited need for banks to borrow reserves from central banks or from money markets. The Federal Reserve switched its operational focus from daily interventions to adjust the supply of reserves to instead using the interest rate paid on reserves to be the key policy rate. Since banks can earn this interest rate without taking on any credit risk, this interest rate acts as a lower bound for the interest rates that banks will charge for credit.

The ECB's operational approach also changed during the global financial crisis. Instead of providing a fixed amount of liquidity each week, the ECB changed in 2008 to a "fixed rate full allotment" system in which banks could borrow as much as they requested, subject to having a sufficient supply of eligible collateral. The Eurosystem also began supplying more liquidity to the banking system in the form of Longer-Term Refinancing Operations (LTROs) and then later expanded the supply of reserves via its asset purchase programmes.

Figure 2 shows how the euro area monetary base (currency plus commercial bank reserves with the Eurosystem) has fluctuated over time depending on the amount of lending from the Eurosystem and its holdings of securities. The recent reduction in the supply of reserves has been driven by banks repaying their TLTRO III loans from the Eurosystem after the ECB changed the terms of these loans to be less attractive. As of yet, there has been only a small reduction in the Eurosystem's holdings of securities. The reduction is occurring via allowing bonds to mature, rather than via outright sales (since July 2023 the Eurosystem has ceased reinvesting the proceeds of maturing bonds) but the impact on the supply of reserves is essentially the same. Generally, governments need to borrow the money to pay off maturing bonds, thus "rolling over" the debt. The person that purchases this new bond will order their bank to provide money to the government and this will see reserves transferred out of the banking system and into the government's account.

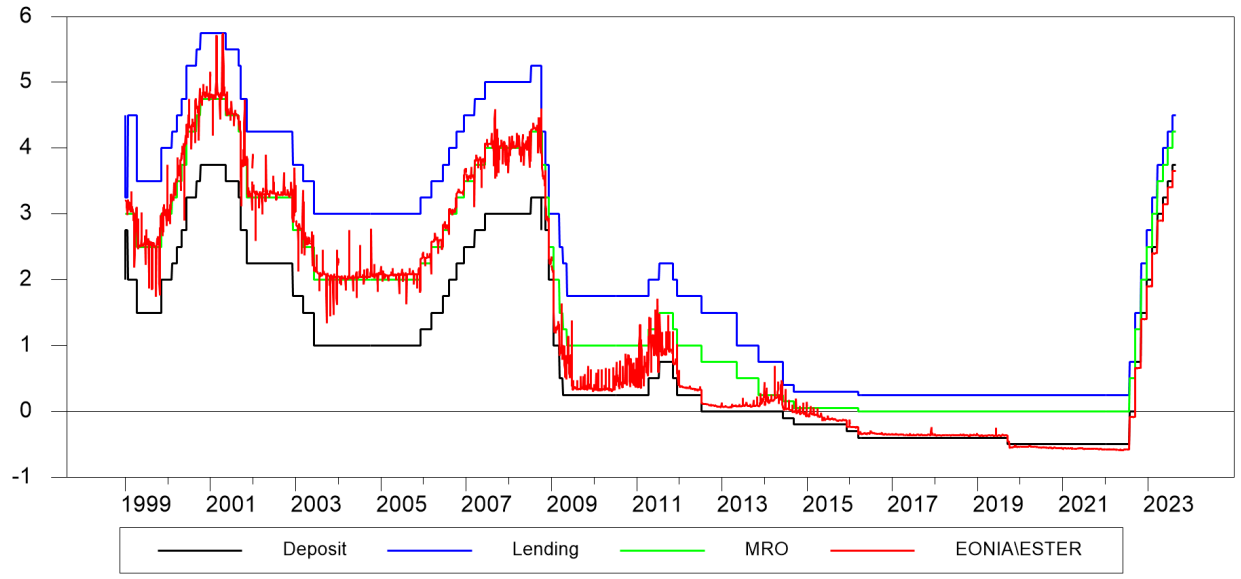
The large supply of reserves over the past decade has meant there was generally very little demand for borrowing reserves from the Eurosystem via the weekly refinancing operations and the rate charged in this operation became less relevant. Thus, as in the US, the key rate influencing market rates has been the interest rate paid from the deposit facility: Figure 1 shows how EONIA/ESTER (the red line) has closely followed the deposit facility rate (the black line) in recent years, rather than the MRO rate (the green line).

Because market rates have followed the deposit facility rate in recent years, central bank operational systems under ample reserves are sometimes called "floor" systems rather than a "corridor" system. However, there are two slightly misleading aspects of this terminology.

First, the ECB still has a "corridor" system because the marginal lending facility is still in place. Given the still-ample supply of liquidity, there has been little need for it but technically the upper rate of the corridor system is still in place.

Second, ESTER has recently been below the "floor" that is supposedly set by the deposit facility rate. This is because non-banks do not hold reserve accounts with the Eurosystem and so they do not get paid the deposit facility rate. These institutions are thus willing to make short-term money market loans at rates that slightly lower than the deposit facility rate. Central bankers have described this phenomenon as the system having a "leaky floor". The Federal Reserve has addressed this issue by providing an overnight reverse repo facility (ON RRP) which pays interest to non-banks at rates slightly below the rate paid to banks, so this ON RRP rate rather than the interest rate on reserves provides the floor for money market rates. The Eurosystem does not yet have such a facility.

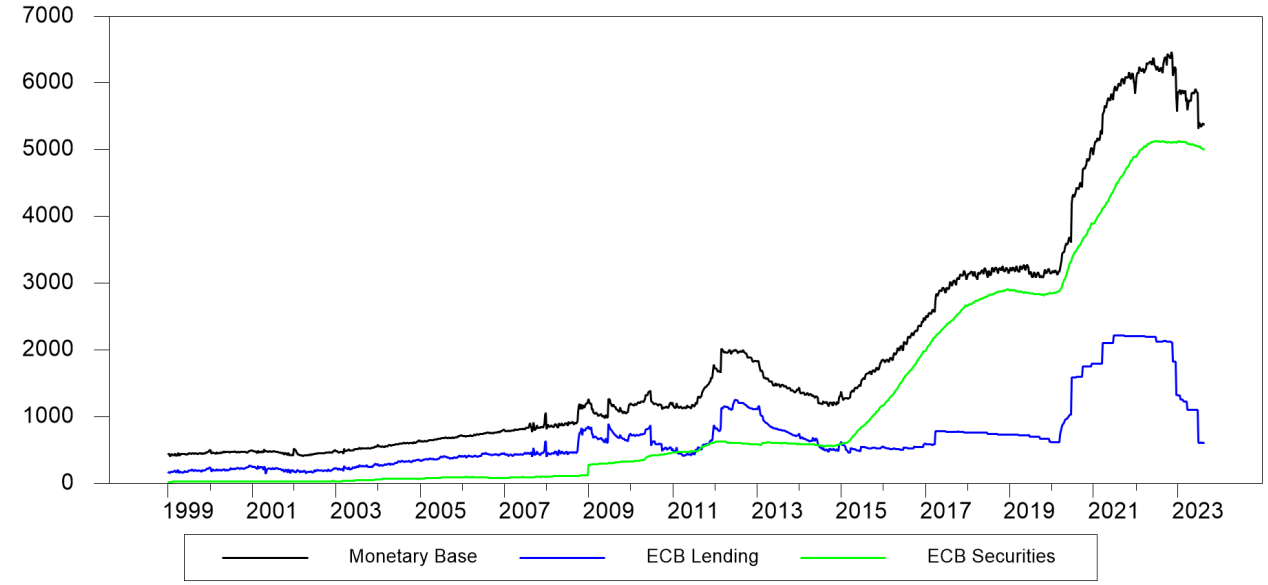
Figure 1: ECB policy rates and the EONIA\ESTER measures of market interest rates (daily data), in %



Source: Author's calculations based on data from the ECB Data Portal.

Notes: The EONIA\ESTER series is EONIA until October 2019, after which it is ESTER. During the period when these measures were both reported, ESTER was an average of 8.5 basis points lower than EONIA.

Figure 2: How the ECB determines the supply of liquidity (weekly data), in EUR billion



Source: Author's calculations based on data from the ECB Data Portal.

Notes: The black line shows currency in circulation plus deposits of commercial banks with the Eurosystem. The blue line shows total Eurosystem lending via MRO and LTRO. The green line shows the Eurosystem's holdings of securities.

3. ARGUMENTS FOR AN AMPLE SUPPLY OF RESERVES

Central banks could have decided to tighten monetary policy by taking precisely the reverse course of action to the one they took when pursuing expansionary policy. The expansionary policy saw policy rates cut to zero or below and then quantitative easing programmes were introduced. So, one option for central banks when tightening would have been to first reverse the QE programmes by selling all the securities previously acquired and then turn to raising interest rates once that was done.

However, as I discussed in a previous paper (Whelan, 2023), there are many reasons why central banks have focused on tightening monetary policy via raising interest rates and have, thus far, implemented only modest reductions in their balance sheets. Raising interest rates has a direct and powerful effect on financing conditions and can be implemented quickly. In contrast, QE programmes were implemented very gradually over time and the size of their impact on financial conditions is still a subject for debate. Furthermore, a sharp reversal of QE via large-scale sales of government bonds would likely trigger financial market instability.

This leaves balance sheet reduction as a longer-term programme for central banks to consider. From the perspective of how to operate monetary policy, the key question is whether central banks should continue supplying an "ample" quantity of reserves. Here, I will emphasise two arguments for maintaining an ample reserves regime: Its greater efficiency in implementing monetary policy and its benefits for financial stability.

3.1. Efficiency of an ample reserves regime

The ECB implemented QE later than other central banks, only starting its Asset Purchase Programme (APP) in 2015. While there were criticisms that the ECB was too slow to implement this programme, this delay gave them the advantage of learning about the implications of QE from other central banks. So, while the ECB is considering the question of how much to reduce its balance sheet, it can draw on the experience of other central banks that were already confronted with this issue when they reduced bond holdings prior the COVID-19 pandemic.

In particular, the Fed's deliberations and decisions on this issue help to explain why the Eurosystem should persist with supplying an ample quantity of reserves. In 2015, the Fed began reducing the supply of reserves by allowing some of its securities to mature. As the supply of reserves shrank, the Federal Open Market Committee (FOMC), which implements its monetary policy, requested a briefing from Fed staff in 2018 on its options for future implementation of monetary policy.

A crucial consideration in these deliberations was that the demand for reserves from banks had changed completely since the period prior to the global financial crisis. Prior to the crisis, banks were happy to operate with the lowest possible level of reserve balances and use interbank markets to make up any shortfalls. Maintaining a large supply of reserves as a precaution against a run on the bank was not something that banks considered at this time. This was part of a general nonchalance among financial institutions about potential liquidity problems. For example, most large investment banks financed a significant percentage of their operations with overnight repo market funding.

The global financial crisis exposed this relaxed attitude towards liquidity as flawed. Interbank market activity collapsed and many institutions experienced runs and required lender of last resort financing from central banks. The Basel 3 accord agreed in 2010 introduced new regulations aimed at better management of liquidity. Most notably, it introduced a Liquidity Coverage Ratio (LCR) regulation requiring banks to maintain a stock of high-quality liquid assets that would allow them to survive a stress scenario involving a sustained high level of funding withdrawals over a 28-day period.

Regulations have also been passed around the world that require banks to maintain sufficient liquidity levels to facilitate closing contracts should a bank be put through a resolution process. Each of these regulations encouraged banks to hold much larger levels of central bank reserves, which are the ultimate high-quality liquid asset.

Against this background, this summary of the Fed staff's position from the November 2018 is worth quoting at length.[1]

> "*The staff highlighted how changes in the determinants of reserve demand since the crisis could affect the tradeoffs between two types of operating regimes: (1) one in which aggregate excess reserves are sufficiently limited that money market interest rates are sensitive to small changes in the supply of reserves and (2) one in which aggregate excess reserves are sufficiently abundant that money market interest rates are not sensitive to small changes in reserve supply. In the former type of regime, the Federal Reserve actively adjusts reserve supply in order to keep its policy rate close to target. This technique worked well before the financial crisis, when reserve demand was fairly stable in the aggregate and largely influenced by payment needs and reserve requirements. However, with the increased use of reserves for precautionary liquidity purposes following the crisis, there was some uncertainty about whether banks' demand for reserves would now be sufficiently predictable for the Federal Reserve to be able to precisely target an interest rate in this way. In the latter type of regime, money market interest rates are not sensitive to small fluctuations in the demand for and supply of reserves, and the stance of monetary policy is instead transmitted from the Federal Reserve's administered rates to market rates--an approach that has been effective in controlling short-term interest rates in the United States since the financial crisis, as well as in other countries where central banks have used this approach*."

Effectively, the staff informed the FOMC that it was not sure that it would be able to estimate daily demand for reserves in an effective way and that money market interest rates were likely to be far more volatile and unpredictable if they returned to attempting to keep the supply of reserves in close alignment with daily demand. As such, returning to this approach was likely to be less efficient in controlling market interest rates and a less efficient use of staff resources, given the effort that would be required to estimate the fluctuating daily demand for reserves.

In response to this briefing, the FOMC decided in January 2019 that it intended to

> *"continue to implement monetary policy in a regime in which an ample supply of reserves ensures that control over the level of the federal funds rate and other short-term interest rates is exercised primarily through the setting of the Federal Reserve's administered rates, and in which active management of the supply of reserves is not required."*[2]

The Fed staff's arguments that the demand for reserves was unpredictable turned out to be perhaps even more true than they had realised at the time. Prior to the January 2019 decision to maintain an ample reserves regime, the Fed had been estimating the "lowest comfortable level of reserves" at which it could operate before reserve supply would start to fall short of demand. In April 2019, the head of

[1] https://www.federalreserve.gov/monetarypolicy/files/fomcminutes20181108.pdf

[2] https://www.federalreserve.gov/newsevents/pressreleases/monetary20190130c.htm

the New York Fed's Open Market Trading Desk, Lorie Logan, reported that based on a survey of senior executives in banks, the Fed believed this figure was between USD 800 million and USD 900 million.[3] However, in September 2019, with reserve balances still standing at about USD 1.4 trillion, well above the Fed's estimate of underlying demand, there were signs that the banking system's demand for reserves was exceeding its supply.

The Fed responded quickly by purchasing securities and supplying additional reserves to the banking system but it is clear that estimating daily liquidity demand for reserves is a difficult task. Overall, operating a "scarce reserves" regime seems likely to result in a less efficient monetary policy that exerts less control over money market rates and requires a lot of central bank staff effort to produce this inferior outcome. Just after the September 2019 events, two experienced former Fed officials, Joe Gagnon and Brian Sack, wrote "*The minimum level of reserves is conceptually murky, impossible to estimate, and likely to vary over time. The best approach is to steer well clear of it, especially since maintaining a higher level of reserves as a buffer has no meaningful cost*." This is the approach the Fed has taken in recent years, while also adding a "standing repo" facility in July 2021 that allows banks to borrow against Treasury bonds and agency mortgage-backed securities at rates equal to the upper bound of its target for the federal funds rate. This provides an upper bound on market rates in the same way as the ECB's marginal lending facility.

3.2. Financial stability considerations

The efficient implementation of monetary policy is the main reason for operating with an ample supply of reserves but there are also some financial stability considerations.

The events of September 2019 in the US show that reserve shortages in the banking system can have destabilising effects in financial markets. During this period, there was some disruption in repo markets, which are markets in which investors loan short-term funding for the purchase of securities with the loans collateralised by the securities that are acquired. These should be low-risk investments and the interest rates in these markets should closely follow the target money market rate of the central bank. However, during September 2019, events such as a large payment of corporate income taxes by firms withdrew liquidity from the financial system and there was a shortage of investors providing funds to the repo market. Rates in these markets spiked several percentage points above the federal funds rate on some days.

As described by Copeland, Duffie and Yang (2021), during normal times, large banks that play an active role in repo markets would step in and take advantage of higher rates on repo lending and thus these interest rate differentials would be smoothed away. But on this occasion, these banks felt they could not deploy their reserve balances in this way because they felt they were close to their minimum regulatory levels. Copeland et al. provide an explicit quote from Jamie Dimon, CEO of J.P. Morgan, confirming that this had been the case for his bank.

These financial market disturbances were relatively minor and easily fixed by the Fed supplying additional reserves to the banking system, but they show that the inefficiency of operating a scarce reserves regime for monetary policy can come with an additional set of disruptions to the functioning of financial markets.

At a more general level, there are some broader financial stability arguments for forcing the banking system to hold a large supply of central bank reserves. The key instability of the banking system stems from its lack of safe liquid assets when compared with its large amount of short-term liabilities. Forcing

[3] Logan (2019).

the banking system to hold large amounts of safe liquid assets is one way to reduce the chances of a run on the banking system.

At a more subtle level, the academic literature in financial economics has stressed in recent decades that there has often been excess demand for "safe assets" and that some of the problems seen in both the global financial crisis and the euro crisis stemmed from this shortage. Greenwood, Hanson and Stein (2016) argued that supplying a large quantity of commercial bank reserves can be seen as a financial stability tool that addresses this deficit.

3.3. Eurosystem considerations

The focus above was on the US experience due to the greater availability of evidence and research on the question of scarce versus ample reserves in that context. Of course, the Fed and ECB's monetary policy frameworks have always differed in their details and, as we will discuss below, there is no need for the ECB to precisely copy the Fed in its approach to implementing an ample reserves regime. However, the arguments just provided also work in the context of the Eurosystem to rule out a return to the ECB's pre-2008 operational system.

The Eurosystem auctioning off a fixed supply of liquidity is likely to result in very similar problems to those that have caused the Fed to continue with an ample reserves approach. I also suspect that some of the motivation for the fixed supply of liquidity approach came from defunct macroeconomic thinking. Specifically, the idea that the ECB should be targeting the broad money supply played an important role in the early years of the euro, even though few other modern central banks or academics believed this was a useful input into formulating monetary policy. The motivation for controlling the supply of reserves at a fixed level may have been related to the idea that control of the monetary base would also give the ECB some control of the broader monetary base, via the textbook "money multiplier" mechanism. But this mechanism does not work well in practice and the ECB has long since given up its operational target for M3 growth. As such, there are few good reasons for going back to supplying a fixed quantity of reserves to the banking system.

4. ARGUMENTS FOR A SMALLER BALANCE SHEET

For the reasons just outlined, it is highly unlikely that the ECB will chose to return to its pre-2008 "scarce reserves environment" operational approach. However, there are many arguments for why it should implement a substantial reduction in the coming years in the size of its balance sheet and the corresponding huge amounts on deposit from commercial banks. Here, I present several arguments for doing this, some of which I agree with more than others.

4.1. Monetary financing and firepower for TPI

I have written previously in these briefing papers and elsewhere about the potential for the ECB's asset purchase programmes to violate the Treaty's provisions on monetary financing.[4]

Under a narrow interpretation, the Treaty only rules out direct purchases of securities from governments by the Eurosystem and so the secondary market purchases of recent years do not violate the Treaty. However, the European Court of Justice's approach to assessing this issue, illustrated in the 2018 *Weiss* judgment, was that the programme needs to be assessed against the underlying intent of the monetary financing article in the Treaty rather than its specific wording.[5] The Court argued that the aim of the article was to encourage Member States to follow a sound budgetary policy and any actions by the ECB that undermined this aim would be illegal.

The *Weiss* judgement ruled that the ECB's actions in introducing the Asset Purchase Programme (APP) were lawful but pointed to a number of reassurances provided by the ECB in arriving at this decision. The judgement approvingly cited the ECB's requirement that bonds could only be purchased if they had a sufficiently high credit rating as encouraging governments to maintain sound budgetary policies. The Court also stressed the ECB's commitment to limit the fraction of debt that it could purchase from each issuer maintained a primary role for financial markets in setting financing terms for sovereign debt funding.

Since this judgement, the ECB entered into a another major round of sovereign bond purchases, weakened its requirements on credit ratings and has argued that its issuer limits were a self-imposed requirement that it can choose not to follow. In my opinion, unless the ECB sets a path to firmly reduce its sovereign bond holdings, it runs the risk that future cases against it could rule that the ECB's actions violate Article 123.

Another reason for the Eurosystem to reduce its holdings of sovereign bonds is that it may be necessary for the ECB to have sufficient "firepower" available should it ever decide to implement the new Transmission Protection Instrument (TPI). One interpretation of the Weiss judgement is that it places an effective upper limit of just below 50% on Eurosystem ownership of sovereign debt. The higher the Eurosystem's bond holdings are at the time it implements a TPI intervention, the more likely it is that this 50% limit binds as a limit on the size of its potential intervention. The more markets see the ECB as having a small rather than a big bazooka, the less likely the TPI intervention will be to succeed.

4.2. Fiscal implications and political complications

Another reason to operate with a small Eurosystem balance sheet is that the large balance sheet is drawing the ECB into contentious politicised discussions that may threaten its long-run independence.

[4] Whelan (2022) provides a detailed discussion of these issues.

[5] Materials on the *Gauweiler* case are available at https://curia.europa.eu/juris/liste.jsf?num=C-62/14 and on the *Weiss* case at https://curia.europa.eu/juris/liste.jsf?language=en&num=C-493/17

While officially a monetary policy, QE programmes can have substantial fiscal implications. The ECB's asset purchase programmes lowered the cost of long-term fiscal borrowing and governments are still benefitting from having had a long period where they locked in lots of long-term low interest financing. These programmes also initially lowered the net burden of fiscal debt for euro area governments because interest payments on sovereign bonds went to central banks who recycled them back to governments via their annual profit dividends.[6]

The move to higher policy rates has reversed these positive fiscal developments. Sovereign bond yields have risen so new borrowing for government is becoming more expensive. The Eurosystem's national central banks are no longer making profits because the interest received from the low-yielding long-term bonds they purchased is now being offset by the interest payments on the deposit facility due to its monetary tightening.

This reversing of the fiscal boost from asset purchase programmes will generate negative publicity for the ECB and the national central banks. Indeed, as Borio (2023) notes about the larger interest payments being made to banks, the perception that central banks are subsidising commercial banks is politically unpopular, even if it can be defended as a consequence of monetary policy. There is also a clear link between the ECB's policy on interest on reserve balances and the recent Italian government decision to introduce a special tax on bank profits.

I have suggested previously that the ECB should consider re-introducing the two-tier system of reserves that it employed when the deposit facility rate was negative but in this case to compensate the first tier of reserves at a lower rate than the second tier.[7] This approach would maintain control of market interest rates while reducing the fiscal cost associated with monetary policy. But even though I favour this approach, it should be acknowledged that introducing it would generate huge criticism from the powerful and politically well-connected banking sector lobby, who portray (incorrectly in my opinion) any reduction in the interest they earn on reserves as a "tax on banks".

Large central bank balance sheets also trigger less justifiable concerns from those who do not understand the complexities of modern central banking. There is considerable online demand for the output of "goldbug" style commentators who bemoan central banks as "debasing the currency" and advise people to purchase gold or cryptocurrencies to avoid the inevitable (but never actually arriving) upcoming hyperinflation. These views will always be with us but a sustained reduction in the size of the Eurosystem's balance sheet may help to cool off some of this kind of commentary.

4.3. Financial market distortions

A final set of complications due to the large supply of reserves, that have been emphasised by Borio (2023) and others is that a large supply of reserve balances causes distortions in various financial markets. I am not convinced, however, that these costs are large. For example, Borio argues that the ample supply of reserves has effectively "killed" inter-bank markets but, given that we have experienced a long period with minimal activity in these markets without any negative repercussions, it is not clear they are necessary or need to play an important role in the financial system.

Borio also stresses that large holdings of sovereign bonds by central banks can generate a shortage of individual securities which can raise interest rates on "specific collateral" repo operations where institutions seek to borrow specific bonds. Others view the "leaky floor" property discussed above, in

[6] See Whelan (2020) for a more detailed discussion of the fiscal implications of the ECB's asset purchase programmes.

[7] See Whelan (2023). Paul de Grauwe has made similar arguments. Here is a video of a recent presentation he gave on this topic at the Deutsche Bundesbank. https://www.bundesbank.de/de/service/termine/professor-paul-de-grauwe-zu-gast-in-der-bundesbank-913964

which short-term market interest rates are below the interest paid on reserves as a distortion compared with previous periods in which there were smaller discrepancies between the short-term interest rates earned by banks and other financial institutions.

It is not clear to me that these distortions, if such they are, are something for the ECB to be concerned about. If they are concerned about the "leaky floor" issue, they could design a programme similar to the Fed's ONRRP to address it. But different kinds of short-term rates having different values does not compromise the monetary transmission mechanism. The financial system has always generated a wide variety of interest rates on different instruments. By adjusting its deposit facility rate, the ECB can ensure that all of these interest rates move up and down in line with the policy rate and that the overall cost of financing in the economy is in line with its preferred levels.

A final distortion is the possibility that the forced expansion of the aggregate balance sheet of the commercial bank sector due to central bank asset purchases has forced banks out of business lines that they had previously been involved in. Deposits with central banks have a risk weight of zero for regulatory capital purposes and thus have no impact on capital requirements if the risk-based capital requirement is the most relevant binding regulation, as is usually the case. However, these deposits are counted as part of the non-risk-weighted leverage ratio, introduced as part of the Basel 3 process and could crowd out other activities if this is the binding constraint. Duffie (2023) points out that the Supplementary Leverage Ratio regulation applied to large US banks by the Federal Reserve (which applies a higher unweighted capital requirement than in the EU) appears to have restricted the ability of these banks to provide dealer services, thus damaging liquidity in the systemically important Treasury market.

These distortions will likely be alleviated by a reduction in central bank balance sheets from their current size. There may also be a case for adjusting certain aspects of monetary or regulatory policy to deal with these issues but they do no amount to a case for returning to a scarce reserves environment.

5. OPTIONS FOR THE EUROPEAN CENTRAL BANK

Given the likelihood that the ECB will continue to provide an ample supply of reserves and use the deposit facility rate as its key policy rate, how much liquidity should it plan to provide in the future? One model to follow is the current approach of the Federal Reserve. In seeking to avoid the difficulties of September 2019 re-occurring, the Fed is committed to maintaining a supply of reserves that is well above its (admittedly uncertain) estimates of the underlying demand for reserves from commercial banks.

But this is not the only way to do this. In a recent speech, ECB Executive Board member Isabel Schnabel (2023) noted that the Bank of England have announced an alternative approach.[8] Instead of targeting a specific level of reserves that it believes to be ample, the Bank of England are introducing a short-term repo facility that allows banks to borrow as much reserves as they want, subject to them having the collateral required to secure these loans. This approach would mean that when the Bank of England reaches a point in the future where the supply of reserves created from the Bank's sovereign bond holdings starts to fall below the needs of the banking sector, then banks can use the short-term repo facility to avail of the required reserves.

This approach allows the banking sector itself to determine the amount of reserves required and thus set the overall size of the central bank's balance sheet. It does not require extensive (and perhaps fruitless) efforts to estimate the day-to-day demand for reserves from the banking system. It also stops banks from having to continually execute the additional transactions associated with continuously seeking to shift unwanted reserves off their balance sheet. Evidence for this activity among euro area banks was presented by Ryan and Whelan (2021).

Schnabel (2023) noted a number of positive features of the Bank of England's standing repo plan but, in fact, the ECB is already better positioned than the Bank of England to implement a long-term demand-driven balance sheet policy. The Bank of England's standing repo facility only accepts "Level A" assets as collateral, limiting the assets that can be used to sovereign bonds issued by a small number of countries. This could potentially see some banks get into difficulties if they have insufficient collateral to secure the reserves they need.

In contrast, the ECB already has a comprehensive eligible collateral list for use in its refinancing operations, including plenty of lower-rated assets that can be used provided a relevant "haircut" is applied (e.g. a 30% haircut would mean an asset worth EUR 100 million could be used to secure funding of EUR 70 million). The key to ensuring there is a sufficient quantity of reserves available in the future will thus be for the ECB to continue with its "full allotment" approach to its refinancing operations. This approach will allow the ECB to gradually reduce the size of its balance sheet without having to worry about the instabilities that would emerge from occasional shortages of reserve balances.

[8] The details behind the Bank of England's facility, announced in August 2022, are here https://www.bankofengland.co.uk/markets/market-notices/2022/august/short-term-repo-facility-provisional-market-notice-4-august-2022

REFERENCES

- Angeloni, I (2023). Ample liquidity puts the ECB's independence at risk. https://www.omfif.org/2023/01/ample-liquidity-puts-the-ecbs-independence-at-risk/
- Borio, C. (2023) "Getting up from the floor". BIS Working Papers No 1100. https://www.bis.org/publ/work1100.pdf
- Copeland, A., D. Duffie and Y. Yang (2021). "Reserves Were Not So Ample After All". Federal Reserve Bank of New York Staff Report No. 974. https://www.newyorkfed.org/research/staff_reports/sr974
- Duffie, D. (2023). "Resilience redux in the US Treasury market". Paper presented at the Federal Reserve Bank of Kansas City Jackson Hole conference. https://www.kansascityfed.org/Jackson%20Hole/documents/9726/JH_Paper_Duffie.pdf
- Gagnon, J. and B. Sack (2019). "Recent Market Turmoil Shows that the Fed Needs a More Resilient Monetary Policy Framework". Peterson Institute for International Economics. https://www.piie.com/blogs/realtime-economic-issues-watch/recent-market-turmoil-shows-fed-needs-more-resilient-monetary
- Greenwood, R., S. Hanson and J. Stein (2016). "The Federal Reserve's Balance Sheet as a Financial-Stability Tool". Paper presented at the Federal Reserve Bank of Kansas City Jackson Hole conference. https://scholar.harvard.edu/files/stein/files/jackson_hole_ghs_20160907_final.pdf
- Logan, L. (2019). "Observations on Implementing Monetary Policy in an Ample-Reserves Regime". https://www.newyorkfed.org/newsevents/speeches/2019/log190417
- Ryan, E. and K. Whelan (2021). "Quantitative Easing and the Hot Potato Effect: Evidence from Euro Area Banks". *Journal of International Money and Finance*. https://www.sciencedirect.com/science/article/abs/pii/S0261560621000036
- Schnabel, I. (2023). "Back to normal? Balance sheet size and interest rate control". https://www.ecb.europa.eu/press/key/date/2023/html/ecb.sp230327_1~fe4adb3e9b.en.html
- Whelan, K. (2020). "Monetary-Fiscal Interactions in the Euro Area: Assessing the Risks". Briefing paper for the European Parliament ECON committee. https://www.europarl.europa.eu/cmsdata/214968/01.WHELAN_final.pdf
- Whelan, K. (2022). "The Past, Present and Future of Euro Area Monetary-Fiscal Interactions," *International Economics and Economic Policy*, Volume 19, pages 557–579. https://link.springer.com/article/10.1007/s10368-022-00531-y
- Whelan, K. (2023). "QT in the Euro Area". Briefing paper for the European Parliament ECON committee. https://www.europarl.europa.eu/cmsdata/266505/Whelan_Final.pdf

The ECB is reducing its sovereign bond holdings and needs to consider the appropriate size of its balance sheet over the longer-term and the best operational framework for supplying liquidity to the banking system. This paper recommends the ECB substantially reduce its balance sheet but should maintain an ample reserves approach by keeping its full allotment policy for refinancing operations.

This paper was provided by the Economic Governance and EMU Scrutiny Unit at the request of the Committee on Economic and Monetary Affairs (ECON) ahead of the Monetary Dialogue with the ECB President on 25 September 2023.

PE 747.862
IP/A/ ECONMD/FWC/2020-002/C7/SC13

Print ISBN 978-92-848-1076-5 | doi:10.2861/100296 | QA- 09-23-425-EN-C
PDF ISBN 978-92-848-1075-8 | doi:10.2861/053494 | QA- 09-23-425-EN-N