The Asymmetry Of Interest Rate Duration Risk

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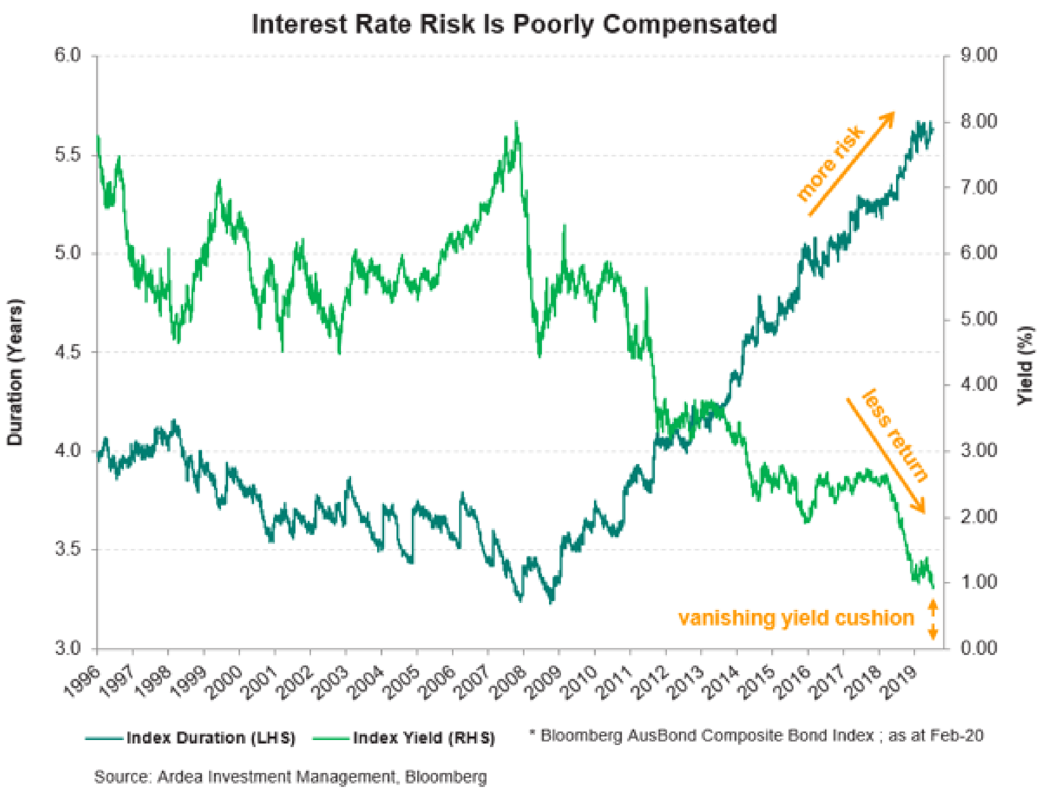
A common way to think about bond yields is to view them as a cushion that protects bondholders from the potential negative effects of duration risk. The yield cushion provides protection from capital losses if yields were to rise.

As bond yields have now collapsed to ultra-low levels, that protection from duration risk has vanished.

For example, the chart below shows the duration vs. yield trade-off for a bond index that is widely referenced by conventional fixed income funds. Yields have declined, while duration has increased, leaving investors faced with more interest rate risk for less return.

Normally investors would demand higher yields in return for taking more duration risk. However, as yield chasing capital has flooded into longer maturity bonds to eke out a bit more return, compensation for interest rate duration risk has eroded away.



Of course, duration risk works both ways. If bond yields fall a lot, duration exposure can deliver large capital gains, which is exactly what has been happening across global bond markets.

But with bond yields fast approaching zero, and indeed already negative in many places, duration exposure becomes unfavourably asymmetric i.e. the future loss potential becomes disproportionally large relative to the remaining upside.

The chart below puts this asymmetry into context for conventional duration based global bond investments and brings to mind the ubiquitous but frequently ignored disclaimer that past performance is not indicative of future returns.

Over the past year, the bond index below has delivered an unusually large return of 9.0%, driven by collapsing bond yields. As bond yields fell, the interest rate duration exposure inherent in bonds drove prices up to record high levels, resulting in large capital gains. This same dynamic has driven the performance of any conventional duration-based bond portfolio over the past year.

However, what duration gives can easily be taken away.

If yields normalise even modestly from current levels, say back to early 2019 levels, the index duration exposure would cause a loss of c. 7%. But to get a gain of 7% the index yield would have to go negative, which would be absurd, particularly given the index also includes the credit risk of BBB rated corporate bonds. This is the asymmetry that conventional duration-based bond investments are currently faced with and because of this, the lower that yields go the more vulnerable investors become to future losses.

Source: Ardea Investment Management, Bloomberg

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An unavoidable reality is that bond prices can't keep going higher unless yields keep going lower, which is why, unlike with equities, the upside potential in bonds is inherently capped.

Even if stocks are expensive, there is no real limit to how high they can go. Bond prices on the other hand are bounded by the fact that hold-to-maturity returns are limited to interest payments received over the life of the bond. Any additional capital gains before then are limited by how low yields can go.

This unfavourable asymmetry of risk vs return is inescapable as bond yields keep going lower because when the starting point of yields is already extremely low to begin with, there is naturally less room for them to drop further and this is what makes chasing bonds at record low yields (i.e. record high prices) very different to chasing stocks at high valuations.

Stocks can keep going up indefinitely, while bonds can't.

As the experience of Japan and Europe shows, there is strong resistance to bond yields going far below zero, because a hold-to-maturity investor buying bonds with negative yields would be locking in a guaranteed loss.

We can think of ultra-low bond yields as pushing against an elastic band that sits at the zero-yield level. Yes, yields can push below zero but as they do, that elastic bands gets stretched further and further, raising the risk of a vicious snap back at some point.

Conventional high-quality bond portfolios are widely assumed to be 'safe' investments and in terms of credit default risk that assumption does hold. However, they are now highly risky in terms of the risk of near-term capital losses due to the unfavourable asymmetry of duration risk.

Investors rushing to the perceived safety of 'high quality' bonds, have careened headlong into the poorly compensated and treacherous territory of interest rate risk. As equity investors know well, the price at which you buy matters as much as what you buy. 'High quality' bonds are not immune from losses if you buy at too high a price and that's doubly true when faced with such unfavourable asymmetry.

In the absence of any directional view on bond yields, duration exposure is often held solely as a way to diversify portfolios and protect against downside equity risks, but even in this use case, ultra-low yields have now made duration a very expensive form of portfolio insurance. With yields already so low, duration can no longer provide the same protection as it used to.