Reflections on the Eurosystem's new operational framework

Speech at the Konstanz Seminar on Monetary Theory and Monetary Policy

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1 Introduction

Dear participants at this year's Konstanz Seminar. It is a great pleasure and a privilege to be here with you and to deliver the speech for the policy session. I am sure you all enjoyed your lunch, but I hope that you are still hungry for some more food for thought.

As you all know, Karl Brunner's original intention for the Konstanz Seminar was to connect economists from Europe, especially Germany and Switzerland, with top academics from the US (United States).[1] In my address today, I would like to build another connection: Between monetary theory and monetary policy implementation. And as you may know from my CV (Curriculum Vitae), this connection is particularly dear to me, as I have been deeply involved in policy implementation during my career at the Bundesbank.

In most macroeconomic models, the central bank simply "administers" the short-term interest rate "i". The future path of this overnight interest rate then determines medium to long-term interest rates, and thus the borrowing costs of economic agents that exercise demand for goods and services.

Don't get me wrong here: I am not saying that this simplification is unreasonable. But in order to make this simplifying assumption, a lot has to happen behind the scenes – in the world of monetary policy implementation. This world is mostly inhabited by central bank economists, as a search for works on monetary policy implementation shows.

The most cited paper on monetary policy implementation, Claudio Borio and Piti Disyatat's "Unconventional monetary policies: an appraisal", has around 1,200 citations.[2] That sounds quite impressive. These authors struck a nerve when central banks worldwide started to delve into the world of quantitative easing. The second most cited work, Ulrich Bindseil's "Monetary Policy Implementation: Theory, Past, and Present", has been cited almost 500 times.[3]

But contrast this with the almost 14,000 citations received by John Taylor's "Discretion versus policy rules in practice", arguably the most cited paper in monetary economics.[4] Or the around 12,500 times that Michael Woodford's opus magnum "Interest and Prices" has been cited.[5]

This suggests that monetary policy implementation does not stand at the forefront of academic research in monetary economics and public attention more generally. It is, however, at the heart of what central banks do. Despite that, even most central bankers only know how their respective central bank "does it". We all set interest rates. But how we get there can differ markedly.

Two months ago, the ECB (European Central Bank) Governing Council announced changes to its operational framework for implementing monetary policy.[6] In my speech I want to discuss how these changes came about, and what they might mean for the future. I will structure my talk in three parts. First, I will briefly recount how we ended up with the operational framework as it currently stands. Second, I will describe the most important changes that we have decided. And third, I would like to identify a couple of factors that merit close scrutiny over the coming two years until our next scheduled review.

2 The road to the current operational framework

Before I get into the nitty-gritty, let me first define what I actually mean by operational framework. The ECB (European Central Bank) Governing Council takes monetary policy decisions based on our monetary policy strategy. And this strategy is centred around our primary objective of maintaining price stability. The purpose of our operational framework is to steer short-term money market rates closely in line with these monetary policy decisions. Or, put differently: Our monetary policy strategy guides us in deciding the appropriate level of short-term interest rates. And the operational framework then enables us to align short-term market rates with this appropriate level.

How did we end up with our current operational framework? Before the global financial crisis, many central banks implemented monetary policy using a corridor system. In the case of the Eurosystem, the ECB (European Central Bank) Governing Council set three interest rates with specific spreads between them.[7]

The Eurosystem provided a limited amount of liquidity at the interest rate on the main refinancing operations, the MRO (Main Refinancing Operation) rate. Euro area banks with a remaining deficit of reserves were able to borrow additional amounts overnight at the interest rate on the marginal lending facility, the MLF (marginal lending facility) rate. And euro area banks with an excess of reserves were able to deposit them with the Eurosystem at the interest rate on the deposit facility, the DFR (deposit facility rate).

However, euro area banks also had the possibility to lend at higher rates than the DFR (deposit facility rate) or to borrow at lower rates than the MLF (marginal lending facility) rate in the interbank market. Banks thus faced an opportunity cost when accessing central bank facilities. This way, the Eurosystem aimed at keeping short-term interest rates in line with the MRO (Main Refinancing Operation) rate.

To support this goal, the Eurosystem estimated the aggregate liquidity needs of the banking sector. The main sources of liquidity needs are euro area banks' reserve requirements and autonomous factors which are outside the control of the ECB (European Central Bank)'s monetary policy operations. Somewhat simplified, the autonomous factors comprise banknotes in circulation as well as deposits of euro area governments with the Eurosystem. This brings back wonderful memories, as one of my first jobs at the Bundesbank was to precisely estimate those reserve requirements and autonomous factors for Germany.

The Eurosystem would then provide reserves totalling the estimates of the liquidity needs as part of the weekly main refinancing operations. Euro area banks would place their bids and the Eurosystem supplied the reserves competitively through auctions. To sum up, we operated in a corridor system with scarce reserves and variable rate tenders. The US (United States) Federal Reserve System, too, operated with scarce reserves, though they provided liquidity via asset purchases instead of lending operations.[8]

Things started to change with the global financial crisis.[9] Up until the crisis, euro area banks with a surplus of reserves would usually lend them in the interbank market to banks with a deficit of reserves.[10] This lending took place to a significant extent by means of unsecured over-the-counter transactions. As reserves were sufficient only on an aggregate basis, the redistribution of reserves was a prerequisite for the scarce reserve regime to function smoothly. This business depended largely on counterparty risks being contained and predictable.

With the onset of the global financial crisis, reserves began to be redistributed less and less. In the market, the supply of reserves declined, while demand spiked, especially from riskier banks. In response, the Eurosystem moved from a system with competitive bidding for a limited supply of reserves in the main refinancing operations to a system with fixed rates and full allotment.

When market funding was not available or too costly, banks with a deficit of reserves now borrowed additional amounts from the Eurosystem. And banks with a surplus of reserves would place them in our deposit facility. This created sizeable amounts of excess liquidity.[11] And because of the excess liquidity, short-term interest rates declined well below the MRO (Main Refinancing Operation) rate.

Five years later, faced with a prolonged period of inflation below target, the Eurosystem launched a first series of targeted longer-term refinancing operations (TLTROs (targeted longer-term refinancing operations)) in 2014. These offered banks long-term funding at attractive conditions. To give you an order of magnitude here: Financing volumes rose from up to 425 billion euro provided via TLTRO (targeted longer-term refinancing operations) I to more than 2 trillion euro provided via TLTRO (targeted longer-term refinancing operations) III – equal to about 15% of euro area GDP (gross domestic product). Alongside the TLTROs (targeted longer-term refinancing operations), the Eurosystem also started to buy significantly more debt securities with the launch of the asset purchase programme (APP (Asset Purchase Programme)) in 2014. Securities holdings for monetary policy purposes rose from around 195 billion euro at the end of September 2014 to almost 5 trillion euro, equivalent to almost 40% of euro area GDP (gross domestic product), in summer 2022.

Both measures added substantially to the excess liquidity and caused short-term interest rates to decline towards the level of the deposit facility rate. Over time, it was perceived that the Eurosystem had moved gradually from a corridor system to a *de facto* floor system.[12]

3 The Eurosystem's new operational framework

What was our main reason for starting to review our current framework? The Eurosystem discontinued reinvestments under the APP (Asset Purchase Programme) in July 2023. By the second half of 2024, we intend to start running off the pandemic emergency purchase programme (PEPP (pandemic emergency purchase programme)). And euro area banks have repaid most of the TLTRO (targeted longer-term refinancing operations) volumes. Consequently, excess liquidity has finally started to decline and will continue to do so over the coming years. Let me give you some numbers here: Excess liquidity peaked at more than 4.6 trillion euro in November 2022. It has since come down by roughly one-third, to about 3.2 trillion euro today.

This shrinking of the balance sheet was long overdue and will free up policy space for the future. It is thus highly welcome. However, it also sparked the question of how the Eurosystem will provide liquidity on a regular basis going forward. And how it intends to steer short-term money market rates closely in line with the Governing Council's monetary policy decisions.

So what did we decide on in our framework review? I would like to focus on two things: First, we will continue to provide liquidity in the weekly main refinancing operations and three-month longer-term refinancing operations through fixed rate tender procedures, with full allotment, and against a broad set of collateral. Second, and in my eyes most consequentially, we will reduce the spread between the MRO (Main Refinancing Operation) rate and the deposit facility rate from fifty to fifteen basis points as of mid-September 2024. This narrower spread is supposed to incentivise bidding in the weekly operations, so that short-term money market rates are likely to evolve in the vicinity of the deposit facility rate. In contrast, the Fed (Federal Reserve System) will continue to provide liquidity mainly through asset purchases.

In addition to key parameters and features, we agreed on a set of guiding principles for monetary policy implementation, two of which I would like to highlight: First, the effectiveness principle. The main objective of our operational framework is to implement our intended monetary policy stance. This is done by aligning short-term interest rates with our monetary policy decisions. If short-term interest rates fluctuate too heavily, this might blur the signal about the intended monetary policy stance and at some point reduce effectiveness.

Second, the open market economy principle. Our operational framework should be in line with the principle of an open market economy with free competition. This applies, in principle, to all financial market segments affected by monetary policy implementation, notably to bank funding markets. The open market economy principle favours the efficient allocation of resources, an effective price discovery mechanism and the smooth transmission of monetary policy.

Furthermore, we agreed that the framework should be robust, flexible, efficient and, without prejudice to the ECB (European Central Bank)'s primary objective of price stability, that it should support the general economic policies in the European Union.[13]

4 The trade-off between market activity and volatility

The main trade-off we face exists, in my view, between the effectiveness and open market economy principles. Because, unfortunately, keeping fluctuations in money market rates at bay and encouraging money market activity do not necessarily go hand in hand. Providing ample liquidity at a narrow spread between the main refinancing and deposit facility rates may keep the volatility of short-term interest rates in check, but it discourages market activity, especially among banks. And vice versa, providing liquidity at a wider spread encourages market activity, but it might come at the cost of larger fluctuations in short-term interest rates.

We on the ECB (European Central Bank) Governing Council decided that a spread of fifteen basis points will limit the scope for volatility in market rates, and leave room for banks to seek market-based funding solutions. What should we make of this trade-off between the open economy principle that intends to encourage market activity and the effectiveness principle that aims at limiting money market volatility?

Let me start with the effectiveness principle. Too much volatility in money market rates might blur the signal about the intended policy stance. What do I mean by that? The ECB (European Central Bank) Governing Council decides on a specific monetary policy stance because it considers that stance appropriate for achieving price stability in the medium term. Short-term interest rates are an important starting point for monetary policy transmission into broader price developments. They affect medium and long-term market rates, which in turn influence the cost of bank borrowing. And the borrowing costs of households, firms and governments then ultimately have a bearing on output growth and the inflation rate. By implication, rate volatility may become a problem (only) if it adversely affects the transmission mechanism of monetary policy to a relevant extent.

Unfortunately, there is relatively little research on what would happen if short-term interest rates were to fluctuate substantially around the key policy rates. In particular, the ultimate effect on inflation is unclear. Do short-term rate fluctuations affect monetary transmission in a meaningful way? And if so, what degree of fluctuations? Examining this in more detail could deliver valuable input for future policy discussions. Be assured that compelling research in this field would surely kick down doors at central banks. And it would help us understand how important it really is to keep rate volatility contained in the pursuit of the primary objective of price stability.

What about the open market economy principle? In our current and future operational framework, all eligible banks can borrow at the same rate, provided they pledge sufficient eligible collateral and fulfil certain minimum criteria concerning their financial soundness. In bank funding markets, by contrast, banks have to pay different interest rates depending on their financial soundness.

In principle, this rate differentiation steers the allocation of funds in the economy, provides incentives for banks to strengthen their balance sheets, and contributes to making the banking system more efficient and stable overall. At the same time, it reduces the burden on the central bank to decide who is a trustworthy counterparty – and increases the responsibility of the market. These benefits of more market activity are rather intangible and thus notoriously difficult to quantify. But I guess everyone can agree that more market-based funding favours an efficient allocation of resources.

Currently, money market participants price most unsecured overnight transactions at a narrow spread of zero to ten basis points. For this segment, the future spread of 15 basis points seems enough to provide economic incentives for some market activity. Most of these transactions currently take place between banks and non-banks. Interbank transactions might need higher spreads. But in the longer-term money market segments, a spread of 15 basis points might risk pricing many transactions out of the market which can still take place at a wider spread.

The narrower spread might have a direct impact on liquidity regulation as well.[14] Banking regulation requires euro area banks to fulfil certain liquidity requirements.[15] Most importantly, they have to hold a minimum stock of high-quality liquid assets (HQLA (High Quality Liquidity Assets)) against their net liquidity outflows over the next 30 days. One way to meet these requirements is to borrow reserves from the Eurosystem, which are defined as HQLA (High Quality Liquidity Assets), against non-HQLA (High Quality Liquidity Assets) collateral. In that way, banks transform illiquid and lower-quality assets into high-quality liquid assets in a process known as collateral transformation.

The opportunity cost of this trade is currently 50 basis points: the spread between the main refinancing rate and the deposit facility rate. Banks thus have a solid financial incentive to self-insure against liquidity risk in the market. Lowering the spread to 15 basis points has the potential to reduce the opportunity cost and provide incentives to shift from market to central bank funding.

The good thing is: We have enough time to observe how market activity evolves over the coming years. In particular, we have to evaluate the trade-off between the potential reduction of volatility and less market activity with possibly higher collateral transformation.

5 Closing remarks

Ladies and gentlemen, let me conclude. While our balance sheet will gradually shrink, excess liquidity will remain significant over the coming years. Accordingly, while some volatility cannot be ruled out, short-term money market interest rates are expected to continue evolving in the vicinity of the deposit facility rate.

Over the next two years, we will closely monitor three key aspects until our next scheduled review: First, we will assess the development of money market activity, including in the medium-term segment. Second, we will analyse possible fluctuations of short-term interest rates and their influence on the transmission of monetary policy. And third, we will scrutinise the degree of collateral transformation.

Let me be crystal clear: An adjustment of our operational framework was necessary to reflect structural market changes. Is that framework now set in stone? I don't know yet. But in the past, we have shown our capability and flexibility to adapt to changing market conditions. Let's be open to this, now and in the future.

1. See Fratianni, M. and J. von Hagen (2001), The Konstanz Seminar on monetary theory and policy at 30, European Journal of Political Economy, Vol. 17, pp. 641-664, for a full account of the history of the Konstanz Seminar.
2. Borio C. and P. Disyatat (2010), Unconventional monetary policies: an appraisal, Manchester School, University of Manchester, Vol. 78 (s1), pp. 53-89, September.
3. Bindseil, U. (2004), Monetary Policy Implementation: Theory, Past, and Present, Oxford University Press.
4. Taylor, J. (1993), Discretion versus policy rules in practice, Carnegie-Rochester Conference Series on Public Policy, Elsevier, Vol. 39(1), pp. 195-214.
5. Woodford, M. (2004), Interest and Prices: Foundations of a Theory of Monetary Policy, Princeton University Press.
6. See Changes to the operational framework for implementing monetary policy (europa.eu)
7. See Key ECB (European Central Bank) interest rates (europa.eu) for details.

8. See Kahn, G. (2010), Monetary policy under a corridor operating framework, Economic Review, Federal Reserve Bank of Kansas City, Vol. 95(Q IV), pp. 5-34.
9. See Baker, N. and S. Rafter (2022), An International Perspective on Monetary Policy Implementation Systems, Reserve Bank of Australia, Bulletin, June, for an international perspective on the changes in monetary policy implementation after the global financial crisis.
10. See Bech, M. and C. Monnet (2017), A search-based model of the interbank money market and monetary policy implementation, Journal of Economic Theory, Vol. 164, pp. 32-67, for a theoretical model of the interbank market.
11. Excess liquidity equals the sum of excess reserves and deposits in the deposit facility. Excess reserves are deposits by credit institutions on settlement accounts with the central bank that exceed the minimum reserve requirements.
12. See Afonso, G. et al. (2023), Monetary Policy Implementation with an Ample Supply of Reserves, Federal Reserve Bank of New York Staff Reports, No 910, for a theoretical discussion.
13. See Changes to the operational framework for implementing monetary policy (europa.eu) for details on these four other principles.
14. See Bech, M. and T. Keister (2017), Liquidity regulation and the implementation of monetary policy, Journal of Monetary Economics, Vol. 92, pp. 64-77, for a theoretical discussion of the impact of the Basel III liquidity coverage ratio (LCR (Liquidity Coverage Ratio)) on interbank interest rates in an otherwise-standard model of monetary policy implementation.
15. Quantitative provisions for liquidity were introduced into European law for the first time by the Capital Requirements Regulation (CRR (Capital Requirements Regulation), Regulation (EU (European Union)) No 575/2013), in keeping with the Basel liquidity framework.