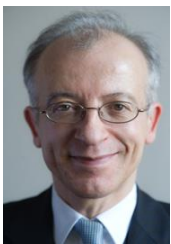


## Unwinding – Why and How



Christian Pfister | Université d'Orléans, LEO

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### **Abstract**

Central banks have lengthened their balance sheets as a result of large scale asset purchases. I first briefly describe how monetary policy is implemented, then explain why keeping large central banks' balance sheets has not delivered the expected benefits that had been advocated. I finally outline an approach to restore lean central banks' balance sheets without destabilising financial markets.

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The balance sheets of most central have ballooned following their large scale asset purchases (LSAPs, also called “Quantitative Easing” – QE – in the media) in the wake of the Great Financial Crisis (GFC) and of the pandemic crisis. However, reversing this sort of monetary policy easing, i.e. “unwinding”, was not prioritised when inflationary pressures resurfaced. Instead, central banks first raised interest rates and kept large balance sheets, making this feature part of a “New Normal” (Pfister and Sahuc, 2020). Currently, central banks’ portfolios have dwindled from their peaks. However, no major central bank, and specifically neither the Federal Reserve (FED), nor the European Central Bank (ECB), has announced an objective to “unwind”.<sup>1</sup> I first briefly remind some basics of monetary policy implementation, then explain the reasons for unwinding and finally outline an approach to do it.

## 1. Monetary policy implementation

Monetary policy is implemented by creating and destroying reserves (i.e., deposits of the banks with the central bank). The sum of reserves is referred to as “banking liquidity”, or more simply “liquidity”. Banks can recycle reserves in the interbank market. Reserves are created by the central bank by buying assets (essentially, foreign currency and securities) and by lending to banks against collateral, labelled “refinancing”. They are destroyed when the assets held by the central bank are redeemed or sold, or when the loans to the banks mature. The demand for reserves can be reinforced by a reserve requirement system, with interest paid on required reserves to avoid financial repression.

A central bank’s simplified balance sheet helps illustrate these mechanisms, keeping in mind that a balance sheet is always balanced (i.e. assets equal liabilities).

### Simplified central bank’s balance sheet

Assets	Liabilities
1. Refinancing	6. Reserves (inc. required reserves, excess reserves and deposit facility)
2. Monetary policy portfolio	7. Liquidity-withdrawing open market operations (inc. reverse repos)
3. Foreign exchange reserves (inc. gold)	8. Banknotes
4. Capital assets	9. Treasury account
5. Other assets	10. Other liabilities
	11. Own funds

One can neglect items 3, because the central bank usually does not intervene in the foreign exchange or gold markets, as well as items 4, 5, 9, 10 and 11, because they are negligible and/or shocks on them are easily neutralised (“sterilised” in the jargon of central bankers) through open market operations (items 1 and 7), so that they do not influence the volume of reserves. Consequently, there are two possibilities:

- Either the volume of banknotes (item 8) is higher or close to that of monetary policy operations (items 1 + 2 - 7), and then reserves (item 6) are scarce. In the terms of Borio (2023), this is a scarce reserves system (SRS). In an SRS, the central bank can operate an interest rate corridor, aiming to stabilize the overnight rate in the middle of the corridor, at which it either provides liquidity through regular refinancing operations (item 1) or withdraws liquidity through regular liquidity-withdrawing operations (item 7) (Bindseil, 2004). So, items 1 and 7 in principle do not coexist. So as to exert a minimal influence on the markets of the underlying assets, these operations are conducted in the repurchase markets. In these markets, central banks intervene in the same way as a private agent. Accordingly, these operations are referred to as open market operations. The lower limit of the corridor (the “floor”) is set by the deposit facility rate – DFR – and the higher limit (the “ceiling”) by that on the Lombard facility (the marginal lending rate – MLR – for the ECB and the discount facility for the FED). The central bank can also conduct (liquidity-providing or withdrawing) fine-tuning

<sup>1</sup> One exception is the Bank of Canada, whose Deputy Governor Toni Gravelle has announced it would have unwound, although he does not use the word, and returned to the pre-QE monetary policy framework in the course of third quarter of 2025 (Gravelle, 2025).

operations, in particular at the end of the required reserves maintenance period, when required reserves lose their interest-rate smoothing property (Bindseil, 2004).

- Or the volume of banknotes is significantly lower than that of monetary policy operations, and reserves are abundant, with the central bank operating an ample reserve system (ARS), according to Borio (2023). In an ARS, refinancing (item 1) is in principle useless, since banks which need liquidity can easily find it in the interbank market. Furthermore, the central bank is unable to collect all the excess liquidity in the repo market (item 7), where it would crowd out private participants. It thus collects deposits (item 6) through its deposit facility or simply pays interest on excess reserves (i.e., reserves held beyond the volume of required reserves), thus in principle putting a floor on very short-term interbank rates. The central bank then operates a floor system.

By unwinding, the central bank moves back from an ARS to an SRS<sup>2</sup>.

## 2. Why unwind

Not only did the expected benefits of an ARS not materialise, but ARSs have costs.

### Expected benefits

An ARS can be expected to bring benefits in implementing both monetary policy and financial stability policies (see, e.g., Board of Governors, 2019, Borio, 2023, Hauser, 2023, Schnabel, 2023).

### Monetary policy

In comparison with an SRS, an ARS can be expected to present three main advantages:

- An ARS is simpler to communicate, since there is in principle only one policy rate, the rate on reserves;
- It is also simpler to operate, as the central bank can rely on the high level of excess reserves to absorb shocks in so-called “autonomous factors” (i.e., items 3 to 5 and 8 to 11), which influence the level of liquidity and are not within the direct influence of the central bank. Open market operations can thus be dispensed with, as well as accurate liquidity forecasts. In the words of the FOMC, in an ARS, “active management of the supply of reserves is not required” (Board of Governors, 2019) and the central bank would thus be able to implement monetary policy in an essentially passive manner.
- It is at least as efficient as an SRS to control the level and the volatility of the overnight rate.

However, as exemplified by the ECB and the FED, central banks have maintained open market operations, which makes their operational frameworks less readable. Furthermore, in contrast with the essence of an ARS, open market operations have repeatedly been used not just to withdraw but also to provide liquidity, and routinely so in the case of the ECB. Finally, the rate on reserves did not act as a floor to the overnight rate, with instead the latter lying most of the time below the former, in the euro area as well as in the U.S., since an ARS has been in place. This reflects the arbitrage between reserves and other monetary assets, in particular short-term Treasury securities (Martin et al., 2020). The latter have the advantage of being accessible to a much wider range of investors than reserves, which are accessible only to banks, while being as safe.

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<sup>2</sup> The central bank can also restore an SRS by issuing bonds, if it has this capacity (this is the case of the ECB, but not of the FED). However, this means it would not unwind and is thus out of the scope of this paper.

## Financial stability

An ARS could contribute to financial stability in three ways:

- In an ARS, the central bank, by providing excess liquidity in advance, would limit the risk of having to play the role of lender of last resort (LoLR) in case of financial stress. However, in the past few years, central banks have repeatedly intervened to provide liquidity during periods of stress in money markets. Examples were in September 2019, when dollar repo markets were under stress, in March 2022 during the global “Dash for Cash” episode, or in March 2023 when the Silicon Valley Bank collapsed.
- An ARS would help banks fulfil their liquidity requirements, in particular the Liquidity Coverage Ratio (LCR), since banks can fulfil this requirement partly or fully by holding reserves. However, this amounts to transferring the onus of complying with the prudential requirement from commercial banks to central banks, and to transforming a prudential requirement into a constraint on monetary policy.
- Finally, an ARS could also help make up a shortage of safe assets (Caballero et al., 2017). However, the reserves added to create an ARS have been provided when central banks purchased Treasury securities, which are themselves safe assets. It is thus not clear to what extent an ARS adds to the preexisting stock of safe assets.

## Costs

ARSs have five sorts of costs:

- They create risks of losses for central banks. These risks have materialized in the recent years as interest rates were raised and interest payments on deposits with the central bank became higher than those collected on the bonds they had purchased. However, an extended period of losses could jeopardize the independence of central banks.
- ARSs can also be at the source of market malfunctioning, in particular in the money market. Borio (2023) notes that transactions in the dollar and the euro interbank markets have fallen dramatically with the increase in the supply of reserves. Schnabel (2024) also points that euro repurchase markets were strained “at some point”, as collateral, which was mobilised by ECB operations, was scarce.
- ARSs give rise to price distortions, as the stock of securities purchased by the central bank and its renewal as the securities mature put pressure on term premia. According to the ECB, the impact of current and expected Eurosystem bond holdings lowered ten-year sovereign bond yields by around 175 basis points when at its peak in early 2022 and still by 75 points in January 2025 (Cipollone, 2025). Maintaining these price distortions permanently does not seem justified.
- ARSs create moral hazard. To the extent that banks are assured that they will have at their disposal the liquidity they require, including at medium-term maturities in the euro area, they are disincentivised from implementing a prudent liquidity management. This is all the more the case when liquidity is provided at a fixed rate with full allotment, as with the ECB’s main and longer-term refinancing operations (MROs and LTROs).
- They blunt the monetary policy transmission mechanism. Byrne and Foster (2024) find that pass-through in the recent ECB tightening cycle was weaker relative to previous cycles for household deposits. Reserves also substitute partly for loans in the balance sheets of banks: Diamond et al. (2023) show, using a structural model for the U.S., that reserves injected by LSAPs raised loan rates by 8.2 basis points, and each dollar of reserves reduced bank lending by 8.1 cents.

### 3. How unwind

Unwinding should avoid destabilising financial markets. With this objective in mind, I first describe general orientations, then the main steps of a possible path toward an SRS.

#### General orientations

To avoid destabilizing financial markets, unwinding should process in a credible and transparent manner. This presupposes that:

- The objective (restoring an SRS, conducive to a better functioning of financial markets) would be announced in advance of implementation.
- Before or at the same time as the announcement of the objective, the breakdown, by ranges of maturities and categories of issuers, of the portfolio of bonds held by the central bank would be made public (this has been the case for the FED since it started conducting LSAPs, but is still not the case for the ECB).
- A tentative timeline, with caveats in case of unforeseen economic and financial developments, would also be announced, preferably at the same time as the objective.
- The main steps of unwinding would also be described in the communiqué announcing the objective.

#### The main steps

In order not to destabilize bond markets, the reference scenario could be one in which the central bank holds the bonds in its portfolio, without rolling it, until they are redeemed. The restoration of an SRS may thus be a lengthy process. Caveats could also state that, in case of financial crisis and the reaching of the ELB, LSAPs could resume, or alternatively, in case of high economic growth threatening price stability, bonds could be sold in the markets, while taking care not to destabilise them. In that regard, the precedent of the so-called “taper tantrum” in May 2013 should not obscure the fact when, two weeks earlier, Ben Bernanke had announced to Congress the intention of the FED to unwind, possibly by selling bonds in the markets, the latter had not reacted.

The possible main steps could be, in chronological order:

- A discontinuation of open market liquidity-providing operations, which both seem unnecessary and hamper the functioning of the interbank market by substituting for market transactions.
- A widening of the interest rate corridor, in order to encourage banks both to resume transactions. Indeed, as money markets very short rates increase toward the middle of the interest rate corridor, surpassing the rate on reserves, holding reserves to fulfil the LCR would become more costly for banks. This widening would take place progressively, until the corridor reaches the pre-GFC level (100 basis points).

A restoration of open market liquidity-providing operations, when market interest rates move on a sustained basis close to that of the Lombard facility, and thus possibly before the interest rate corridor reaches its pre-GFC level.

- Finally, although this is not tightly related to the restoration of an SRS, and if needed to strengthen the transmission mechanism of monetary policy, a widening of access to central bank deposits to NBFIs. In that regard, NBFIs could get access to remunerated deposits but not to refinancing. This would be for two reasons: the first one is that NBFIs, which do not collect deposits from the public, are less subject to runs than banks; the second reason is to lessen moral hazard, as NBFIs may become less prudent if they have access to central bank refinancing.

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## About the author

**Christian Pfister** is an economist and consultant in digital currencies. He provides technical assistance to Member countries of the Asian Development Bank (ADB) and International Monetary Fund (IMF). He was formerly Banque de France Deputy Director General. He has extensively published in monetary economics, financial stability and central bank policies.

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Designed by the Information Management and Services Division of the Oesterreichische Nationalbank (OeNB)

SUERF Secretariat

c/o OeNB, Otto-Wagner-Platz 3A-1090 Vienna, Austria

Phone: +43 1 40 420 7206

E-Mail: [suerf@oenb.at](mailto:suerf@oenb.at)

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