

The Major bond letter

#45. Tail wagging dog

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Fixed Income - Rates

Global

Whether we know it or not we are hedging the risks in our everyday lives. Given a fifty percent chance of rain we might wear a coat or carry an umbrella but given a 10% probability we could well take the risk and leave the brolly at home. When it comes to more serious things, like insuring ourselves and our families against health and life risks – those events with a much lower probability – we are prepared to buy insurance. The difference between the two examples is the impact. We take the risk of getting a bit wet but take what protection we can against life-threatening risks.

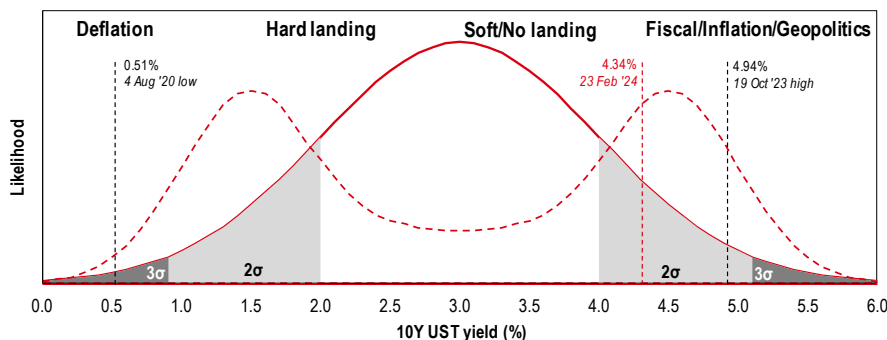
Bond market practitioners discuss left and right tail events that, although highly unlikely, are possible, and most importantly, highly impactful. They do this in the context of wide US 10-year yield ranges: 166bp last year and 262bp in 2022. An example in recent memory is the global pandemic, supposedly a once in a century event, and what it did to yields. Having moved significantly lower in 2020, because of the initial policy response of rate cuts and QE, Treasury yields surged higher two years later as a supply-side shock to inflation resulted in aggressive policy rate hikes.

This experience has fostered over-sensitivity to tail risks which brings the idiom “tail wagging the dog” to mind. Bond yields are being pulled around by the tails. It’s more about the fear of something happening, not the conviction that it will necessarily happen. Right tails include geopolitical risk, unsustainable fiscal policy, and runaway inflation. The left side brings us deflation and hard landing risks.

Our diagram below, which is purely for illustrative purposes, presents the likely distribution of yields given a few scenarios. The x-axis starts at zero, has a midpoint of 3.0% and captures yield levels up to 6%. The likelihood of these yields being observed is measured on the y-axis. So, for example, the most likely occurrence – in the illustration it is a soft landing – is at the distribution’s peak.

Through the last decade bond yields roughly followed a normal distribution (that’s the one with the single hump) but the last five years have seen a skew to the right, and one which is not unimodal. We illustrate a bimodal distribution (the dotted line) of a bond market caught between the two extremes. It certainly feels like this sometimes.

Bond yields pulled around by the risk of extreme events



Source: Bloomberg, HSBC. Note: distributions are illustrative and not to scale. Shaded areas represent number of standard deviations from mean

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Our purpose is to consider how far yields could be pulled either side of an assumed baseline, assuming that policy rates will either be unchanged or go down ([#42. Going binary](#), 11 December 2023). We know from the median path of short rate projections in the “dot plot” that the Fed’s view is consistent with this, so an obvious tail risk is that policy rates go up again, informing the scenarios on the right side of the chart.

For a baseline we imagine 10-year yields would be nearer to the 3.0% midpoint in our chart than the 4.3% in the market today. This is because the policy rate, currently at 5.25-5.50%, is projected to fall towards the 2.5% longer-run equilibrium in the dot plot, and the pure expectations yield¹ on the 10-year is pulled down by the lower equilibrium.

The yield on bonds can move a long way from the baseline because of the role of term premium and assumptions on neutral rates. Adding and subtracting term premium, along with changing the assumptions on the equilibrium, is what gets us into the tails of the distribution, above 5% and below 1%.

For example, even if policy rates were on hold for the next two years, and the longer-run equilibrium was assumed to be 150bp higher, at 4.0%, the pure expectations 10-year yield would likely be between 4.5% and 5.0%. Lower yields come from scenarios that include faster and deeper rate cuts, and for this we have COVID-19 data points, with 10-year yields reaching 51bp in August 2020.

To generate scenarios for yields above 5.0% and below 1.0% requires only an extension of our imagination, given the market has traded at these extremes in the last five years. Whether the scenarios play out is hypothetical; it’s the change in the probabilities that matters.

In the bond market a 5-10% increase in the probability of an extreme event means yields could move 10-20bp, assuming the actual event would result in a yield shift of 200bp in each direction. This is what’s been happening recently. At the start of the year futures markets expected US policy rates to be cut by March. Only a few weeks later the easing was repriced for June. Now, after one strong inflation print, there is the tail risk that policy rates may have to go up again.

Markets are being wagged around by the right tail. The usual suspects have been ultra-loose fiscal policy, geopolitical risk, and renewed inflation pressure at a time when it was supposed to have been controlled. We don’t want to belittle these risks but, because we have been experiencing them in recent years, presumably they are already partly in the price.

It’s a neat narrative, this description of why yields could go higher, but it risks blinding us to all the other forces that are out there, not least that yields are already quite high. What about the tail risks on the other side? Another round of financial instability, downside surprise from a data release, even a shift away from the fiscal largesse narrative, would see the left tail wagging.

Appreciating how tail risks can pull the market one way or another is an antidote to deterministic thinking, which would have us focused on a single path. Tail risks are just that – risks – not predestined outcomes, and neither tail should be afforded too much weight. Humans are anyway not good at assigning probabilities to outcomes and consistently exhibit over/underestimation biases.

Apologies to dog lovers; we are not proposing that anyone tries to wag their dog by the tail. We’re just describing how market pricing can look like it reflects tail risks with certainty, whereby the central tendency is pulled too close to an extreme. Remember that in markets the tail can sometimes appear to wag the dog.

¹ Calculated using the average return from rolling cash at the policy rate through the 10 years to maturity based on assumptions for the rate’s path and longer-run equilibrium.

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