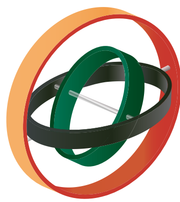
Navigating Uncertainty



FACING THE UNTHINKABLE: WHAT NEGATIVE UK YIELDS AND INTEREST RATES WOULD MEAN FOR LDI HEDGING

cardano

Facing the unthinkable: What negative UK yields and interest rates would mean for LDI hedging

It's December 2018, Christmas is approaching, and German government bond yields had just reached their annual lows. 20-year German bund yields are at 0.6% and 10-year yields at 0.3%. Fast forward to September 2019 and the very same yields have now fallen to -0.4% and -0.7% respectively.

This is a big deal for savers. With negative nominal yields, savers are not only losing money relative to inflation (if positive) but will also lose money in nominal terms – namely, the amount of money returned after "saving" will be less than the capital value initially committed.

Negative nominal yields also present major structural challenges for institutional investors, with LDI hedges now set to lose money over time.

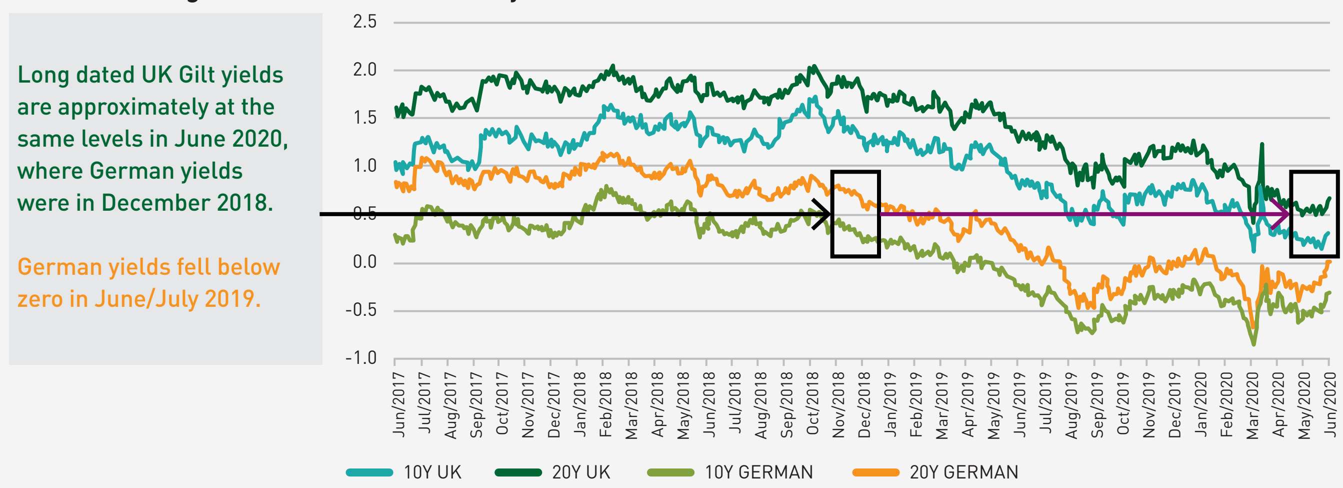
But the UK is not Germany: in the UK, long-term yields have never been negative. Long-dated yields in the UK are still positive, around 0.6% in fact, at approximately the same levels as German bund yields were in December 2018, nine months before they turned negative. This begs the question, could long-dated yields in the UK follow the German trajectory into negative territory?

On 20 May 2020, a 3-year gilt auction took the UK bond market for the first time into uncharted waters, with new issuance promising investors a negative yield of -0.003%. Since then, there have been more negative yield auctions of nominal gilts, including in early June. Gilts out to 2027 have flirted with a negative yield as well. In addition, the new governor of the Bank of England, Andrew Bailey has not discounted the possibility of using negative interest rates to stimulate the economy in a recession.

While negative UK yields are not our central expectation, we believe the range of possible future outcomes for UK yields has increased and there may no longer be a zero-lower bound in yields.

Historically, pension schemes may have held a belief that there was a cap to how much pension schemes liabilities could grow due to an assumption of positive interest rates. This assumption can no longer be relied upon. We have now entered a new phase in the funding of pension schemes, in which trustees must decide how they manage their scheme strategy in a radically different interest rate environment. Here we explore the potential ramifications of a negative interest rate scenario for UK LDI.

German vs UK government bond nominal yields (%)



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Fundamentally, we believe that demand for LDI hedging is going to remain largely the same, even if long-date yields are negative.

Negative yields mean that pension funds will be losing money from their fixed income assets over time. But, this loss will be offset by corresponding falls in liabilities (if discounted on negative yields), as liabilities will be unwinding at a negative discount rate.

The major risk for UK pension funds – interest rates falling – will therefore remain unchanged. If gilt yields fall, the present value of liabilities will increase. This risk remains unchanged regardless of whether yields are positive or negative and can continue to be mitigated with LDI hedging.

In Europe, where government bond, swap and cash yields have been negative for some time, most pension funds continued hedging even when nominal yields and discount curves turned negative. So, for pension funds, who are averse to running interest rate risk, hedging will likely remain on the agenda even during negative yields.

Nonetheless, there are some interesting challenges for LDI hedging posed by negative yields. Evidence-based scenario analysis proves particularly useful for considering the range of potential knock-on impacts:

1. **The risk:** Not every trustee or sponsor will find hedging with negative yields attractive. The idea of removing loss making hedging and letting liabilities fall over time sounds appealing in theory, particularly for those trustees who believe negative rates are unlikely to prevail over the long term.

   The evidence: If the experience in Europe in anything to go by, long-term risk-free rates can remain negative for prolonged periods and can even turn more negative. In such a scenario, under-hedging or not using market consistent discount rates can prove to be an expensive decision by trustees.

2. **The risk:** Another complication for traditional LDI hedging will come if trustees or actuaries do not reflect negative rates when measuring liabilities, i.e. do not use a market consistent measure of risk-free rates. This could happen if liabilities are discounted using a long-term expectation of yields, as opposed to rates that reflect current market conditions. LDI hedging programmes could then come under pressure to sell UK gilts to prevent earning negative returns relative to liabilities. Modification of existing LDI hedges may be required to increase their returns in favour of taking more risk.

   The evidence: Use of market-based discount curves is currently the norm for the actuarial industry. This is also the approach used by the Pension Protection Fund (PPF), the largest pension fund in the UK (with £32 billion of assets and 249,000 members) and the safety net intended to protect pensioners if their defined benefits pension fund becomes insolvent.

   Given that the PPF uses a market-based approach for measuring liabilities, the industry would likely find it difficult to take a different stance than that adopted by the PPF. The fact is that even in a negative yield environment, actuaries are likely to continue to use market consistent yield assumptions when setting discount rates (i.e. allow for negative rates). Therefore, holding gilts and swaps to hedge will still make sense, as the return on the liabilities will accurately reflect the “risk-free” rate obtainable in the market.

3. **The risk:** If UK cash yields cannot turn negative, holding cash would likely outperform gilts. A 0% cash rate with negative long-term yields will lead to a very inverted yield curve. Hedging portfolios may therefore need to be restructured by removing gilts and swaps in favour of holding cash or seeking to re-deploy capital in to more esoteric, yield enhancing strategies.

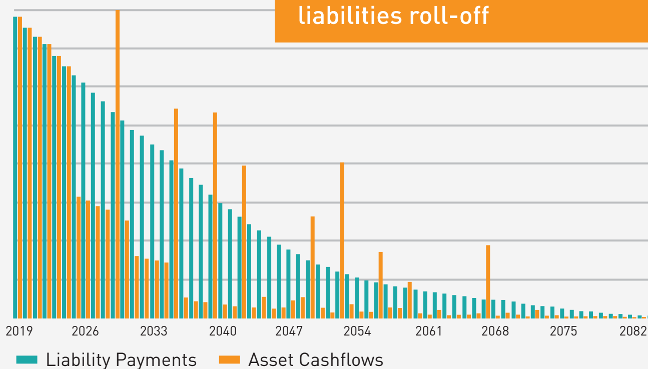
   The evidence: The experience in Europe indicates that cash yields can turn negative like bonds, so the above scenario is unlikely to happen in the UK. If UK cash yields can turn negative, holding gilts and swaps still makes sense for LDI hedging.

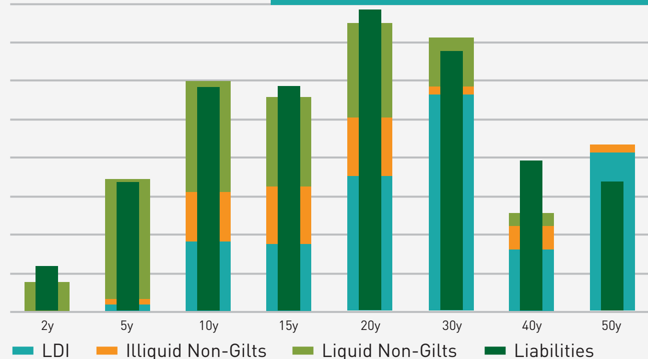
While demand for LDI hedging is likely to remain strong even during negative interest rates, this doesn't mean that LDI cannot evolve to improve returns. In fact, as the search for yield becomes more pressing, we envision that more trustees will be looking in to yield enhancing strategies to supplement their existing swap and gilt LDI hedges.

Yield enhancing LDI strategies (such as CDI) will grow in popularity

Simply investing all assets in growth assets (e.g. equities and funds) is simply not feasible. The recent Covid-19 crisis showed that markets are volatile, and we believe that there is an increased range of future possible economic outcomes, making investing a higher proportion of assets in growth more dangerous.

The good news is there are other options to increase yield whilst still retaining a set of contractual cashflows and maintaining a good hedge against interest rate risk.





CDI and Credit

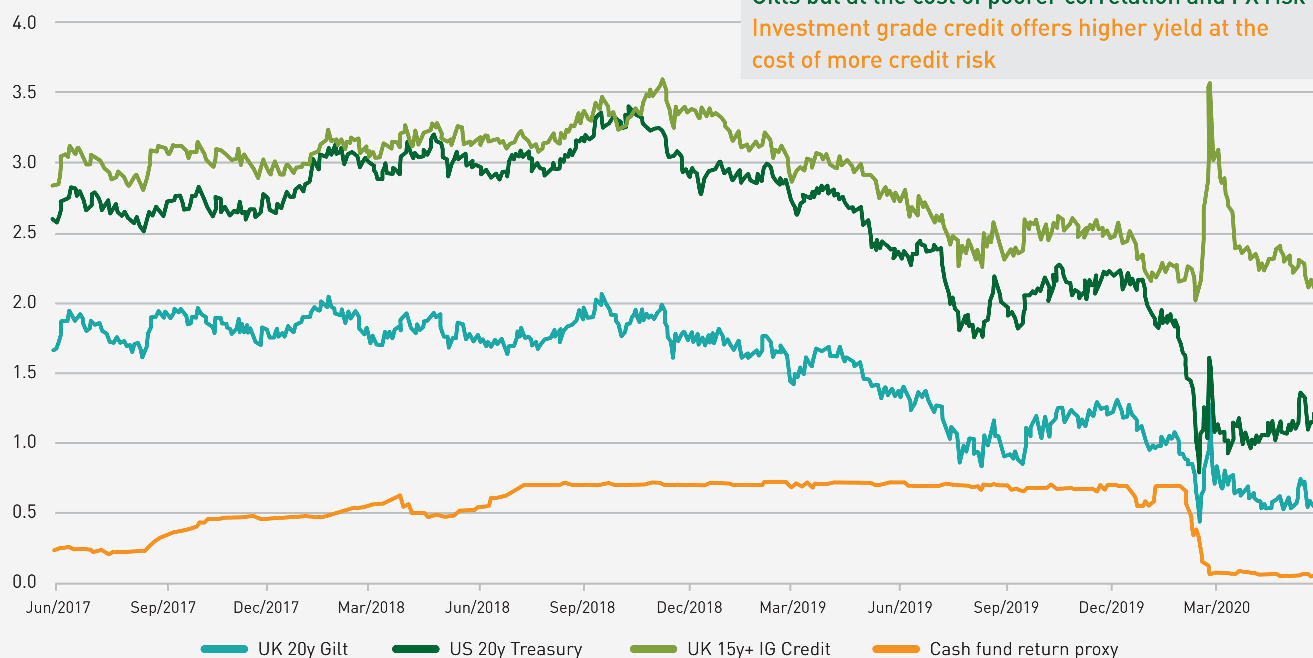
Traditional gilt or swap LDI hedges can be modified to fit a negative yield environment by investing in higher yielding fixed income instruments. Trustees can invest in credit-based assets and/or illiquid fixed income assets to generate higher yields, while also achieving a degree of cashflow matching (CDI). This type of yield-enhanced portfolio will hold primarily high-quality credit and real debt. Typically, such solutions can have traditional gilt and swap LDI sitting alongside to "complete" the hedging. Based on current credit levels, these portfolios could target returns in the region of gilts +1.0%, outperforming the expected return of a traditional LDI mandate. But these higher yields will come at the expense of extra credit and/or liquidity risk.

Alternative currency curves

Non-GBP swaps and government bonds (e.g. US treasuries) may offer higher yields than UK gilts and could improve returns for UK pension funds. But, higher yields will come at the expense of hedging protection. A UK pension fund hedging their liabilities with non-GBP assets will run additional basis risk, as foreign and domestic UK yield curves could move differently over time. This could lead to non-GBP hedges underperforming UK-discounted liabilities, despite the higher expected yield (for example, if UK interest rates fall or rise further than non-GBP yields).

There is also the FX risk to consider and hedging away the risk could reduce yields due to the cross-currency hedging basis. Historically, hedging away the FX risk of US Government bonds would have eliminated the yield pickup over gilts. However, at present this is not the case and investing in Treasuries and hedging away the FX risk will enhance LDI returns over gilts.

Yield (%) comparison – history



Conditional hedging

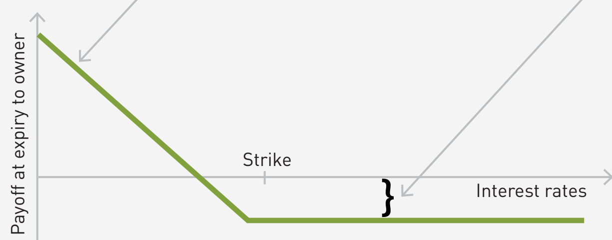
Swaptions can be used by those pension funds that do not want to fully hedge at negative interest rates. A swaption provides the option to enter into an interest rate swap and can be used by trustees to alter the risk and return profile of their LDI strategy – for example by selling payer swaption contracts.

Selling payer swaptions commits the seller (e.g. the scheme) to potentially enter into a swap hedge at an agreed higher level of interest rates. This essentially increases the level of interest rate hedging at more attractive yields than levels currently available in the market. If interest rates remain below the agreed level of the contract, no additional hedging is added, and the seller receives a pay-out. This will allow schemes to get paid if rates remain negative (or do not rise materially), and the flexibility to only add hedging if rates move to higher, more attractive levels.

Receiver swaptions

If interest rates fall below the strike, the owner will exercise the option and enter into the receive fixed swap at a better rate than the prevailing market rate

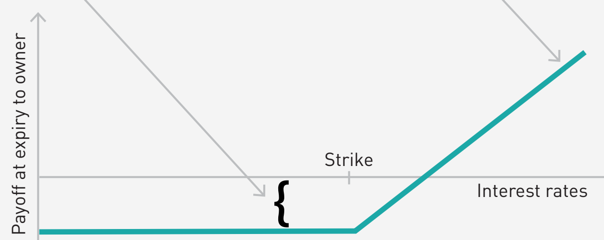
If interest rates stay above the strike, the contract expires worthless (the owner can enter into a receive fixed swap at a more attractive rate in the market) and the seller receives a premium



Payer swaptions

If interest rates stay below the strike, the contract expires worthless (the owner can enter into a pay fixed swap at a more attractive rate in the market) and the seller receives a premium

If interest rates rise above the strike, the owner will exercise the option and enter into the pay fixed swap at a better rate than the prevailing market rate



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