



# CORE MATTERS

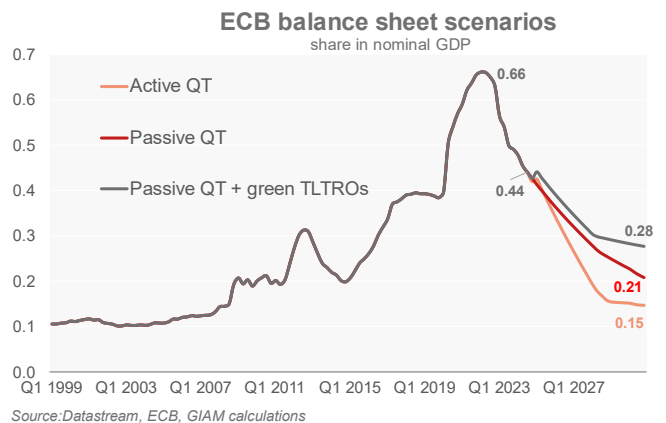
## Cautious ECB QT approach to limit impact on government bond markets

Florian Späte, Martin Wolburg

November 27, 2023

Our Core Matters series provides thematic research on macro, investment, and insurance topics

- The shift from deflation to inflation concerns in the aftermath of the pandemic and the war in Ukraine triggered a sharp turnaround in the ECB's monetary policy stance. It hiked key rates by a cumulative 450 bps and started to reduce its balance sheet.
- We think that the move to a floor system in reserve operations and green TLTROs are key factors that will keep the balance sheet some € 2 to 2.5tr higher than before QE.
- Still, the balance sheet will need to be reduced significantly. We see passive quantitative tightening (QT), i.e., the non-reinvestment of maturing bonds, as the preferred and most likely way to reduce the € 5tr of policy-related assets.



- Under these assumptions, passive QT must last until around the end of 2028. However, in the risk case of active QT starting in early 2024, the target balance sheet would already be reached by late 2026 if we assume that outright selling doubles the QT pace.
- The reduction of the still ample excess liquidity (EL of currently € 3.5tr) to the upper target range of € 1.4tr needed if the ECB were to formally adopt the floor system will also be slow in our baseline scenario. An increase in the Reserve Requirement Ratio (RRR) from 1% back to 2% or even higher would help and mop up liquidity.
- The ECB has started to reinvest maturing bonds in a carbon-neutral manner rather than in a market-neutral way to promote the green transition and to internalise the negative externalities of emissions. While the ECB is likely to continue on this path, there are unwelcome side-effects and the overall contribution to achieving the climate targets is not very sizeable.
- The impact of QT on government bond markets is difficult to disentangle from other factors. It increases the term premium via the so-called portfolio rebalancing channel. However, given the ECB's cautious approach, the impact on euro area government bond yields will remain moderate.
- QT also has an impact on the swap market. The downward trend in swap spreads is seen to continue as the volume of collateral available to the market rises.

1. Introduction .....2  
 2. A larger balance sheet than before .....2  
 3. Option1: continue with passive QT.....4  
 4. Liquidity reduction could be fostered by RRR.....4  
 5. Option 2: active QT bears considerable risks .....5  
 6. How green will the ECB become? .....6  
 7. Implications for sovereign bond markets .....8  
 8. Conclusions .....10

1. Introduction

From 2014 to 2022, the ECB engaged in quantitative easing (QE) to prevent inflation from falling too far below the target, while key rates had reached the “effective lower bound”. To support the monetary policy transmission the asset purchase programme (APP) was initiated in October 2014, and the pandemic emergency purchase programme (PEPP) was launched in March 2020 to counter the risks of the Covid pandemic. Since then, the situation has fundamentally changed, and the ECB is faced with a situation of excessive inflation. In addition to significant key rate hikes, it has changed gears and embarked on quantitative tightening (QT): since 2022, it has started to reduce the financial assets on its balance sheet. Redemptions of the APP were initially only partially reinvested and have not been reinvested at all since July 2023. In contrast, the redemptions of the PEPP will be reinvested until further notice.

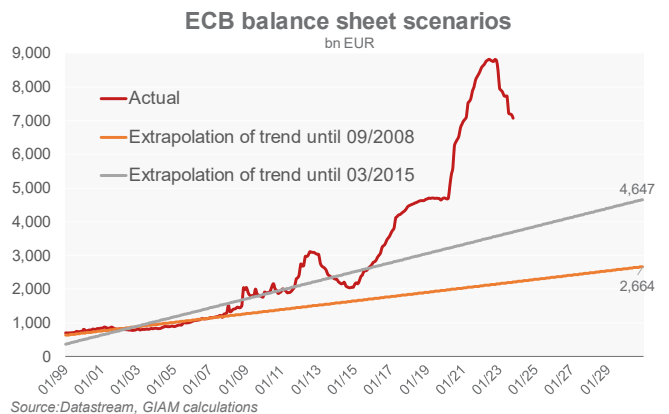
**Why does the ECB conduct QT?** First, the key interest rates are the primary policy instrument in the current high inflation environment. However, the large stock of assets acquired under QE runs counter to the effort to bring inflation back to target. Second, the amount of central bank reserves held by the financial sector is far above what is needed. This makes it more difficult for the ECB to steer short-term interest rates and thus to implement policy effectively. Third, QT is designed to counter the negative side effects of a large balance sheet. This includes bringing asset prices in financial and real estate markets back into line with economic fundamentals and improving the functioning of financial markets. QT also aims to counteract a potential loss of credibility of the ECB due to accusations of fiscal dominance and to reduce credit and duration risks on the balance sheet

(for the ECB’s view see [Schnabel \(2023\)](#), a comprehensive overview of the various assessments of QT can be found [here](#)).

**The paper is structured as follows.** First, we explain why the ECB’s QT approach will not lead to a complete reversal of the purchases made under QE: the balance sheet is likely to remain at a permanently higher level in the future. Then, we explain why the ECB will continue to pursue its passive QT approach of not reinvesting maturing bonds, in the future. The implications of QT for the money markets are analysed in Chapter 4. We then discuss the conditions for an acceleration of QT, and what it might look like. Given the desired greening of monetary policy, we consider the extent to which QT can support the EU’s climate goals. Finally, we discuss the various channels through which QT may affect the bond markets and the impact on yield levels in the euro area.

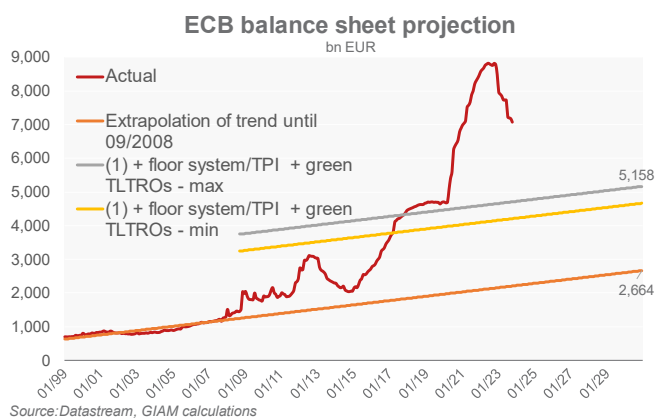
2. A larger balance sheet than before

Over the past decade, central banks’ balance sheets have expanded strongly, reaching a peak of € 8.8tr (or 66% of nominal GDP) in October 2022 in the case of the ECB. Thanks to the start of QT and the reduction of outstanding LTROs to € 0.5tr (from a peak of € 2tr), the balance sheet contraction is underway. As of October 2023, the ECB held assets worth € 7tr. Looking ahead, the key question is how much the balance sheet will have to shrink. Until the GFC the balance sheet grew by 0.4% per month. Extrapolating this trend, assuming the ECB wanted to get back to normal by 2030, it would need to shrink to about € 2.7tr. However, we see several reasons why the balance sheet will stay structurally larger than before.



1. The first and most important reason is the **change in the system of reserve operations**. Before the GFC, the ECB operated in a corridor system for the money market. The

ECB's 2021 review of its monetary policy strategy did not address these issues. However, [Schnabel](#) (2023) has confirmed that the ECB is “*analysing whether in the future we will operate under a floor or a corridor system. We hope to conclude this review by the end of the year.*” The [November 2018 Fed minutes](#) reminded us that in a floor system with abundant liquidity, money market interest rates are not sensitive to small fluctuations and that this approach effectively controls short-term interest rates. We think that the stability of short-term rates is something that will convince the GC to formally maintain the current floor system, not least because stable short-term rates limit the risk of unwelcome market volatility due to QT. That said, as an [ECB](#) study noted, the so-called floor requires excess liquidity (FREL). However, it “*is difficult to measure due to uncertain demand for reserves and central banks' inexperience in scaling down a large balance sheet*”. Furthermore, the authors find that in a period (2010 to 2013) with lower levels of excess liquidity, the money market rate (EONIA) started to increase at around € 400bn. However, when excess liquidity increased with the start of the APP, FREL shifted to around € 1tr. Therefore, we do not expect EL to fall below € 1tr in the new regime. In a [paper](#) presented at the ECB's Sintra meeting in summer 2023, the optimal liquidity supply was estimated to be in the range of € 500bn to € 1.4tr, depending on whether only core bonds (e.g. Bunds) or the whole universe of euro area government bonds are chosen. Relying on Bunds alone seems (politically) unrealistic. Hence, from this perspective, we look for EL above the € 1tr threshold in the medium term.

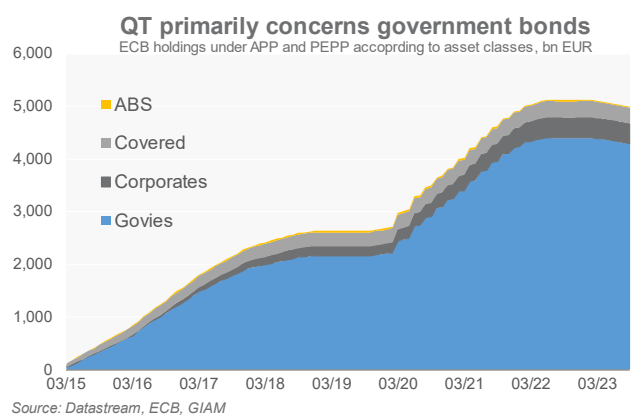


2. For the **sake of financial stability**, the [Transmission Protection Instrument](#) (TPI) was established in July 2022. It shall ensure the “*effective transmission of monetary policy.*” As the first defence line against market gyrations, reinvestments under the Pandemic Emergency Purchase Program (PEPP) are mentioned. However, the current € 1.7tr of PEPP holdings are temporary by nature and the ECB has only committed to reinvestment until the end of 2024. The

ECB could also intervene without any PEPP holdings under the TPI and sterilise purchases. However, sterilisation could push money market rates up. Having a large stock of redemptions available will make things easier as the ECB could for instance continue to use redemptions as the first defence line or sell core bonds and buy bonds under stress with the proceeds. The next monetary policy strategy review of the ECB is scheduled for 2025, and we think that the TPI could, apart from moving formally to the floor system, be an additional albeit clearly weaker consideration for keeping some (sovereign) bonds on the balance sheet permanently.

### 2025 strategy review could cement permanent holdings of bonds

3. The ECB is committed to **supporting the greening of the economy**. In its latest policy review it stated that “*within its mandate, the Governing Council is committed to ensuring that the Eurosystem fully takes into account, in line with the EU's climate goals and objectives, the implications of climate change and the carbon transition for monetary policy and central banking.*” Measures under discussion include, among others, green TLTROs and the purchase of green bonds. As we will discuss in Chapter 6, we expect the ECB to focus on its greening measures for corporates and expect credit-related measures (including TLTROs) to play a key role. LTROs reached € 2.2tr during the pandemic, and green TLTROs could, in our view, amount to around € 500bn in the medium term. Green QE – especially for sovereigns – is not imminent in our view, but a possibility.

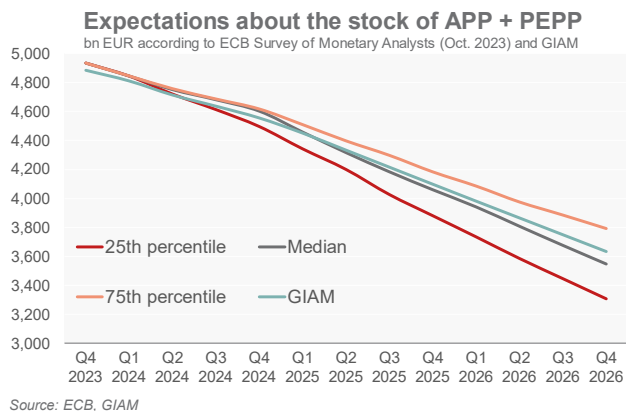


→ Overall, with at least € 1tr needed in a floor system and the PEPP reinvestment flows deemed sufficient to build a first line of defence under the TPI, **we expect the ECB to hold € 1.5 to 2tr of government bonds in the medium term**. With additional LTROs of around € 500bn, we see the **balance sheet as structurally € 2-2.5tr higher relative to the pre-GFC trend**. In what follows we consider two balance sheet

scenarios: (1) a base scenario with a balance sheet € 2tr higher than implied by the pre-GFC trend and (2) an alternative scenario with a balance sheet as much as € 2.5tr higher if in addition to (1) € 500bn of green TLTROs are kept on the balance sheet.

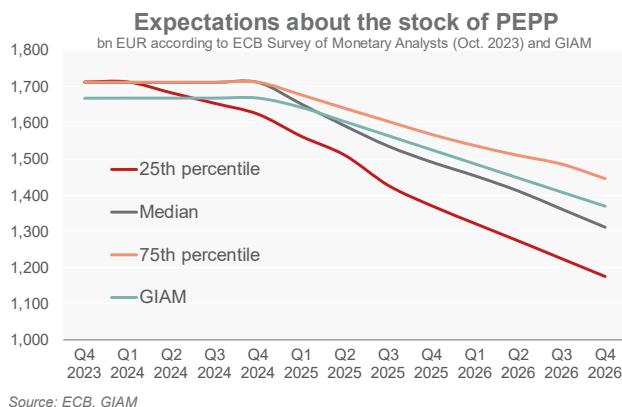
### 3. Option1: continue with passive QT

So far, the ECB has taken a cautious QT approach. In the last review of the ECB [strategy](#), key rates were mentioned as the primary policy tool. After announcing the start of QT back in December 2022 amid lifting the (deposit) rate to 2.0%, the GC confirmed that “*the key ECB interest rates are the Governing Council’s primary tool for setting the monetary policy stance*”. When asked about accelerating the pace of QT in response to inflation in the accompanying [press conference](#) President Lagarde stated that “*quantitative tightening is working sort of, not in the background, but is working to complement, to align with our key monetary policy tool, which is the interest rate.*” Moreover, active QT was never mentioned in speeches and subsequent policy statements. **Passive QT therefore is our base case.** That said, active QT remains a risk, albeit with a very low probability in our view.



In our **base case** of passive QT, **we assume** that the ECB simply does not reinvest redeeming bonds within the APP programme. As the exact breakdown of the ECB’s holdings is unknown, we use the average of the projected redemptions over the coming twelve months as a reference. The monthly reduction of the balance sheet by an average € 26bn mainly affects government bonds bought under the PSPP (82%) but also corporates (10%, bought under the CSPP), covered bonds (7%, bought under CBPP3), and to a lesser extent ABS (1%, bought under ABSPP). The ECB will stick to its announcement to sustain PEPP reinvestments until the end of 2024, after which we expect redemptions to stop being reinvested. The current stock of PEPP purchases (€ 1712bn,

mostly government bonds) is about 60% of the stock of PSPP purchases, which implies by the same reasoning average redemptions of € 13bn (=0.82\*0.6\*28bn). Hence, we expect passive QT to average about € 40bn per month from 2025 onwards.



Our QT expectations are broadly in line with those of analysts participating in the ECB’s latest [Survey of Monetary Analysts](#) (SMA). Quite noteworthy, regarding the PEPP the 25<sup>th</sup> percentile sees the ECB not walking the talk but starting QT already in Q2 2024 and pursuing active QT.

In our base scenario, QT will be quite a lengthy process. The targeted balance sheet path will not be reached until autumn 2028. If the ECB were to stick to a balance sheet increase of only € 2tr relative to the pre-GFC trend but still embark on € 500bn of green TLROs, passive QT would even need to last until autumn 2029.

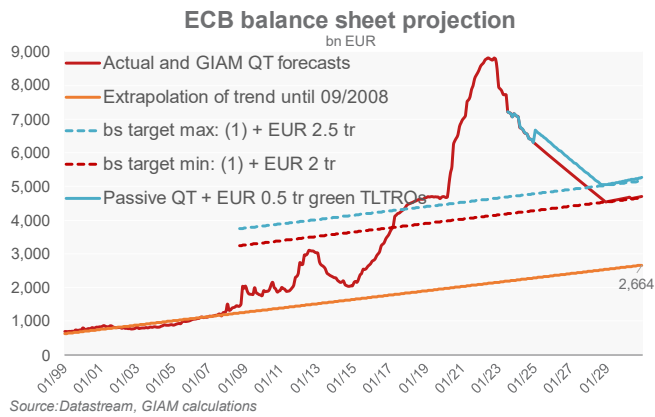
### 4. Liquidity reduction could be fostered by RRR

The pace of QT has implications for Excess Liquidity (EL) and the money market. The short-term interest rate (ESTR) is determined by the policy rates and the volume of EL. A simple regression suggests that in the current regime of plentiful EL, a reduction of EL by € 1tr increases ESTR by 1.3 bps. While this is not much, it also drains liquidity that could otherwise boost asset demand, lower yields, and improve financing conditions, thereby offsetting some of the intended policy tightening.

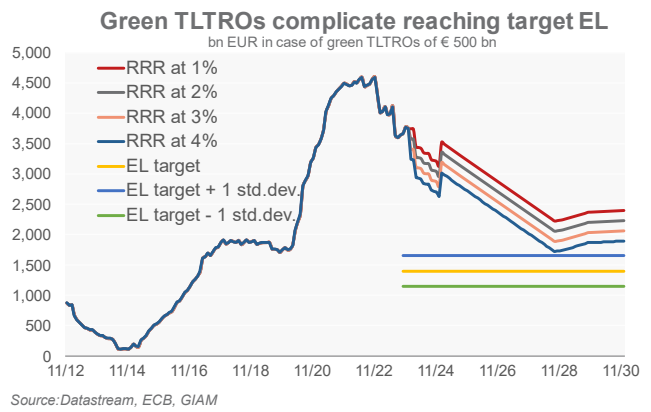
As explained in more detail in Box 1, the ECB’s direct policy tools to reduce excess liquidity are a reduction of OMOs or an increase in the Reserve Requirement Ratio (RRR). In our scenario, the autonomous factors will continue to drain excess liquidity, thereby facilitating the ECB’s job. However, assuming a back to historical patterns, the liquidity-draining factors are set to weaken, so that the fall of EL will be slower than merely implied by the OMO reduction path. Under the



status quo of a 1% RRR, EL will not fall to the previously stated upper limit of about € 1.4tr, but only to around € 2tr by the end of the decade. Even considering some historical and autonomous factors-driven variations of EL (of about € 250bn in the period 2012 to 2016 before the QE-related surge) is unlikely to approach its target range soon.

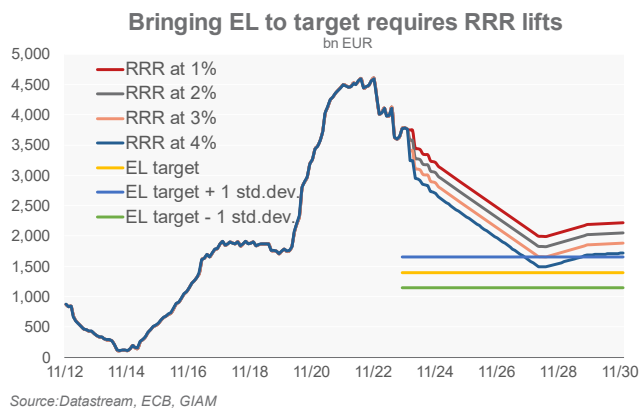


Under these assumptions, only a RRR of 4% would bring EL towards the upper bound of the target range of € 1.4tr. A 3% rate could also do the job, given the historical standard deviation of EL. But in any case, the reduction of EL remains a multi-year project and will not be completed until mid-2027, even with a 4% RRR.

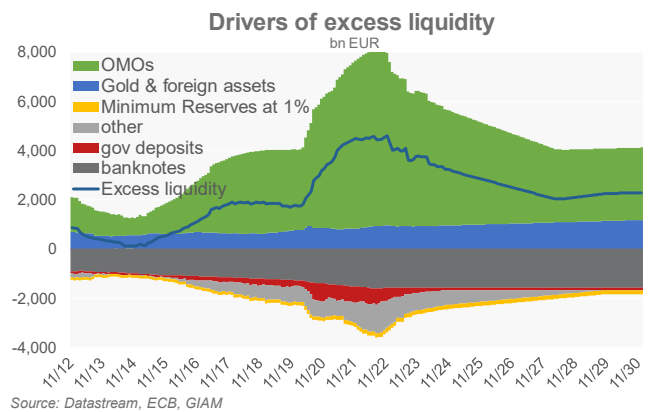


### Green TLTROs would harden the case for a higher RRR

Apart from QT, EL can also be mopped up by raising RRR. Banks are currently required to hold 1% of specific liabilities, i.e., customer deposits, at their national central bank. It was reduced to that level in **January 2012**, from 2% before, in an attempt to support credit creation. Against this backdrop, a lift in the RRR to drain liquidity and tighten policy further looks likely. Normalisation to 2% is the default option but we could even imagine an increase above the pre-crisis level. An increase in the RRR to 2% would double the volume of required reserves, which are not remunerated (as opposed to excess reserves).



In the case of green TLTROs and a higher targeted balance sheet path, reaching the targeted EL range only becomes possible if the RRR is raised to 4% in our scenario, as LTROs are part of liquidity-augmenting open market operations.



Assuming a “normal” economic expansion (implying a mechanical increase in required reserves) we simulate the evolution of EL under different EUR RRRs (see graph above).

### 5. Option 2: active QT bears considerable risks

In a risk **scenario**, QT may need to be accelerated. This for example could be due to a renewed energy price-induced inflationary push, with a serious risk of inflation expectations becoming de-anchored from the 2% policy target. We assume that it starts by January 2024 in the case of the APP and January 2025 in the case of the PEPP, with active selling equal to the assumed redemptions from passive QT in the base case. APP holdings would thus be reduced by € 52bn and PEPP holdings by € 26bn per month. As a result, the

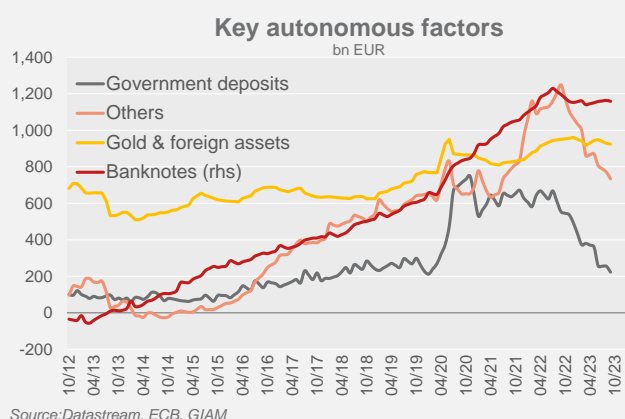
### Box 1: Drivers of excess liquidity

All the liquidity available in the banking system in excess of banks' needs is called excess liquidity (EL). There are several ways of calculating EL. The most common is to start from the liability side of a central bank. The required reserves and what is in the marginal lending facility are subtracted from the liquidity held in the current account and deposit facility.

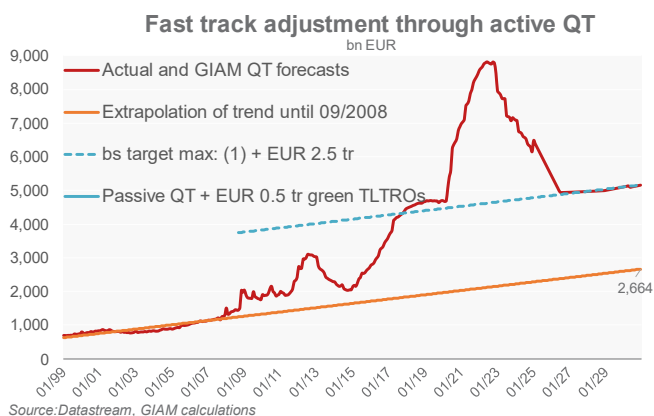
To link the evolution of EL more closely to the ECB's various open market operations (OMOs), we follow [another approach](#) used by the ECB. Liquidity comes from OMOs, which consist of asset purchases (e.g., APP, PEPP) and credit operations (LTROs, MROs), and so-called liquidity-providing autonomous factors, which are beyond the control of the ECB. Gold and foreign assets play a key role here. EL is reduced by minimum reserves and liquidity-absorbing autonomous factors. The latter consists of banknotes, government deposits, and other factors.

The future evolution of EL is therefore subject to some uncertainty from a policy perspective. In our scenario, we assume that banknotes will remain at around the current level, as demand for cash seems to have plateaued after Covid. Government deposits are set to decrease. The ECB decided to lower the remuneration on government deposits to -20 bps below ESTR from [May 1](#) onwards, which led to a sharp fall thereafter. We expect them to recede further and to normalise at around € 100bn, which would be even above the pre-GFC average of about € 50bn. Other factors are determined by revaluations, capital and reserves, and other claims and liabilities. Before the GFC, this item hovered around zero and we assume it to converge thereto again. Gold and foreign assets historically trend upwards, and we assume this pattern to persist.

From a policy perspective, the ECB can directly manage EL via minimum reserve requirements and OMOs, the latter being the most powerful.



balance sheet target could be reached as early as autumn 2026, even in the case of green TLTROs. With a balance sheet only € 2tr above the benchmark, the QT would have to last until around mid-2027.



Active QT would be a very efficient tool to mop up EL. In our scenario, a RRR of 3% would bring EL into the target range by Q3/2026, a RRR of 4% even by mid-2026. The ECB would still have € 2.2tr of government bonds on its balance sheet at that point, enough to serve as a first line of defence under the TPI.

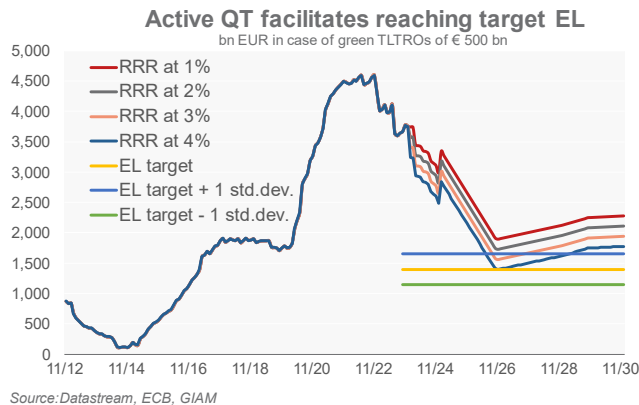
Active QT may be warranted under specific circumstances, but the collateral damages cannot be ignored. The net-net supply (incl. ECB's QT volume) of sovereign debt would increase strongly. In our scenario, by € 84bn per month, which would potentially rattle bond markets, especially in the highly indebted EA economies. Depending on the overall economic and government debt situation, market gyrations might trigger the TPI.

While we assess a low probability to our rather aggressive active QT scenario, the likelihood of an intermediate scenario has risen as of late. While President Lagarde qualified discussions about an end of PEPP reinvestments as totally premature at the October 2023 policy meeting, several Governing Council members recently publicly discussed the possibility of ending them earlier. To speed up balance sheet reduction some active selling might also be warranted, a view also held by the above-cited latest SMA.

## 6. How green will the ECB become?

A key principle of the ECB's monetary policy instruments has been market neutrality. For example, bond purchases have always reflected the existing bond universe. As carbon-intensive sectors have traditionally been major issuers of corporate bonds, this has led to a carbon bias in the ECB's

balance sheet. In this respect, the ECB has begun to reinvest maturing bonds since 2022 in a *carbon-neutral* rather than a *market-neutral* manner. In addition, climate change will also be accounted for in the ECB's collateral framework, disclosure requirements, and risk management. This is a fundamental change from the strategy pursued so far to promote the green transition of the euro area.



The idea behind this green monetary strategy is simple: the switch from the long-standing objective of preserving market neutrality to carbon neutrality is intended to internalise the negative externalities of emissions. Not only will the ECB's climate-related risks decrease, but **issuers will be given an incentive to reduce their emissions and thus support the green transformation.** The higher demand for green bonds increases the price, lowers the funding spreads for issuers, and leads eventually to a growing share of green bonds and other green investments.

With the start of full passive QT for the APP, the importance of carbon-neutral reinvestments has diminished. As soon as the ECB will also embark on PEPP QT in 2025, no more reinvestments will be made at all. Nevertheless, to reaffirm its commitment to the Paris Agreement, we see a certain probability that the ECB will start to sell (not yet maturing) conventional bonds from climate laggards (mainly from carbon-intensive sectors like Energy, Base Materials, and Utilities) and replace them with green bonds. We would expect a low double-digit billion EUR amount per year. However, active selling of carbon-intensive bonds (without replacing them with low-carbon issuers) is only a risk scenario that would become more likely in the event of an overall active QT stance.

**Corporate – rather than government – bond market is the hub for green monetary policy**

So far, the green monetary policy has only been implemented in the corporate bond market. We do not expect this to

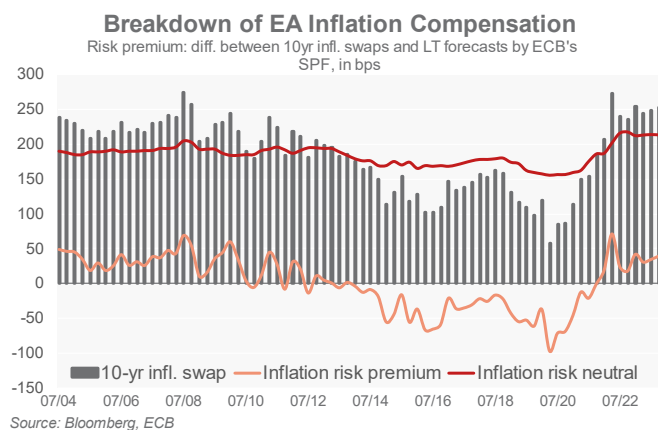
change in the foreseeable future. The green corporate bond market is simply larger than the green government bond market, and so is the potential impact on the green transformation. While there are just over € 200bn of green government bonds (representing slightly more than 2% of all outstanding government bonds), the volume of outstanding green corporate bonds is more than twice as large. Although the share of newly issued green government bonds has risen to around 5% in 2023, it is likely to remain a niche product. In contrast, more than 15% of all euro-denominated corporate bonds are now issued as green bonds, and the share of all existing corporate bonds is already around 8% (and will rise further in the future). Furthermore, the steering and allocation effects of lower funding costs are likely to be more pronounced for private issuers than for governments. Notwithstanding the higher importance of green bonds for the corporate bond market, the impact of the ECB's green monetary policy on the broader market and the green transition is likely to remain limited, given the central bank's cautious approach and the fact that the ECB is most likely aware of unwanted distortions.

Moreover, a shift towards a carbon-neutral monetary policy also has unwelcome side effects. The [Deutsche Bundesbank](#) recently used a simple model to show that increased demand for green bonds can indeed promote the green transition. However, this also leads to a change in the capital structure (increased leverage) of green bond issuing entities, a higher default risk, and welfare loss. Additionally, the [ECB](#) has pointed out that the increased cost for the issuance of conventional bonds will initially also cause the relative price of carbon-intensive goods to rise. Besides this (welcome) effect, there is a counteracting force at play. In the ECB's model, corporates react to the higher costs of conventional bonds by substituting (relatively expensive) capital as an input factor in production with carbon-intensive energy.

These undesirable secondary effects therefore limit the effectiveness of green monetary policy. This is especially true in comparison with the carbon tax. Since the latter only increases the attractiveness of carbon-saving investments, a carbon tax is the superior strategy, and emissions should be priced in such a way as to maximise welfare. If it is not possible to introduce a sufficiently ambitious carbon tax in an internationally coordinated manner, a green monetary policy still has its *raison d'être*. However, these considerations show that the actual impact of a green monetary policy should not be overestimated.

## 7. Implications for sovereign bond markets

In addition to the unwinding of credit operations, the reduction of the ECB's balance sheet through the non-reinvestment or even active sale of assets impacts particularly sovereign bond markets. However, we warn against the simplistic idea that the effects of QT reverse the effects of QE. For one thing, the speed at which the ECB operates QT is significantly lower than that of QE. Secondly, the volume of government bonds remaining on the ECB's balance sheet will remain above the original level. This is true regardless of the various options outlined above. Mind that the ECB has adopted a cautious QT stance, by international standards. The Fed and the BoE, for example, will reach their target balance sheet volume much more quickly. Finally, let us remind that the ECB did not surprise financial markets by announcing QT but telegraphed it well. Thus, the element of surprise has been intentionally removed, thus reducing the market impact. To avoid financial instability, comprehensible communication will remain key in the future. Additionally, the ECB will continue to manage its QT programme flexibly and modify QT in times of market turbulence (as the BoE did in the autumn of 2022). It also has instruments at its disposal to cushion unwelcome side effects (e.g., TPI) or to adjust the key rate policy, if necessary.



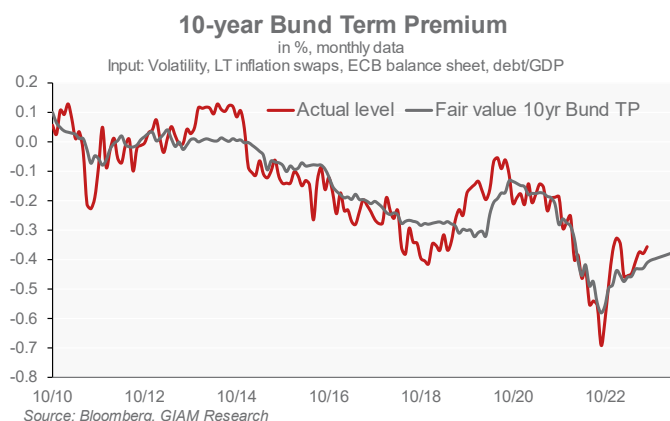
It is difficult to isolate the influence of QT on the bond markets. Numerous other factors determine the development of yields. For example, there is a broad consensus that the global rise in yields since the beginning of 2022 is hardly linked to QT. The (few) historical cases (such as the Fed in 2017) also suggest that the long-term impact should not be overestimated.

### Impact of QT on bond markets via the portfolio rebalancing effect

There are two main channels through which QT affects the bond markets: the *signalling* and the *portfolio rebalancing*

channel. While the signalling channel is important for the success of QE, it is less effective for QT. In the case of QT, it provides markets with much less information about the future path of key rates (no forward guidance). Nevertheless, QT remains a strong signal for the ECB's commitment to bring inflation back to target.

The portfolio rebalancing channel is more relevant for QT. While QE induces investment into riskier assets and reduces the amount of duration risk held by the private sector, QT simply reverses this effect. Analytically, the portfolio rebalancing channel can be divided into various sub-channels. A/ The first is the *local supply channel*. It refers to the price of the asset that is affected by QT. When the central bank acts as a seller for a certain asset, the supply increases, and the price falls (= yield rises). This channel is often referred to as the **flow effect** (as opposed to the stock effect). Empirically, it does not last exceptionally long, as arbitrage transactions quickly lead to an adjustment in market prices. In contrast, the so-called **stock effect** persists for longer, as the central bank permanently contributes to a relative shift in the securities on offer. B/ The second is the *duration risk channel*. When the central bank reduces its holdings of fixed income securities, these must be absorbed by the private sector. The amount of duration held by the private sector increases, and so does its vulnerability to changes in yields. As a result, the yield demanded for holding bonds increases. C/ The third one is known as the *credit risk channel* and refers to a lower risk-bearing capacity amid regulatory constraints and value-at-risk measures. Investors demand a higher compensation for credit risks, over and above expected losses. D/ Finally, the fourth sub-channel (*redenomination risk channel*) is specific to the EA and covers the increased



risk of redenomination (=exit from the EA) to avoid a credit default.

As explained above, QT is not the main monetary tool of the ECB and is not directly linked to the setting of the future key



rate (little information about the future key rate level). This implies that **the effects of QT will be felt primarily through an increase in the term premium**. The idea is therefore to steepen the yield curve. In this sense, QT is not a substitute for a key rate policy, but an auxiliary fine-tuning instrument.

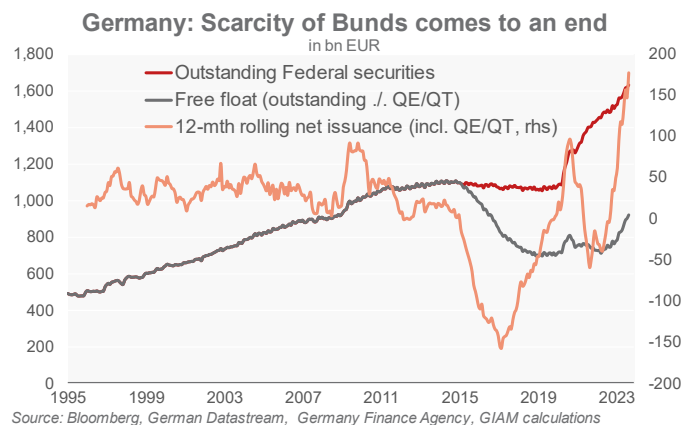
The term premium can be analytically divided into the nominal (inflation risk) term premium and the real term premium. The former reflects uncertainty about the future path of inflation (both its level and its volatility).<sup>1</sup> As the chart above shows, it has risen significantly recently in line with the rising inflation rate and is now back in positive territory. The latter refers to all other factors. These include uncertainty about future monetary policy, a change in risk aversion, and a sustained change in the supply/demand mix. To the extent that QT lowers the inflation rate and reduces its volatility, it should in principle even lower the term premium. However, the increased bond market volatility triggered by the intervention as markets struggle to find a new equilibrium yield level and the sustained change in net demand tend to increase the term premium. According to our latest estimates, we still see potential for a further increase in the term premium (although this is not exclusively attributable to QT).

Eventually, the impact of QT on EA government bond yields is an empirical question. Numerous studies ([Altavilla et al. \(2020\)](#), [De Santis \(2020\)](#), and [ECB \(2021\)](#)) to name just a few) have already dealt with the bond market impact of QE. Although the methodologies differ, they come to similar results: purchases of € 100bn lead to a decline in 10-year core bond yields between 3 and 7 bps. The impact on longer-dated bonds is larger than on shorter-dated bonds, implying a flattening of around 2 bps on the 2-year/10-year spread. Finally, 10-year EA non-core bond spreads are compressed by around 4 bps per € 100bn of purchases.

The effect of QT is less well analysed. Given our considerations, however, the implied effects from the above QE figures appear too high. [Sonnenberg \(2023\)](#), for example, shows that the signalling channel of QE alone accounts for almost half of the bond market impact. As the ECB has also prepared financial markets well, and considering the ECB's cautious approach, we apply a discount of half. This approach implies a 3 bps increase in the 10-year core yield, 1 bp steepening of the 2-year/10-year curve, and 2 bps widening of the 10-year EA non-core bond spread in 2023. This is slightly lower than the estimates of [Eren et al. \(2023\)](#), who calculate a yield-increasing effect of 5 bps for a 10-year weighted EA bond per € 100bn bond selling (note that Eren's estimate refers to a *weighted EA bond* and not just Bunds).

<sup>1</sup>There are basically different approaches to measuring the inflation risk premium. We calculate it here as the difference between 10-year inflation

Even if the ECB maintains passive QT (base scenario) in 2024, the non-reinvested volume will increase compared to 2023 and so will the impact on government bond markets. Nevertheless, the effect will remain very moderate, with a further 7 bps rise in 10-year Bund yields and an additional 3 bps of curve steepening. Even in 2025 (incl. PEPP QT), the impact of QT on bond markets is seen to remain contained, with a 10 bps upward shift in 10-year Bund yields and a further steepening of 4 bps.



Hence, according to our calculations, in the base scenario, QT will lead to a cumulated increase in 10-year core yields of around 20 bps, a steepening of the 2-year/10-year curve by 8 bps, and a widening of the EA non-core government bond spread by 16 bps between 2023 to 2025. While this effect is not negligible, it represents only a small part of the explanatory factors for bond markets.

### Moderate yield increase resulting from QT – at the long end of the curve

Ultimately, QT will also have an impact on the swap market. The portfolio rebalancing channel of QT will tend to dampen demand for swaps. The increased risk aversion and bond market volatility triggered by QT as well as tighter financial conditions will therefore tend to increase swap spreads. Nevertheless, this effect should be more than offset by the rising supply of collateral to the extent that government bonds available to the market increase because of QT (see chart). This is a reversal from 2022 when the scarcity of collateral drove swap spreads across all tenors to historic highs. However, swap spreads have already narrowed significantly in recent weeks, and we deem the potential for further narrowing as being limited.

swaps and analysts' long-term inflation expectations (ECB's survey of professional forecasters).

---

## 8. Conclusions

The ECB has started – late and cautiously by international standards – to reduce the financial assets on its balance sheet. This is a major step as it confirms that QE was not a permanent monetary financing of deficits. QT, as an auxiliary instrument complementing the ‘key rate’ policy, underlines the ECB’s commitment to fighting inflation. As the balance sheet ‘normalisation’ continues, the ECB will regain some room for manoeuvre. Moreover, the reduction of excess liquidity is a crucial step towards limiting losses of the Eurosystem, as the ECB is now paying positive interest on deposits beyond the required reserves.

However, market participants should not be under the illusion that the pre-QE status quo will be restored at the end of the

QT process. Structures and interdependencies have changed, and the ECB will have a permanently larger balance sheet.

Moreover, our analysis reveals that QT is unlikely to be a linear process; the ECB will retain the flexibility to suspend QT temporarily in the event of market instability. It also follows that the impact on government bond markets, while significant, is likely to remain contained. Accordingly, expectations of a green QT should not be exaggerated. The actual economic impact of a green monetary policy is likely to remain limited – even as the ECB embraces a bolder approach in the future.

 **Imprint**

<b>Issued by:</b>	<b>Generali Insurance Asset Management S.p.A. Società di gestione del risparmio, Research Department</b>
<b>Head of Research:</b>	<b>Vincent Chaigneau</b>
<b>Head of Macro &amp; Market Research:</b>	<b>Dr. Thomas Hempell, CFA</b>
<b>Team:</b>	<b>Elisabeth Assmuth   Research Operations Elisa Belgacem   Head of Cross-Asset Quant &amp; Dev, Senior Credit Strategist Radomír Jáč   GI CEE Chief Economist Jakub Krátký   GI CEE Financial Analyst Michele Morganti   Head of Insurance &amp; AM Research, Senior Equity Strategist Vladimir Oleinikov, CFA   Senior Quantitative Analyst Dr. Thorsten Runde   Senior Quantitative Analyst Dr. Christoph Siepmann   Senior Economist Dr. Florian Späte, CIIA   Senior Bond Strategist Guillaume Tresca   Senior Emerging Market Strategist Dr. Martin Wolburg, CIIA   Senior Economist Paolo Zanghieri, PhD   Senior Economist</b>
<b>Head of Insurance and AM Research:</b>	<b>Michele Morganti</b>
<b>Team:</b>	<b>Raffaella Bagata   Research Operations Alberto Cybo-Ottone, PhD   Senior Economist Mattia Mammarella   Research Analyst Roberto Menegato   Senior Insurance Research Analyst Antonio Salera, PhD   Economist, Pension Expert Federica Tartara, CFA   Senior Economist</b>
<b>Head of Credit Research:</b>	<b>Vivek Tawadey</b>

This document is based on information and opinions which Generali Insurance Asset Management S.p.A. Società di gestione del risparmio considers as reliable. However, no representation or warranty, expressed or implied, is made that such information or opinions are accurate or complete. Generali Insurance Asset Management S.p.A. Società di gestione del risparmio periodically updating the contents of this document, relieves itself from any responsibility concerning mistakes or omissions and shall not be considered responsible in case of possible changes or losses related to the improper use of the information herein provided. Opinions expressed in this document represent only the judgment of Generali Insurance Asset Management S.p.A. Società di gestione del risparmio and may be subject to any change without notification. They do not constitute an evaluation of any strategy or any investment in financial instruments. This document does not constitute an offer, solicitation or recommendation to buy or to sell financial instruments. Generali Insurance Asset Management S.p.A. Società di gestione del risparmio is not liable for any investment decision based on this document. Generali Investments may have taken, and may in the future take, investment decisions for the portfolios it manages which are contrary to the views expressed herein. Any reproduction, total or partial, of this document is prohibited without prior consent of Generali Insurance Asset Management S.p.A. Società di gestione del risparmio. Certain information in this publication has been obtained from sources outside of the Generali Group. While such information is believed to be reliable for the purposes used herein, no representations are made as to the accuracy or completeness thereof. Generali Investments is part of the Generali Group which was established in 1831 in Trieste as Assicurazioni Generali Austro-Italiache. Generali Investments is a commercial brand of Generali Investments Partners S.p.A. Società di gestione del risparmio, Generali Insurance Asset Management S.p.A. Società di gestione del risparmio, Generali Investments Luxembourg S.A. and Generali Investments Holding S.p.A..