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Lower for Longer: The Case for Interest Rate Hedging

UBS ETF Market Matters

↗ The secular decline in interest rates might be reaching its limit, with rates in many developed economies close to zero or negative. Due to stronger fundamentals, monetary tightening in the US is increasingly likely. The probability of a December rate hike is now close to 80%.

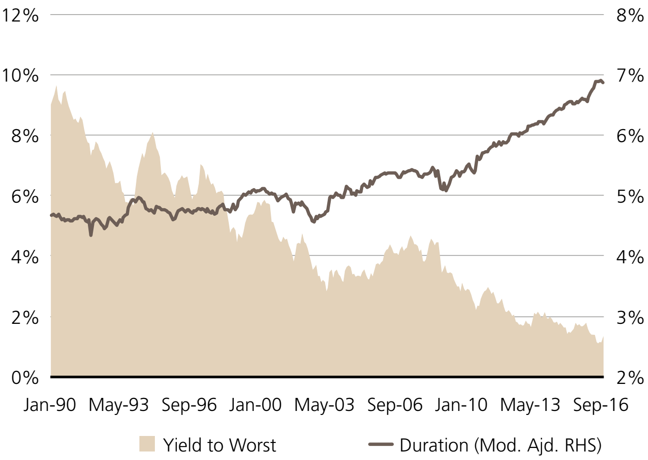
↗ In a low yield environment, any capital losses from interest rate increases would be hard to recoup. Many investors are therefore considering ways to limit interest rate risk, whilst keeping credit exposure to earn corresponding premium.

↗ Interest rate hedging can be achieved with an indexed bond exposure which involves a rules-based offsetting mechanism based on Treasury futures. Duration can be targeted to zero, while the portfolio preserves broad diversification and provides full credit premium.

Where are we today?

The current fixed income environment is challenging. Yields on core fixed income benchmarks are near historical lows, yet interest rate risk has increased. For example, the Barclays Global Aggregate bond portfolio has seen its yield decline from around 9% at the beginning of the 1990s to just above 1% currently (Figure 1). The most recent yield compression has been primarily driven by monetary easing policies, including central banks' bond buying programs. Over the same period, the modified duration has increased substantially (from 4.6% to 6.9%), implying that sensitivity to interest rates changes is now at a historical high. This is a direct consequence of lower coupons on new bond issuances as well as debt issuers taking advantage of the recent low rate environment to adjust their financing towards longer-term credit.

Figure 1: Yield and duration of the Barclays Global Aggregate Index.

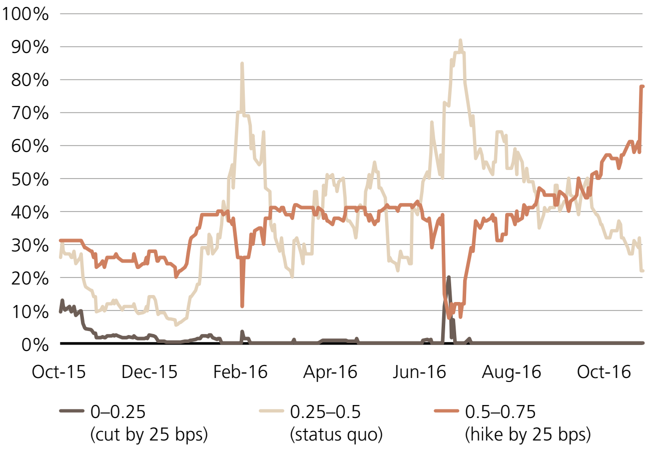


Source: Barclays Point, UBS Asset Management, data as of 31 October, 2016.

How likely are hikes in interest rates?

A period of quantitative easing coordinated by major central banks following the financial crisis may be about to change due to economic divergence. While the Bank of Japan, the Bank of England and the ECB are likely to continue with their loose policy stance for some time, the recent Fed communication indicates the possibility of another interest rate rise, possibly still in December '16. This is reflected in the pricing of interest rate futures. As of 3rd November, the market-implied probability of a 25 bps hike in December '16 stands at 78%, whereas an unchanged rate scenario is priced in with a likelihood of 22% (Figure 2). Looking at the futures market to assess the likelihood of rate movements is particularly pertinent because the Federal Open Market Committee (rate-setting entity) aims for effective communication aligning market expectations with its policy developments.

Figure 2: Probabilities assigned to interest rate developments at the December 2016 FOMC meeting as implied by US Fed Funds futures prices. Rate developments are defined based on the lower and upper Fed Funds Target Rate, which currently stands at 0.25–0.50%.



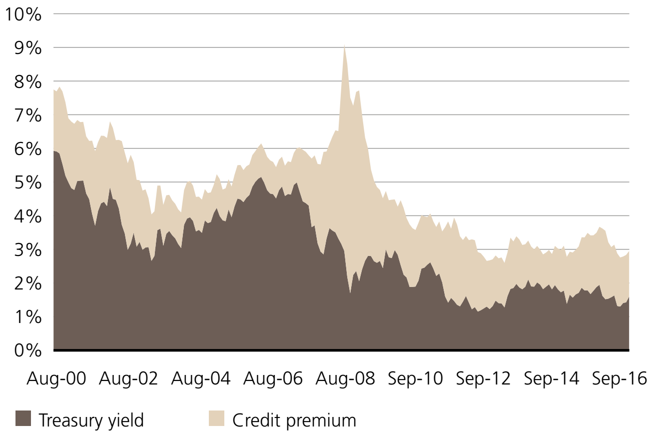
Source: Bloomberg, UBS Asset Management, data as of 3 November, 2016.

What about interest rate risks?

Given concerns about the prospect of rising rates in the US, investors need to consider interest rate risks embedded within their bond portfolios. A starting point is to separate credit exposure from interest rate exposure. For illustration, we split the overall yield of the Barclays US Corporate Bond Index into the duration-matched Treasury yield and the credit premium[1] (Figure 3). The Treasury yield has compressed substantially from 600 bps to around 160 bps currently, which is near the historical low. In contrast, the credit premium of 135 bps at present is close to its long-term average. Given that the interest rate sensitivity is high (i.e. increased modified duration), any capital losses from interest rate rises would be hard to recoup from interest payments at today's levels.

Investors who think that interest rates will revert back to higher levels may therefore consider limiting interest rate risk, while still harvesting credit premium. This is simply achieved by offsetting the performance of the Treasury yield component (with the use of Treasury futures), which leaves pure credit exposure and funding rate (T-bill rate). Credit-only exposure typically performs best in a scenario of an accelerating economy with gradual rate hikes and of improving credit environment characterized by low default rates. In such a scenario, a credit investor avoids losses due to interest rates increases, while earning credit premium with additional capital gain due to credit spread tightening.

Figure 3: Yield on Barclays US Corporate Bond Index with decomposition into the Treasury yield and credit premium.



Source: Barclays Point, UBS Asset Management, data as of 31 August, 2016.

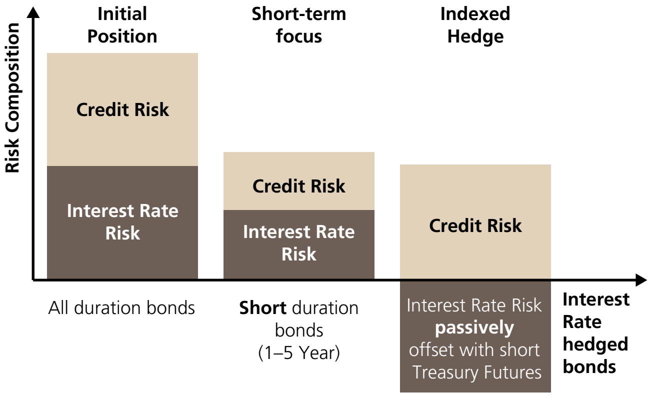
How to mitigate interest rate risks?

We compare two approaches to mitigate interest rate risk which are accessible through index-based solutions (Figure 4). First, an investor can constrain their bond portfolio to short duration bonds. While mitigating interest rate risk to a certain degree, a lower duration entails a reduction of credit premium (as we move towards the short-end of the credit curve[2]). For example, bonds in the Barclays US Corporate Bond Index with a term of 1–5 years have a

1 Credit premium is defined as the yield differential over duration-matched treasuries (i.e. OAS spread).
2 Credit curves of debt issuers are typically upward sloping primarily because there are larger risks associated with long-term borrowing. Hence, a short maturity bond tends to offer a reduced credit premium compared to a long-maturity counterpart.

credit premium of 93 bps, whereas it stands at 182 bps for 10+ bonds as of 31st October. Investors who wish to eliminate interest rate risks altogether should consider interest rate hedging maintaining a zero duration target. This can be achieved by choosing a benchmark with embedded short selling of Treasury futures with durations similar to the underlying corporate bonds. Investors can thus achieve duration-neutrality and harvest full credit premium, while preserving liquidity and diversification properties of a broad index, e.g. Barclays US Corporate Duration Hedged Index.

Figure 4: The mechanics of interest rate hedging.



Source: UBS Asset Management, data as of 31 October, 2016.

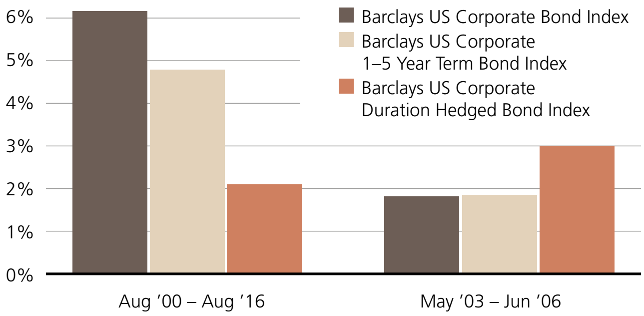
How has interest rate hedging performed in the past?

We examine the performance of the Barclays US Corporate Bond Index (without interest rate hedging) comparing it to its interest rate hedged equivalent (zero-target duration) as well as a short-term 1–5 year version (Figure 5). We consider the full period from Aug '00 to Aug '16 along with the shorter period from May '03 to June '06, when the Fed fund rate grew from 1% to 5.25%. In this shorter 37-month period, the duration hedged index outperformed the unhedged counterpart by 120 bps per annum. This was a favourable environment for duration hedging with Treasury yields going up and credit spreads tightening.

However, the other option focusing on short duration bonds did not bring any advantages over the unhedged portfolio. Looking at the full period, taking on duration risk has paid off with 400 bps per annum extra return relative to the hedged index, but that is largely on account of the general decline in rates through that 16-year period. Firstly, the treasury yield curve was relatively steep and duration-matched treasuries yielded over 3% on average per annum from Aug '00 to Dec '09, whereas currently they yield 1.6%. Secondly, a large part of the 400 bps outperformance came from a reduction in yields from 6% in Aug 2000 to 1.6% currently. This led to a substantial capital gain for holding duration.

For more information, visit our homepage. **www.ubs.com/etf**

Figure 5: Relative performance of Barclays US Corporate Bond Index with its interest rate hedged alternative as well as short-term version.

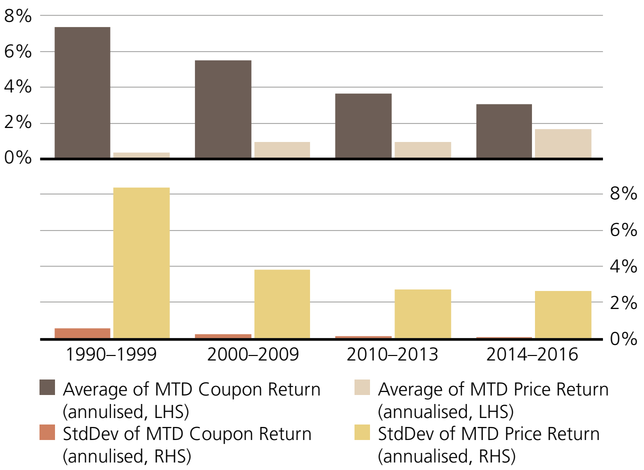


Source: Barclays Point, UBS Asset Management, data as of 31 August, 2016.

What about interest rate volatility?

Another rationale for interest rate hedging is protection against possible surges of volatility. Performance of bonds can be attributed to two sources: coupon returns and price returns. Volatility of a bond investment is primarily driven by price return changes which largely reflect shifting market expectations of upcoming interest rate developments. In Figure 6 we make the attribution for the Barclays US Corporate Bond Index between these two components and report their annualized returns (upper panel) and annualized volatilities (lower panel). Historically, portfolio returns were dominated by coupon returns whereas more recently, price returns have contributed substantially more than in the past. Furthermore, this increasing contribution is associated with decreasing volatility of price returns. Such low levels of volatility in combination with high levels of price returns is something new (Figure 6), most likely resulting from quantitative easing policies. However, if the market shifts its expectations about interest rate levels, this may lead to a substantial reversal involving surges in volatility of bond prices. Should this happen, the interest rate hedging will likely provide a significant mitigation of price volatility.

Figure 6: Returns and volatility decomposition of price and coupon components for Barclays US Corporate Bond Index.



Source: Barclays Point, UBS Asset Management, data as of 31 October, 2016.

Past performance is not an indicator of future results.

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UBS ETF (LU) Barclays US Liquid Corporates UCITS ETF	0.18%		USD	Physical	Yes	LU1048316647	UEF9 GY
UBS ETF (LU) Barclays US Liquid Corporates hedged EUR UCITS ETF	0.23%	710	EUR	Physical	No	LU1048317025	UEF0 GY
UBS ETF (LU) Barclays US Liquid Corporates hedged CHF UCITS ETF	0.23%		CHF	Physical	No	LU1048317538	CBUSS SW
UBS ETF (LU) Barclays US Liquid Corporates hedged GBP UCITS ETF	0.23%		GBP	Physical	Yes	LU1048317298	CBUSH SW
UBS ETF (LU) Barclays US Liquid Corporates 1-5 UCITS ETF	0.18%		USD	Physical	Yes	LU1048314949	UEF7 GY
UBS ETF (LU) Barclays US Liquid Corporates hedged CHF 1-5 UCITS ETF	0.23%	667	CHF	Physical	No	LU1048315755	CBUS5S SW
UBS ETF (LU) Barclays US Liquid Corporates hedged EUR 1-5 UCITS ETF	0.23%		EUR	Physical	No	LU1048315243	UEF8 GY
UBS ETF (LU) Barclays US Liquid Corporates hedged GBP 1-5 UCITS ETF	0.23%		GBP	Physical	Yes	LU1048315326	CBUS5H SW

Source: UBS Asset Management as of 31 Oktober 2016

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