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The ECB in the twenties

ECB special

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Summary

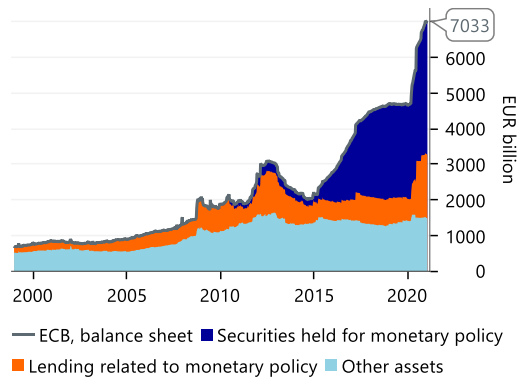
- The pandemic has not only further increased markets' reliance on the ECB, but also depleted more policy tools. This raises a number of challenges: either in terms of finding new ways to prop up growth and inflation or (eventually) tightening policy without sparking the next crisis.
- Using three scenarios for the economic outlook, we discuss the development of ECB policy in the years ahead. We consider a Japan-like 'lowflation' scenario, a more moderate 'gradual recovery', and a possible 'reflation' scenario.
- We argue that in all three scenarios **yield curve control** plays an important role in policy going forward, but it takes on very different shapes and objectives. If further easing is required, traditional YCC with outright yield targets will probably be the next step.
- Secondly, we play with the idea of an **NPLTRO**, which mixes the necessary support for risks related to NPLs with cheap funding. This is likely more effective than a TLTRO-IV, considering that recent tightening of credit standards is mainly due to increased risk perception.
- In the case of policy tightening, YCC will instead be focused on **spread control**. In a moderate scenario, the ECB could simply leave the envelope on the table as a backstop, even after net purchases are reduced to zero. In more severe cases, the ECB could consider **sterilised asset purchases**, to ensure that the draining of liquidity does not excessively widen spreads.
- To drain liquidity, the ECB will probably **issue ECB bonds** or auction fixed-term deposits, rather than selling the assets in the APP/PEPP portfolio. This limits the potential spread widening impact, allowing the ECB to drain liquidity more quickly.

The inheritance of three crises

Through the global financial crisis, the Eurozone debt crisis and now the Covid-19 pandemic, ECB policy has become ever easier. The balance sheet now totals EUR 7 trillion and the ECB has had to get ever more creative to keep adding monetary stimulus. And yet, inflation has been below the ECB's target for years. That begs the question of how long the ECB will have to keep policy this loose, which tools are still available to ease further, and how quickly the bank can unwind measures if inflation surfaces.

With rates stuck in sub-zero territory since 2014, the ECB has broadened its instruments to include forward guidance, asset purchases and more structural long-term liquidity operations. And it is unlikely that any of these instruments will be retired soon: the PEPP will run at least until March 2022 and until the pandemic crisis is behind us; the APP until inflation is sustainably back on track towards its target; and rate hikes are scheduled to begin only after that. The only relatively flexible element of the ECB's policy is the liquidity injected through its longer-term refinancing operations, but the series of TLTRO-IIIs was [extended](#) in December as well. That leaves the ECB with a massive inheritance of crisis measures as reflected in a hugely inflated balance sheet (figure 1).

Figure 1: Balance sheet of the ECB



Records to be smashed again

About half of this is due to asset purchases: at present, the ECB holds over EUR 3.7 trillion in securities for monetary policy purposes. By far the largest part of this stems from the asset purchases that started in 2015, but –despite President Lagarde’s intentions to do things differently– the ECB is on track to almost double its bond holdings under her watch as a result of the bank’s Covid-19 response: the ECB added another EUR 500bn to the PEPP envelope in December, bringing its total firepower to EUR 1,850bn. Even though

President Lagarde stated that this amount may not be spent entirely if this isn’t necessary, PEPP purchases do continue at a steady pace. And we expect that APP purchases at EUR 20bn/month will last at least until end-2022; and likely even longer than that. That puts the ECB portfolio well on track to hit EUR 5 trillion before the ECB fully stops net purchases.

But the increase in asset holdings during the Covid-19 crisis was eclipsed by the EUR 1.6 trillion surge in TLTRO liquidity, as banks flocked to the TLTRO-III.4 with its attractive terms after a potential discount of 50bp could be earned. In the short-run, this has supported credit conditions for non-financial corporations. However, on the flipside, banks’ reliance on the ECB –rather than market-based funding– has only increased. This does create the risk of a cliff-effect when the operations end and banks have to revert back to market-based funding *en masse*. Now, a first round of repayments after the discount period ends shouldn’t necessarily trigger this; as much of this liquidity may have been used for the purpose of carry trades (although it would obviously pose a risk to markets). However, this could become a bigger issue in 2023, when the TLTROs fall due and banks that currently rely on it for other purposes will need to seek alternatives.

So even under conservative assumptions, the ECB’s balance sheet expansion under Lagarde’s first two years is likely to exceed the total increase under Draghi’s full 8-year tenure (about EUR 2.4trn).¹ Not only do these massive programmes create issues when reversing policy; it also increasingly complicates easing the stance of monetary policy further if that is required. As noted above, policy rates are stuck at negative levels and opinions about the cost/benefits of further cuts are divided. And with the envelope approach of PEPP, simply boosting the amount of asset purchases has also lost significant power as long as a large part of it remains unspent.

Figure 2: ECB portfolio to hit EUR 5 trillion?

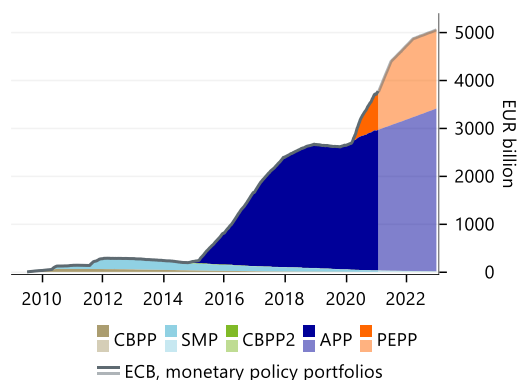
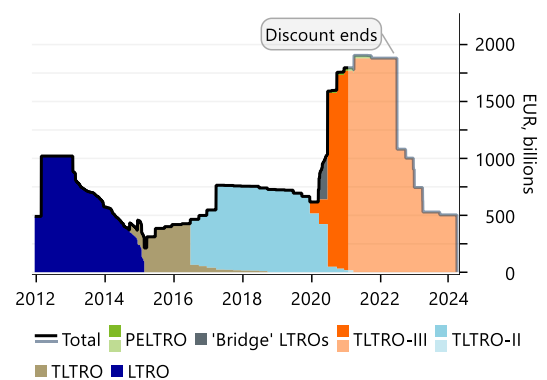


Figure 3: Will TLTRO-III be as durable as TLTRO-II?



¹ TLTRO-II was already partially repaid prior to Draghi’s departure, but this doesn’t change the conclusion.

No 'zero-bound' on challenges

The opinions about the ECB's (and indeed many other central banks') actions vary. Despite years of large-scale stimulus, inflation remains well below target. However, especially in light of the pandemic, the Governing Council has probably avoided a worse outcome – at least in the short term. In the longer run, the ever-increasing monetary easing comes with two, very different, challenges: in the best case, the question is how to go back to normal after the outlook improves; in the worst case, the question is what's the next move available to the ECB?

In this section we give a brief outline of the scenarios we consider, as well as a summary of the policy options. In the next three chapters we will take a closer look at each of these scenario's and their implications for ECB policy and financial markets.

In the various blue boxes throughout this note we will discuss specific instruments the ECB may choose to deploy.

Two challenges, three scenarios

The next steps for the ECB, either an attempt at gradually unwinding policy or the design of new stimulus measures, will hinge on the economic developments in the next few years. To address the potential paths for ECB policy, we have outlined three different scenarios which should broadly cover the range of outcomes: 1) renewed setbacks to growth and thus inflation; 2) a gradual recovery and eventually a gradual return of inflation; and 3) a reflation scenario where inflation suddenly picks up and leads to an overshoot of the ECB's target.

Table 1: Scenarios and the resulting challenges for the ECB

	<i>Virus</i>	<i>Fiscal policy</i>	<i>Economy</i>	<i>ECB challenge</i>
<i>Lowflation</i>	Risk of slower vaccine rollout and/or mutant strains, with potential slow reopening of the economy.	Governments stop fiscal support too early and structural issues remain unaddressed.	Labour market scarring, 'zombie firms' and NPLs lead to slow growth and protracted low inflation.	How to limit side effects of current policy? Which tools are still effective for new stimulus?
<i>Gradual recovery</i>	Vaccines are rolled out as planned, allowing restrictions to be lifted step by step.	Steady support until restrictions lifted, but only to the extent necessary to keep companies afloat.	No major structural damage allows for a gradual recovery. Inflation takes a while to return.	Maintaining policy in the short term, while planning for a gradual normalisation.
<i>Sudden reflation</i>	Steady or even accelerated inoculation allows restrictions to be lifted.	Large scale fiscal support is maintained until restrictions are lifted. NGEU fund is used for structural issues.	Monetary and fiscal policy work together to create inflation, as pent-up demand is unleashed. This may be boosted by structural changes in supply chains.	How to tighten policy quickly without starting a financial crisis?

Source: Rabobank

Curve control: not just useful for easing

In all three scenarios we find that the ECB is likely to make use of yield curve control, albeit with very different objectives that correspond with the different economic realities. In the lowflation scenario, the ECB will be forced to enhance its current stimulus. As we explain below, policy rates are near their effective lower bounds, and due to the nature of PEPP, extra asset purchases will probably not be as effective as before. So, a shift to outright yield curve control, i.e. with specific targets, is then a likely next step. This form of yield curve control will mainly focus on one base curve, with the aim of lowering rates across the board (page 7).

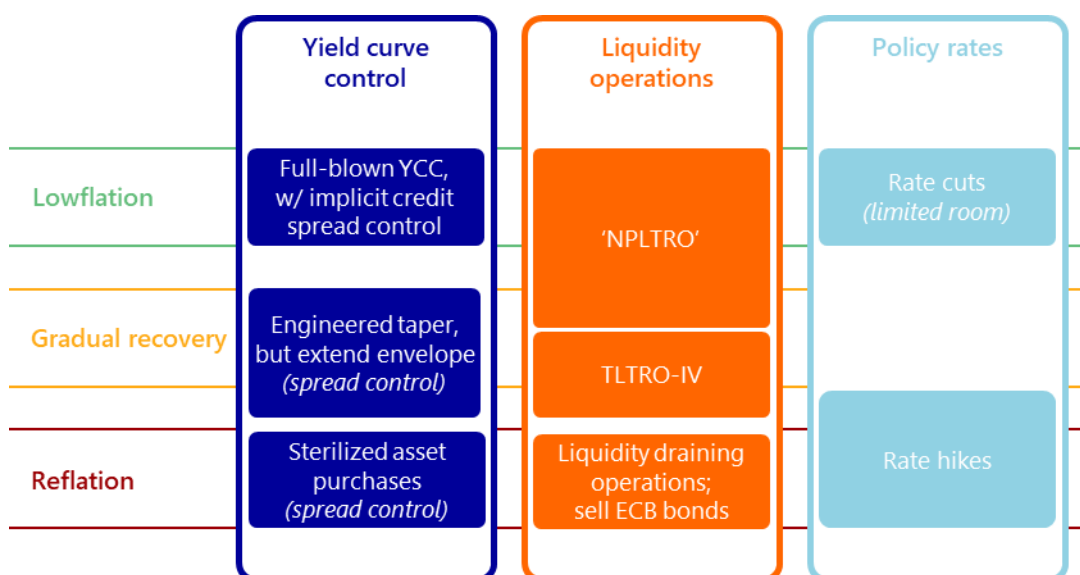
In the other two scenarios, curve control will have a very different objective: in that case, the ECB will be much more concerned with *spread* control to avoid an overreaction in markets when the ECB starts to tighten policy. In the more moderate scenario of a gradual recovery we imagine that this remains an implicit form of yield curve control, where the ECB leaves the threat of the PEPP envelope on the table during the early stages of policy normalisation (page 12). However, if inflation makes a hastier return and the ECB is required to tighten policy faster, liquidity draining operations could require the ECB to actively keep peripheral spreads from widening. This could see the return of SMP-like sterilised asset purchases (page 17).

How to deal with non-performing loans?

Asset purchases aren't the only tool that is now nearing its limits. By preventing any liquidity concerns, TLTROs have so far been very successful in supporting bank lending through the pandemic. But looking ahead, the main risk to the functioning of the bank lending channel stems from the increased risk of borrowers and the rise in non-performing loans. Traditional TLTROs only address the funding side and do not address the risks involved with extending bank loans.

We suggest that the ECB could create a hybrid between TLTROs and CDS or credit guarantees, which we named NPLTRO (page 8). If designed well, an NPLTRO instrument may help to a) diminish credit tightening as a result of bank's increased risk perceptions; and b) avoid liquidity cliff effects at the end of TLTRO-III. The idea is that, instead of offering a simple discount on the borrowed funds, the ECB could (partially) compensate banks for losses on their loan portfolio. Of course, the design of such a scheme is tedious, in order to avoid any moral hazard problems. To minimise these, we suggest the ECB only takes into account losses on loans issued prior to the NPLTRO, and that only banks with *positive* net lending are eligible for compensation.

Figure 4: ECB policy options across the scenarios



Source: Rabobank

Unconventional exit strategies

Our final conclusion is that reversing the years of stimulus could be quite a headache, especially if inflation comes back with a vengeance and the ECB has to tighten relatively quickly. The main risk that arises with a (quick) reversal is that the fragmentation risks that were plastered over with liquidity start to rear their ugly heads again. The Council will probably resort to as neutral an exit strategy as possible in order to avoid this, but if that is not sufficient, the trade-off between inflation and fragmentation risks could lead to a very unconventional exit strategy.

Reversal of negative rates is an obvious choice. But the ECB would also have to address the huge amount of excess liquidity. This would most likely occur through the sale of ECB bonds or the auctioning of fixed-term deposits, rather than the sale of the individual assets the ECB has acquired under its purchase programmes (page 16). As mentioned above, we could even imagine the ECB continuing a form of sterilised asset purchases *while* it tightens policy; that's right, the exit strategy might actually involve a form of stimulus!

1. Lowflation

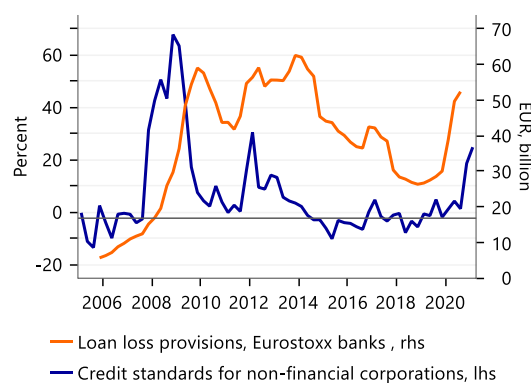
Most of the ECB's tools are subject to diminishing returns with respect to their effectiveness. So if the Eurozone economy and particularly inflation develops less favourably than expected, the Governing Council faces the challenge of having to design new, effective stimulus measures. These need to address the market yields and the provision of credit through the banking sector. To address the former, we could imagine the ECB upgrades PEPP to an explicit form of yield curve control, combined with a flexible purchase programme as *de facto* implicit spread control. An NPLTRO, which addresses both credit losses and net new lending, could help preserve the bank lending channel when non-performing loans start to increase.

Scenario description

In this scenario, the ECB is faced with renewed economic setbacks. In the short run, these could include the further spread of mutant Covid-19 strains and therefore significantly longer or stricter than expected lockdowns. But even if the economy can slowly reopen in spring, it remains to be seen how much structural damage has been done. Governments have bought companies and households time, but it's uncertain how they will fare when support is wound down. Job losses cannot be ruled out, which would make consumers more cautious, which in turn would limit demand-driven price pressures. Another risk stems from a potential increase in non-performing loans. European banks have already ramped up loan-loss provisions.² Even so, the ECB is [questioning](#) whether the credit process followed by banks has been sufficiently rigorous. A risk- and/or regulation-induced reduction in lending could lead to a knock-on effect on corporate defaults.

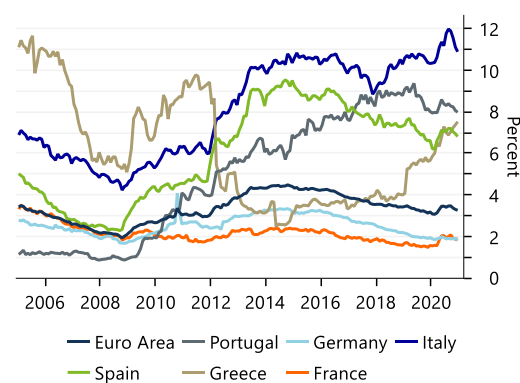
Looking further ahead, The protracted nature of the lockdowns will leave long-term marks on the labour market, which does not bode well for wages, nor the establishment of a positive wage-price spiral. Significant downgrades of the medium- to longer-term outlook therefore require the ECB to add new stimulus in pursuit of its inflation target. Aside from that issue, although the euro area banking sector in aggregate has reduced its exposure to government debt, it is still high in a

Figure 5: Rising loan-loss provisions and tightening credit standards



Source: Macrobond, Bloomberg, Rabobank

Figure 6: Domestic government bonds as percentage of MFI balance sheets



Source: ECB, Rabobank

² Among banks in the Eurostoxx banks index the four quarter sum runs over EUR 50bn through 2020Q3.

number of euro area economies, and rising in Italy (figure 6).³ This implies that the sovereign-bank doom-loop could rear its ugly head. Against a backdrop of tight spreads and supercharged equity markets, this suggests that the margin for ECB policy errors is rather thin under this scenario.

Diminishing returns

Having increasingly been deployed and expanded, the ECB's existing instruments are now becoming less effective every subsequent use. Deposit rate cuts are probably still an effective tool when it comes to the exchange rate, but the adverse side effects on the banking sector are only increasing as negative rates persist, or the deposit rate is cut even further. Although the ECB has [recently been hinting](#) at the possibility of a new rate cut, we chalk this up to verbal intervention, rather than actually increased willingness amongst the Council to cut rates. In the event of a cut, the impact on the economy is probably very limited, and necessary changes in the tiering multiplier will mitigate the impact on financial markets.

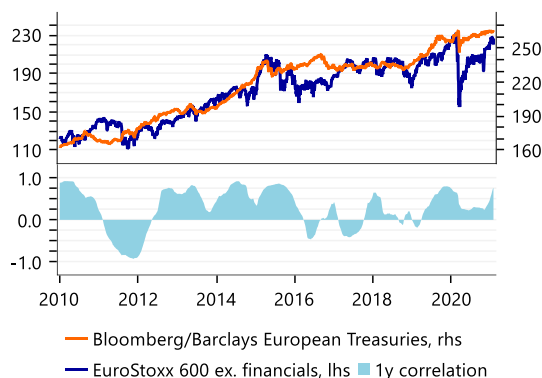
Asset purchases were the ECB's next resort, but those – too – lost some of their efficacy as the APP neared its purchase limits in certain jurisdictions. This in turn birthed the PEPP: a flexible envelope that could be deployed to purchase any of the eligible instruments whenever necessary and in any quantity needed. At its inception, this flexibility allowed the PEPP to overcome the purchase limits that limited the reach the APP in parts of the Eurozone. As the Covid-19 pandemic persisted, the ECB expanded the size of the PEPP envelope twice – and the second expansion came when only half of the envelope had been spent. As we [noted](#) at the time of this second increase, it is in fact the *time dimension* that is now most relevant for the PEPP: as long as a large envelope lingers over the market, no one should be willing to test the ECB's resolve to combat any undesired yield increases or spread widening. In essence, this makes the PEPP function as a form of *implicit yield curve control*. But it also means that –beyond a minimum threshold amount for credibility– any volume increases to the unspent envelope are increasingly meaningless.

So if the pandemic, the economic recovery, and/or inflation develop worse than anticipated, the ECB has to invent new alternatives. These broadly need to address two elements of financing conditions in the Eurozone: the yields prevailing in the markets for government bonds and credits, as well as the cost of credit to the real economy as provided through the banking sector.

Graduating to yield curve control

In case further intervention in yields and/or spreads is required, yield curve control is the most logical next step for the ECB. Of course, the ECB could spend –and replenish– the PEPP envelope as often as they like, but substituting this implicit curve control with an explicit yield target (or

Figure 7: This correlation may be broken?



Source: Bloomberg

ceiling) would probably achieve the same result while requiring less bond purchases. The Bank of Japan serves as a great example. It has been able to significantly reduce its purchases while still keeping JGB yields in a very narrow range. The policy's increased effectiveness –as measured by yield impact relative to required balance sheet expansion– possibly also makes it a more attractive proposition for the hawks than continuously growing the PEPP envelope.

Moreover, yield curve control isn't necessarily a very dovish move; at least not in the short run.

³ In absolute terms, bank holdings of domestic bonds have risen in most countries – bank balance sheet growth obscures this fact in figure 6.

That mainly depends on the parameters the ECB chooses: the maturity/maturities they target, the respective yield targets, and whether the target is a cap or two-sided. After all, assuming for a moment that the ECB chooses targets close to the current curve, there should be a relatively limited impact on yields. In fact, it could even be slightly hawkish for other markets, such as equities, due to the smaller inflow of ECB liquidity. That isn't necessarily a bad thing, though. While it may limit the transmission of policy through the portfolio rebalancing and wealth channel, it does potentially reduce financial stability risks. Of course, targeting a lower yield would still have a dovish effect. But more importantly, yield curve control's main dovish impact comes from the signalling and time elements: curve control avoids future yield increases if the market starts to account for an improving outlook and/or reflation.

Yield curve control

The policy of yield curve control does raise some design issues, owing to the fact that Europe doesn't have a single yield curve. Of course, a single base curve could still be targeted, but that wouldn't avoid credit spread widening in case country or market-specific risk is being priced in. The latter holds true whether you pick the German Bund curve as the base curve or a politically less sensitive curve, like EUR swaps.

Meanwhile, a hybrid curve like a GDP-weighted average sovereign yield would be more representative of credit spreads, but is impractical. No tradable instrument exists, and manually pursuing this strategy involves too many parameters to effectively communicate the yield target(s) to markets. After all, even if the ECB communicates it will be targeting some weighted average of Eurozone yields, there would be many permutations of purchase options to *achieve* this average target.ⁱ And all the way on the other side of the spectrum, it is probably not desirable to target all yields either. This means the ECB would have to specify yield targets for each individual sovereign curve; and hence give outright spread targets for each country, which could be politically sensitive if these targets are set too wide or invoke fiscal imprudence if spreads are fixed too narrow.ⁱⁱ

Of course, these issues can be overcome by creatively mixing several tools. For example, the ECB could consider a **combination of explicit yield curve control with an implicit form of credit spread control**. This allows the ECB to set a specific target for longer-term yields, thereby increasing its influence on long-term yields without having to massively scale up purchases. Meanwhile, the flexible purchase programme ensures that the ECB will not lose control over credit spreads without having to specify a target for each individual curve. Governing Council member [De Cos](#) recently suggested this approach; targeting, for instance, the OIS curve while keeping a flexible purchase programme around to counter any spread widening.

ⁱ For simplicity, assume there are only two Eurozone yields, Germany and Italy and that the ECB targets a simple average of these yields at 0%. This could be achieved by bringing both yields to 0% (i.e. fully eliminate the credit spread), or by ensuring the German yield is at -1% if Italian yields rise to +1%. While it is implausible that the ECB would ever deliberately worsen spread widening like that, it does illustrate the complexities involved with an average target. This opaqueness only increases when there aren't just two but 19 curves mixed into an average.

ⁱⁱ Bloomberg recently quoted sources suggesting that internally, *"the central bank has specific ideas on what spreads are appropriate"*; however, our point is that particularly the publication of explicit targets is prone to these caveats.

Dealing with non-performing loans

Notwithstanding the importance of yield curve control's signalling effects, the rise in non-performing loans and ensuing stresses in the bank credit channel are arguably the bigger headache in this scenario. Traditional TLTROs only address the funding side and do not address the risks involved with extending bank loans. So the question is what options the ECB has to prevent that stress from unfolding into a GFC-style credit crunch.

When it comes to dealing with non-performing loans, the most efficient tools are probably in the hands of governments. A common solution is the creation of bad banks. An alternative is the government purchasing non-performing assets outright, similar to the US Treasury's Troubled Asset Relief Program during the subprime crisis. Both options suffer from the same problem: the ECB would have to rely on the euro area governments to implement it. Save for the worst possible economic circumstances, a Eurozone-wide solution will likely face resistance from German and Dutch lawmakers, among others. In any other case, it is more likely that there will be a different implementation in each country, or no backing for such fiscal support at all.

Considering the possibility that the ECB cannot count on governments to act, we imagine that they have several options available themselves. Of course, the ECB could itself start purchasing non-performing loans from banks, although this is probably not a popular solution. Another alternative would be the use of some sort of credit default swaps, where the ECB takes on some of the banks' risks of losses against a premium. However, assuming that these CDS are priced 'fairly', that may become prohibitively expensive – particularly for loans to specific sectors – and therefore doesn't necessarily encourage banks to continue to provide credit.

We imagine that some sort of hybrid between CDS and longer-term refinancing operations – let's call them *NPLTROs* – could provide an outcome. In fact, if they are designed well, NPLTROs may kill two birds with one stone. Not only would they reduce the tightening of credit standards as a result of banks' increased risk perception; the LTRO element might help to boost bank lending. And a follow-up to TLTRO-III is probably required anyway in order to reduce sudden cliff effects when financial institutions need to substitute the liquidity drawn under those operations – as we detail in the next scenario.

NPLTROs: two birds with one stone?

In scenarios of protracted lockdowns or a relatively slow rebound, the problem of non-performing loans will become more pressing. More importantly, the risk of such a scenario unfolding may already be enough to stifle bank lending in the near term. If designed well, an NPLTRO instrument may help to a) diminish credit tightening as a result of bank's increased risk perceptions; and b) avoid liquidity cliff effects at the end of TLTRO-III.

Compensating loan book losses

The first objective of these NPLTROs would of course be to mitigate the tightening of credit standards as banks see the risks of their existing loan portfolios increase. This is firstly achieved by ensuring that these NPLTROs have a *very long maturity*, so that banks have cheap funding to reflect the fact that it may take a long while before their income side recovers.

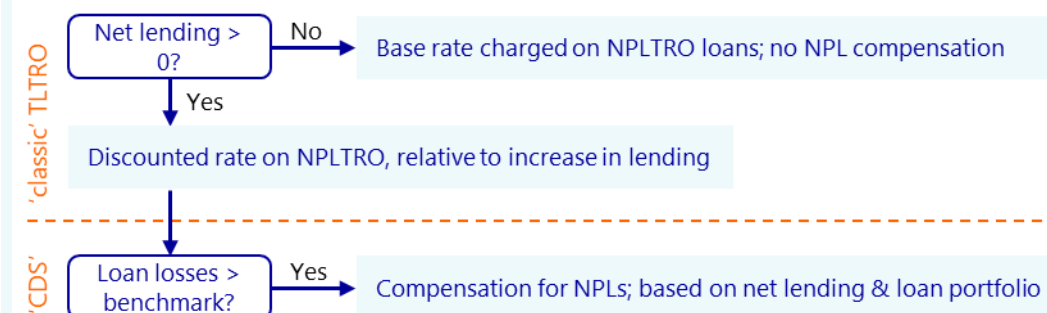
Moreover, absent a bad bank or other method to dispose of illiquid troubled assets, the ECB could consider a *compensation scheme for losses on corporate lending*. Since the modalities of TLTRO-III were changed, issuing discounts is not new to the ECB. However, so far, these have been linked to banks' net lending. Instead, we propose that the ECB charges banks a lower rate on these NPLTROs if the bank suffers substantial credit losses – or directly compensates part of these losses.

Of course, adequate safeguards would need to be in place to ensure that this doesn't invoke moral hazard, where banks fail to correctly account for risks when extending new loans since they will be compensated for losses to some extent. Not only would this raise the potential costs for the ECB, it would also substantially increase the number of unviable zombie firms which will hinder the recovery further down the road.

Traditionally, TLTROs use historical benchmarks, and likewise, the ECB could give this guarantee on all loans entered before the NPLTRO was announced. We acknowledge that this could lead to an adverse effect: a bank may no longer be willing to extend credit to a troubled business it

already has exposure to, since losses on the existing exposure may be compensated, whereas the extra risks on the new loan would not. Therefore it is important that the ECB also includes incentives for new lending.

Figure 8: A TLTRO/CDS hybrid?



Source: Rabobank

Incentivising lending

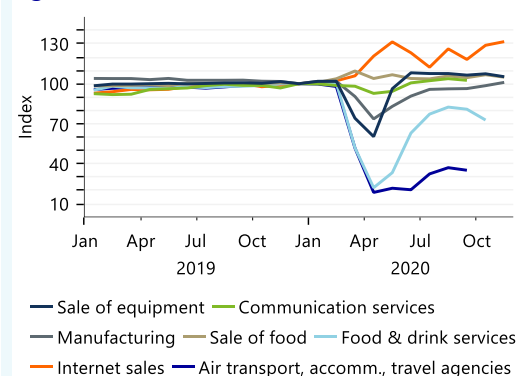
There are various ways to ensure that the NPLTRO wouldn't backfire and stifle credit provision. The most obvious step would be to add a *positive* net lending target, rather than the 0% target for TLTRO-III. This, however, exposes banks to the risk that there is limited market demand for credit, and as such the risks of a positive target could discourage participation.

To avoid this, the ECB could stick to the 0% target while adding a discount based on net new lending –like the current TLTRO-III– or basing the compensation for loan losses in the historical portfolio on the amount of net new lending provided by an institution. The pricing formula would certainly be complex, but after several amendments TLTRO-III isn't exactly straightforward either.

Finally, the very long maturity could partially be made contingent on net lending – à la the mandatory early repayment clause that was present in the original TLTRO. In that case, a base

maturity and a conditional *extension* would have a less negative connotation.

Figure 9: Not all sectors are in trouble



Source: Macrobond

Targeting specific industries?

As a final remark, we note that the ECB could further tweak the modalities and conditions of the NPLTROs to specifically support the hardest-hit sectors of the economy. For instance, loan loss compensations could be linked to banks' exposure to these sectors. Or it could be earmarked specifically for losses in pre-defined sectors, such as hospitality, passenger transport, etc.

In a hole and still digging

Of course, it then still remains to be seen whether these additional measures will finally succeed in creating inflation while all their predecessors failed. On the other hand, implementation of these policies would surely see the ECB dig a deeper hole that they will have to climb out of at some point in the future: it only increases the policy reversal challenges we will discuss in the following two scenarios.

Especially when it comes to yield curve control, reversing the policy without triggering a major adverse market reaction could be challenging. The Bank of Japan is currently [trying](#) to figure out

how to loosen its grip on long-term rates as the BoJ's current policy keeps yields in an extremely narrow range. Communicating such a change without giving markets the impression that the BoJ is looking to tighten policy will not prove easy; and the BoJ still actively pursues an extremely loose policy. So imagine what happens when the ECB has to communicate it is changing its own yield curve control when the outlook for growth and inflation are finally improving again.

2. Gradual recovery

A gradual return to normal and an only very gradual return of inflation is probably the easiest scenario for the ECB, as this allows the central bank to gradually unwind its expansionary policy. But even this slow reduction of monetary support is not without its challenges. Many segments of financial markets have become dependent on the ECB's policies, and a reversal –if not planned carefully– could therefore lead to potential collapses.

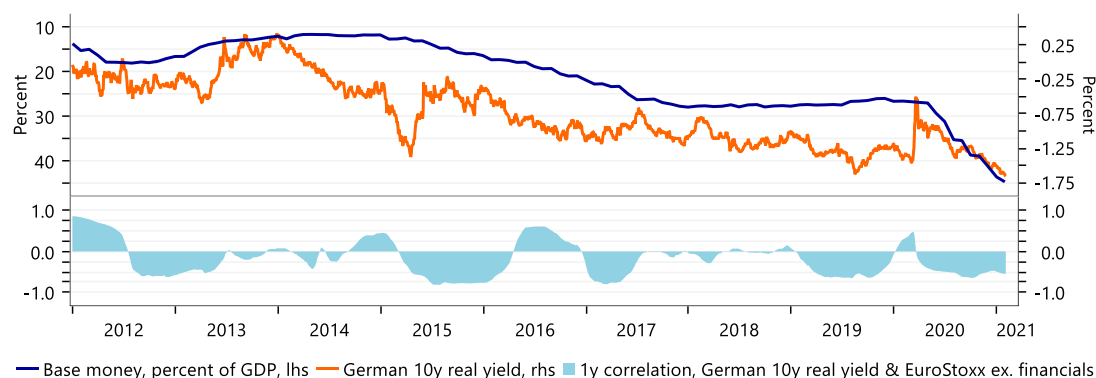
Specifically, removing the PEPP envelope could lead to a taper tantrum. We suggest that the ECB might be able to mitigate this by engineering a form of PEPP tapering, while keeping the unspent envelope on the table for an extended period of time after purchases reach zero 'in case necessary'; effectively maintaining a form of curve control. Secondly, the widespread use of TLTRO-III's could lead to adverse effects when banks have to substitute this with market-based funding *en masse*. A follow-up TLTRO-IV as backstop, allowing institutions to pace their return to markets, seems likely.

Scenario description

This second scenario is the middle-of-the-road scenario compared to the other two, and is arguably the most benign scenario. In this scenario, we assume that the inoculation programmes that have started will allow the gradual lifting of restrictions in the course of the year, after which economic growth will steadily normalise. Inflation is expected to follow suit, albeit at a much slower pace and will still take years to get back to target (as per the ECB's current projections).

The long time it takes before inflation sustainably returns, as well as the ECB's tolerance to overshooting, will allow the ECB to maintain neutral to easy policy for some time before the central bank gradually has to wind down support. This particularly relates to the additional measures that were taken to mitigate the effects of the pandemic –PEPP and the extremely cheap TLTROs– while all other easing may be preserved for longer. Yet, even if other stimulus, such as negative rates and/or the APP are kept in place, the exit of Covid-related measures will take careful planning to avoid upsetting markets.

Figure 10: German 10y real yields have been pulled to record-lows by a massive liquidity overhang; the correlation between equities and bond yields has been strongly negative in 2019-2020

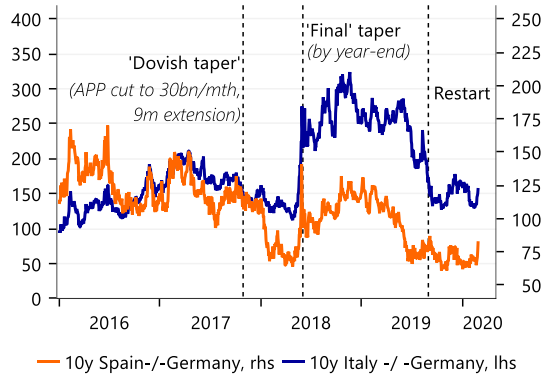


Source: Macrobond

Engineering a PEPP taper?

First of all, as noted above, the ECB's pandemic purchases have only added to the ECB's role in bond markets (or should we say 'markets?'). This is illustrated in figure 10. The Covid-induced liquidity flood has pulled down real yields, but even recent history teaches us that this relation may not hold forever. Moreover, equity prices have been strongly correlated with those falling yields. This puts a lot of weight on the ECB's shoulders as even a small policy error could unsettle markets.

Figure 11: Will we see another taper tantrum?



Source: Macrobond, Rabobank

Moreover, unlike the APP, the PEPP relies on more than the pace of net purchases. As we [concluded](#) after the December meeting, through the time-dimension of the PEPP the ECB has effectively changed this purchase programme in some sort of 'implicit yield curve control'. However, PEPP loses this power as soon as it becomes clear that the ECB will take the envelope off the table in the not too distant future. It only takes the 'taper tantrums' after the Fed and the ECB announced a gradual reduction in asset purchases after the previous crisis to imagine what could happen (figure 11). And arguably, this move would only be

stronger with the PEPP, since its reversal would be more of a binary nature: instead of gradually lowering a monthly purchase target, the entire remaining envelope will have to be removed at a specific date.⁴ That instant, the ceiling above yields and spreads is immediately removed as well.

This risk of an adverse market reaction is further amplified by the current series of TLTROs. At least part of the TLTROs is used by banks to fund carry trades, with banks using the proceeds of the cheap ECB liquidity to purchase (domestic) sovereign bonds. We estimate this to be about 15% to 20% of the TLTRO borrowing across the euro area, but it is substantially higher than this average in e.g. Italy (figure 12). When the TLTRO discount ends, the cost/benefit analysis of these trades could change, and may lead to a first round of repayments – and thus also selling pressure on these bonds, resulting in higher yields. The ECB's currently communicated timeline sees the TLTRO discount expire just a few months after the PEPP is scheduled to end. Of course, both end dates may still shift, but *if they remain this close together, unwinding of carry trades could amplify a taper tantrum*.

One potential solution the ECB could explore is attempting to artificially create a form of tapering in the PEPP programme. The pace of purchases has already slowed in the second half of 2020, after the episode of market stress had receded. But since then, there has still been a relatively constant 'base' amount of purchases. During the December meeting some Council members argued in favour of a shift *"away from a constant monthly pace of purchases towards adjusting the pace according to market conditions"*. Such a change would emphasise the implicit yield curve control aspect of the programme, and if designed and executed correctly, that could limit the immediate shock to yields and spreads.

⁴ Of course, reality is a bit more nuanced: the ECB will gradually adjust its communication to prepare markets for the final announcement that PEPP's net purchases will end. But such communication on its own already undermines the 'threat' of the unspent envelope; diminishing the 'implicit yield curve control' dimension of PEPP.

Engineering a PEPP taper

Our premise of this artificial taper is that the worst scenario for the market is a simultaneous cut in purchases *and* the removal of expectations of future purchases – as would be the case if the Council withdraws the PEPP envelope. We therefore argue that the ECB could lessen, or at least spread, the impact on markets by separating the two. In essence, the ECB would use forward guidance to maintain an implicit control of yields and spreads.

Using forward guidance

When the outlook allows, the ECB could consider gradually lowering the actual net PEPP purchases, while keeping a close eye on yield and spread developments. The flexible nature of PEPP would allow the ECB to stop or reverse course as soon as these reductions lead to large jumps in rates; exactly, a strategy that smacks even more of implicit yield curve control!

Of course, the market would relatively quickly catch on to such a strategy through the weekly and monthly statistics. Therefore, to offset any potential negative market reaction, the Council could pledge that the remaining envelope will remain available *for an extended period after net purchases have reached zero*, and that this amount is *ready to be deployed 'in case necessary'*.

This is essentially a different take on the December recalibration, when the ECB already added that the full envelope need not be fully used. In this scenario, the duration of the envelope's threat is extended, but by reducing actual purchases to zero the ECB also sends a clear signal that the Council indeed doesn't intend to use the amount unless they have to.

And, optionally, shifting the onus back to the APP

Potentially, the ECB could mitigate the impact further by simultaneously *raising* the monthly APP target – before gradually reducing it again after inflation is back on track. While the regular APP may not be as effective as the PEPP in terms of yield and spread control, its intended purpose is different than the PEPP's and the ECB may be able to keep this up for longer. Therefore, an APP increase might add a further dovish slant to any announcement that the PEPP is being wound down; that would be somewhat similar to the 2017 'dovish taper', when the ECB used a longer-than-expected extension of purchases to soften the fact that the monthly pace was halved.

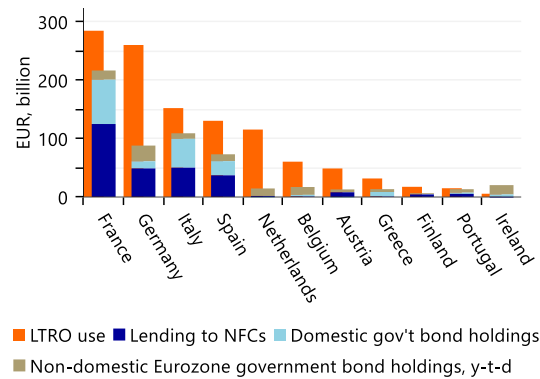
TLTRO-IV seems inevitable

As noted above, part of the TLTRO-III funds has probably been used for carry trades. But, more importantly, banks have also used the TLTRO operations as a substitute for market-based funding. The increases in lending to non-financial corporations and bond holdings fall short of the additional TLTRO use in 2020 (figure 12), which suggests that banks have also found other use cases for the TLTROs such as substitution of market-based funding sources.⁵ Indeed, in the ECB's most recent Bank Lending Survey about 25% of respondents stated that the TLTRO-III was at least partially used to replace either interbank borrowing and/or funding through debt issuance (figure 13). Additionally, the TLTRO-III has obviously been used to replace TLTRO-II loans, which were already functioning as a substitute for market-based instruments.

The part that is being used as an alternative for market-based funding is more likely to be held to maturity than the other, more opportunistic, use cases. So when these operations mature, banks need to switch back to market-based instruments. The risk here is that much of the aggregate TLTRO-III borrowing is concentrated around the June 2020 operation, and thus matures at the

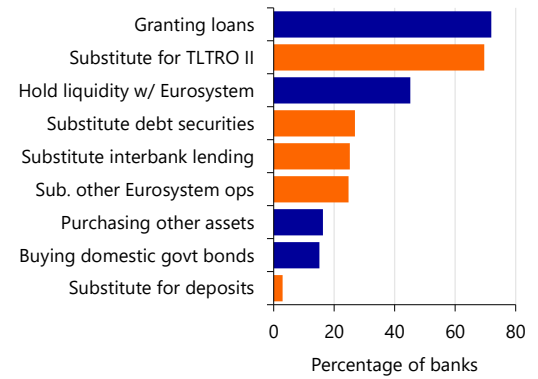
⁵ We assume that part of the gap between the total demand for TLTRO-IIIs and the visible use of proceeds should be attributed to other use cases, of which funding substitution is one possibility.

Figure 12: Total TLTRO draw and estimated use



Note: Data as of November 2020. Source: ECB, Rabobank

Figure 13: Banks' reported use of TLTRO-III



Note: Banks could tick all use cases that applied, so total exceeds 100%. Data for Q2-Q3 2020. Source: ECB Bank Lending Survey

same time. If this leads to a steeper aggregate increase in bank issuance than the market is willing to absorb, this could lead to substantial new issue premiums and higher bank borrowing costs. Again, an unfortunate timing of a PEPP or APP taper tantrum could reinforce this through higher benchmark sovereign yields and credit spreads.

This is especially unwelcome if banks are still dealing with some of the potential fallout of non-performing loans, and have therefore already taken a hit on their lending books. Higher funding costs would then only add to potential financial stability risks. To avoid these risks, the ECB will probably have little choice but to launch another series of TLTROs, even if it is already looking to gradually unwind the very easy monetary policy stance.

TLTRO-IV, or NPLTRO-I?

As noted above, even if the outlook improves gradually, another round of long-term liquidity is probably required to ease the transition back to fully market-based funding. TLTRO-IV would therefore clearly reflect this backdrop as well: its conditions would (have to) be substantially less attractive than the current TLTRO-III. This would position TLTRO-IV as a backstop, allowing banks to pace their return to the market, while also giving them some incentive to cut their reliance on the ECB's facilities.

Long-term, but less cheap

To fulfil the backstop role, a long maturity is key for these TLTROs. Of course, early repayment must be an option to allow banks to switch to market-based funding at opportune moments. Alternatively, the ECB could consider a set of, say, rolling 12 month operations: by the time one ends, a new one becomes available.

Meanwhile, pricing should be set in such a way that it is more or less equal to market conditions – excluding any jumps in yields if banks were to suddenly rushing to issue. This means that the new TLTRO should contain less of a discount, in order to push banks to gradually move back to market-based instruments. Instead of a discount, meeting lending targets could be rewarded with the option to extend the TLTRO, for instance. That ensures the funding continues to back net new lending, also in terms of longer-term availability.

The case for NPLTROs

Despite the improving outlook, a case could be made for an NPLTRO in this scenario as well. After all, it is likely that the improving conditions will lead governments to reduce their fiscal aid, including the guarantee schemes supporting corporate loans. That could trigger a further tightening of credit standards or reduction in new lending, and hence stifle the recovery. What's

more, this tightening will probably hit businesses in the weakest position the hardest; i.e. those sectors that have already been most affected by the pandemic.

To avoid this, the ECB could opt to launch an NPLTRO as we discussed in the previous scenario. However, the main difference would likely be base pricing and the potential discount if lending targets are met. These will be less generous, and a discount might even be omitted completely. Instead, meeting the target will then mainly be rewarded by compensation for potential losses on the existing loan portfolio.

3. Sudden deflation

Finally, all the way on the other side of the spectrum, there is the possibility that inflation makes a strong comeback. Whilst the ECB might welcome a durable return of inflation to their target, too strong an overshoot will probably not be tolerated. So in the case of sudden strong deflation, the ECB may need to tighten policy relatively quickly, but the Bank will need to do so without triggering a meltdown.

To minimise these risks, the normalization strategy will then likely start with the most neutral tools available: unwinding negative rates is a likely candidate. Liquidity draining operations and the sale of ECB notes to reduce excess liquidity will probably trigger less of an adverse market reaction than the outright sale of the individual assets the ECB has purchased to date. If the declining liquidity still leads to unwarranted widening of spreads, the ECB could replace the PEPP with *sterilised* purchases of sovereign debt – essentially a form of spread control.

Scenario description

Considering the persistently low inflation despite over a decade of increasingly expansionary monetary policy, it might be hard to imagine the sudden resurgence of inflation in the Eurozone. However, as we argued in a [note](#) last year, the Covid-19 shock could be the potential trigger that changes medium term inflation dynamics.

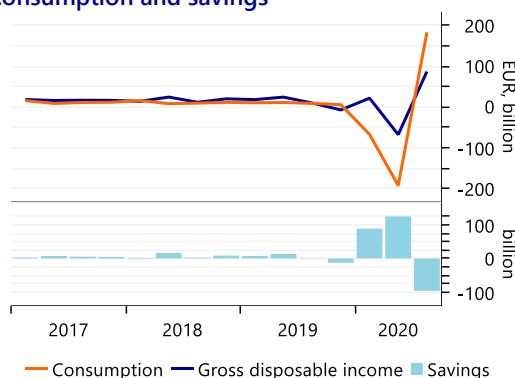
Unlike the previous crises, the pandemic has been met with jointly expansionary monetary and fiscal policies, and even calls for further coordination between both policies – the MMT debate. Fiscal policy is much more effective in getting the money exactly where it is needed, while monetary policy has ensured that these policies remain affordable to all countries. The risk is, of course, that such *de facto* monetization leads to rampant inflation in the longer run. Additionally, the return of inflation could be supported by trends in the private sector, such as a structural shift in supply chain management – with Covid-19 reminding companies that the cost efficiency of just-in-time delivery and globally integrated value chains comes with operational risks. A reversal of past trends like globalization could lead to higher production costs that may be passed on to consumers.

The market developments since the last quarter of 2020 may also be seen as providing some of a foretaste of such a deflation scenario. Vaccine optimism, higher commodity prices and risk appetite pushed inflation break-evens higher, with the optimists pointing out that a considerable amount of pent-up demand could be unleashed once the economy is allowed to operate 'freely' (figure 14). In net terms, households saved an additional EUR 110bn up until 2020Q3, or about 1% of annual GDP. Deposits held by households and non-financial corporates rose by nearly EUR 1,000bn (figure 15); even in the best of times this was no more than EUR 550bn.

Of course, a self-reinforcing cycle of inflation expectations and wage growth would then still be required, but central banks' newfound tolerance to inflation overshooting could allow a positive, self-reinforcing wage-price spiral to form. The ECB will not intervene until inflation has "*robustly converged*" to the inflation target. But allowing an overshoot could see this price spiral accelerate further. The ECB may ultimately be forced to tighten policy, but in this scenario the Bank will have

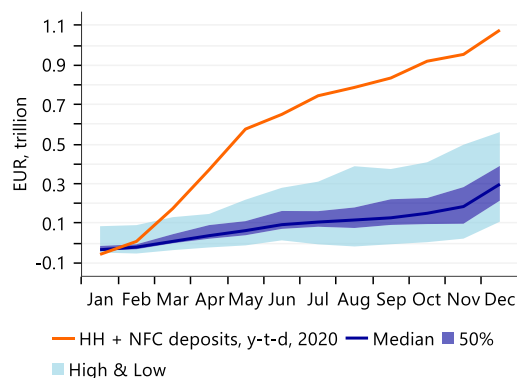
to do so well before governments and the private sector have had the chance to fully shore up their balance sheets. This puts the ECB in between a rock (inflation) and a hard place (risk of fragmentation and broader market stress).

Figure 14: Quarterly changes in income, consumption and savings



Source: Macrobond

Figure 15: Deposit build-up in Eurozone banks



Source: Macrobond, Rabobank

Emergency breaks without creating a new emergency

The ECB would have to find a way to tighten its policy stance relatively quickly, while at the same time being constrained by the risks that if they move too quickly, this may ignite a financial crisis. In this scenario it is inevitable that rates rise –after all, the ECB will have to rein in inflation– so the ECB’s main concern will be to avoid that peripheral countries will additionally face spread widening. Therefore, the Council will have to resort to the most neutral tools it has available.

The most obvious instrument is the negative deposit rate. Reversing negative rates would also reduce the pressure on financial institutions’ profitability, which in turn lowers the risks that stem from the strong sovereign-bank nexus that still exists in the Eurozone.

Reversing negative rates: really the easiest tool?

On its own, rate hikes are arguably the easiest tool as soon as the ECB needs to tighten. Negative rates are not a popular tool, and the risk of adverse side effects even required the ECB to implement mitigating measures, in the form of a two-tiered system. Indeed, reversing negative rates is relatively easy; and the tiering multiplier can be gradually reduced as the deposit facility rate approaches zero again. Of course, when the deposit facility rate is back at zero, the exemption scheme automatically becomes irrelevant.

However, the interest rate policy cannot be seen in isolation. Before the ECB hikes rates as part of an exit strategy, the Council will also have to consider the asset purchase programmes. First of all, there has always been a strict sequencing in the forward guidance that net asset purchases would be stopped before rate hikes commence. Of course, this could be adjusted if needed, but there is also a practical argument for this sequence. If the ECB still conducts net asset purchases during its hiking cycle, that counteracts the overall tightening effect. Moreover, it could lead to more curve flattening, if the short-end follows the higher policy rates, while purchases continue to weigh on longer maturities.

Draining QE liquidity

The asset purchase programmes pose the biggest challenge. It is not very likely that the ECB will hike rates if at the same time they are still expanding excess liquidity through purchases. In fact, in a scenario of strong reflation they would probably have to mop up some of that liquidity in a relatively short period of time. We already described the potential ‘taper tantrum’ that might be

triggered if the ECB decides to gradually exit its purchases; let alone what would happen if the Council decides to start selling off parts of the ECB's portfolio holdings in order to drain liquidity.

To limit such pressure on peripheral yields when the ECB starts reducing excess liquidity, the Council can opt to keep the ECB's balance sheet relatively large: instead of selling their portfolio holdings –increasing supply would drive up yields– the ECB could substantially reduce excess liquidity through reverse liquidity operations or the sale of ECB notes. Although the draining of liquidity will lead to higher yields across the board, these methods are less likely to actively add to any spread widening on top of that.

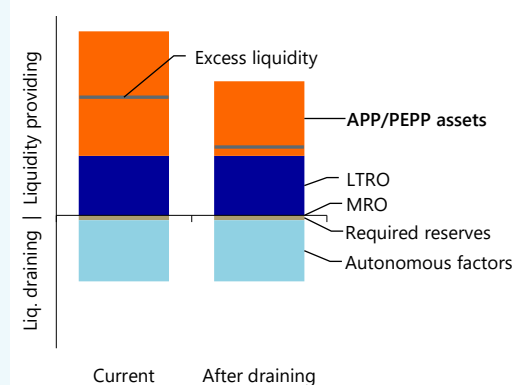
Issuing ECB bonds

If the ECB needs to reduce excess liquidity, the portfolio of assets acquired under the APP and PEPP is the most obvious candidate. However, if the announcement that purchases are stopped already risks a taper tantrum, an outright sale of the bonds that are held on the ECB's balance sheet could be expected to yield an even bigger adverse market impact. The increase in rates is unavoidable –and to some extent even desirable– in a reversal of policy. However, the main risk is spread widening.

Spread widening could particularly accelerate if the ECB starts selling the assets held in the portfolio. The ECB could limit this effect in two ways. First of all, the ECB could opt to first sell mostly core assets, while keeping peripheral debt on the balance sheet for longer. However, this will undoubtedly raise questions about the fairness of such policy; particularly in light of the APP's capital key target.

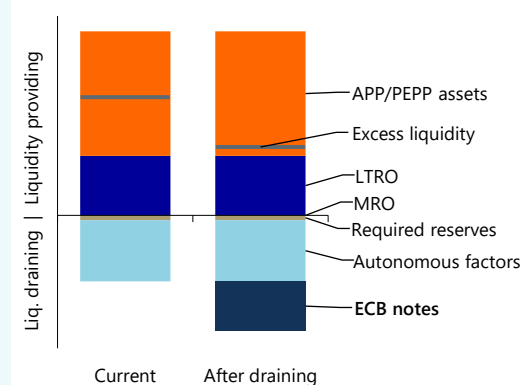
The alternative is that the ECB, rather than selling the individual assets on its balance sheet, sells its own notes or auctions fixed-term deposits to mop up excess liquidity. While the increased issuance and reduction of liquidity will still drive yields up, it should have less of an adverse effect on spreads. That allows the ECB to drain liquidity at a faster pace, without causing fragmentation risks. The ECB could even match the maturity profile of these ECB bonds with the (near term) redemptions of the Bank's portfolio holdings; that way, redemptions would be a liquidity-neutral affair.

Figure 16a: Selling assets from the APP/PEPP portfolio



Source: Rabobank

Figure 16b: Selling ECB notes has the same net impact on excess liquidity



Source: Rabobank

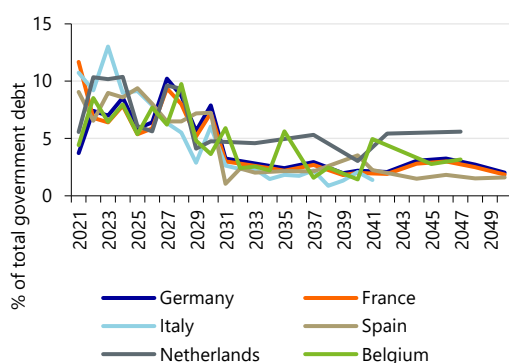
However, even the strategy of draining liquidity while keeping acquired assets on the balance sheet may not be enough to avoid pressure on segments of the markets. As we discussed in the previous scenario, an announcement that the ECB will stop purchasing assets may already be enough to spark a taper tantrum. Again, particularly the widening of sovereign spreads –as the focus shifts back on fundamentals– could be a concern. We argue that the ECB could potentially counteract this by continuing a *sterilised* asset purchase programme.

Sterilised asset purchases: curve control as part of the exit strategy?

Even a shift from unsterilized purchases to *maintaining the acquired asset portfolio and draining excess liquidity* may prove too drastic a move in current markets.

First of all, this could still lead to an unwarranted rise in yields across the curve and, as markets will probably take the ECB's retreat as a cue to dust off fundamental models again, it could still trigger substantial spread widening as the market re-assesses the *sustainability of peripheral debt* in an environment of rising yields.

Figure 17: maturity profile of government bonds issued



Source: Bloomberg

Indeed, this could be particularly painful for countries that have a maturity profile that is tilted towards shorter-dated debt.

Secondly, with the ECB focussing on the front-end, volatility may become more pronounced in longer-dated maturities. The strong return of inflation will probably also lead to increased uncertainty around inflation expectations. Inflation may be viewed as a 'good thing' for highly indebted member states but this is only so far as yields are not over-compensating for that inflation. In other words, if *inflation risk premia* would start to

rise this could become a more painful affair for certain countries.

The upshot is that the ECB could be forced to continue with a form of (implicit) yield curve control even as they try to tighten policy.

To the extent that spread widening causes fragmentation risk, the ECB may need to revitalise their SMP playbook. Recall that the Securities Markets Programme was used between 2010-2012 "to address severe tensions in certain market segments". Effectively, the ECB purchased peripheral debt securities to suppress spreads, while sterilising the liquidity effects of these purchases – so the purchased amount was offset by liquidity draining operations. The abovementioned approach could already be likened to *ex post* sterilization, but the ECB could of course continue to actively purchase peripheral debt as it drains the liquidity. In practise, this would mean that some form of PEPP envelope –with implicit spread targets– remains available even when the ECB normalises its policy. *Of course, this does see the ECB edge even closer to forms of monetary financing and/or forcing de facto debt mutualisation.*

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