

# Convexity Maven

*A Commentary by Harley Bassman*

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## **"Finding Sea-Level"**



A rising tide in the Marshall Islands

It does not take an Einstein to recognize that most judgments in life are relative. Would the day be as hot, or the alarm clock as loud, if we couldn't compare it with a cool, quiet morning? Would sweet exist without sour? Can a portfolio manager truly appreciate a good investment without weeding through a few dogs? It takes a common denominator, some scale or absolute, to create meaningful comparisons.

Nearly every vector of description has an agreed-upon foundation. For instance, most of the world measures time versus a clock in England and elevation relative to the surface of the ocean. Closer to home, the investment process relies upon the concept of the benchmark interest rate (often thought to be a "risk-free" rate, though this isn't necessarily the case).

But allow me to pose a question many readers may find radical: What if our desire for stability blinds us to events that suggest our "North Star" has shifted, that maybe our long-standing agreed definition of that benchmark rate is no longer the yield of a U.S. Treasury (UST), but rather the more liquid and fungible Libor-based interest rate swap (IRS) market? (Recall that Libor, or the London Interbank Offered Rate, is a primary benchmark for short-term rates globally.)

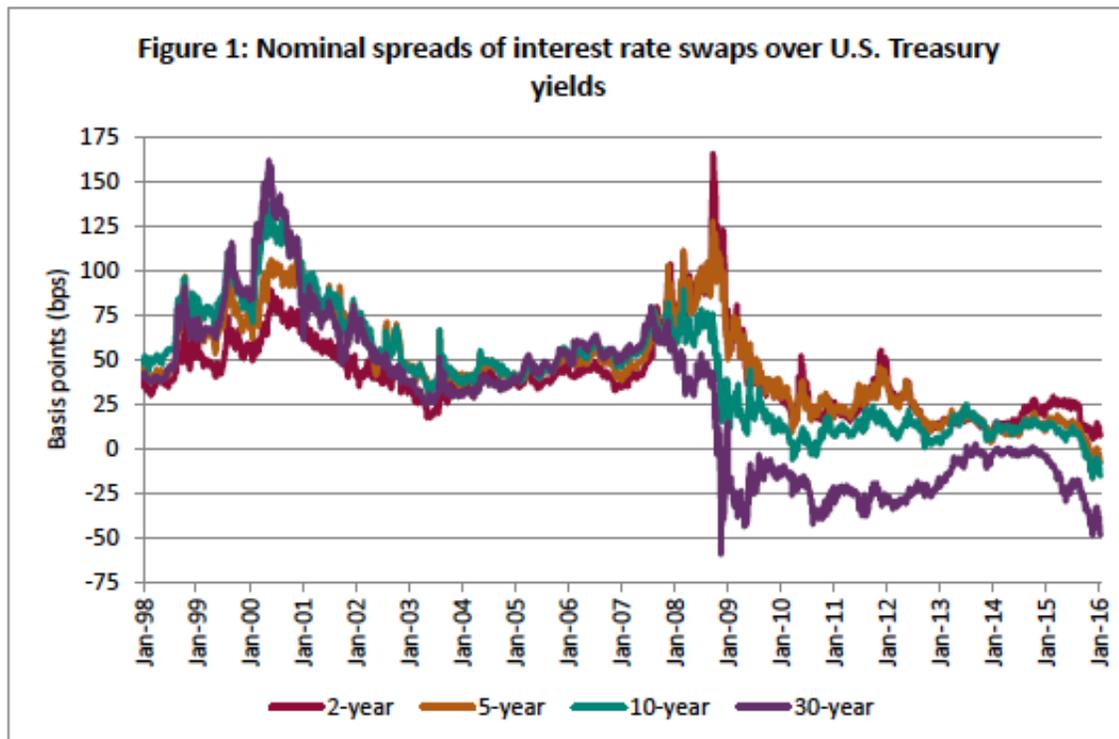
"Heresy," some may say, and I should add that we at PIMCO do indeed invest the assets entrusted to us in line with the world's understood idea of the benchmark rate. But before you dismiss my idea outright, please remember how once rock-solid notions are frequently overturned. One example: For much of the 19th century and until the end of the First World War, most global trade was invoiced via the British pound sterling. In fact, until the early 1950s, over half of all foreign reserves were held in sterling; today, that figure is less than 4%. The U.S. dollar has taken the sterling's place as the world's reserve currency. As recently as 2013, 87% of all foreign exchange trades took place in dollars.

If you think a paradigm shift propelled by the business end of a rifle does not count, let's consider the more recent change in the lingua franca of interest rate options. At their inception, options on bonds were quoted as a percentage of lognormal yield volatility. The governing principle was that interest rate movements should be proportional to their absolute level. So all else equal, if one expected rates to vibrate 10 basis points (bps) per day in a world of 10% yields, they should then shift five bps per day in a 5% world. Thus were most models built and portfolios constructed.

Then, without a shot fired (if you do not include the few traders cut loose for stubbornly resisting the change), the markets slowly revised their common denominator from lognormal yield volatility to basis point normal volatility. Sometime after Long-Term Capital Management previewed a financial crisis in 1998 but before the implosion of the dotcom bubble, financial managers recalibrated their systems to the principle that interest rate movements are mostly unrelated to their level, that a five bp rate change was as likely in a 5% world as in a 10% one. While an apostasy to some, those who did not shift their portfolio construction to the new paradigm soon found themselves on the left side of the income distribution.

With these examples as an appetizer, let us now consider a most perplexing situation, the seemingly anomalous inversion of yields between matched maturity USTs and IRSs. For example, nary a week into the new year and shortly after the Federal Reserve hiked interest rates for the first time in nine years, the UST 10-year yield closed at 2.17% while a matched maturity IRS derivative closed at 2.02%. How could the definitive risk-free benchmark not be the lowest-yielding asset in its sector? Let's explore.

Figure 1 details the nominal spread between the yield of USTs and the equivalent maturity IRS derivatives. The *amaranthine line* is the 30-year spread; it first pierced the zero boundary in November 2008 and has remained there ever since. The primary reason cited is the heavy demand for duration from long-liability managers. The *verdigris line* is the 10-year spread. This rate briefly inverted in 2010 but did not significantly breach zero until September 2015. Pundits pointed their fingers at hedging activity to accommodate heavy corporate bond issuance. The *titian line* is the five-year spread. It broke below zero in October 2015. There was a consensus that the primary driver was heavy UST selling by central banks to help manage foreign exchange rates. The *incarnadine line* is the two-year spread. After peaking at 165 bps at the height of the global financial crisis, these two rates are barely six bps apart. Wall Street managers believe the rising regulatory cost of their balance sheets has reduced the ability to hold these short-dated bonds.



Much ink has been spilled over all the factors that to varying degrees may have caused these inversions or near-inversions, and debate persists over when these pressures will reverse. Speculators of all types have reached for this falling knife, only to seek bandages soon after. But what is almost shocking is that no one appears to consider that inverted spreads could possibly be a normal feature of market environments going forward. Major transitions are frequently met with

slack-jawed disbelief, until it becomes obvious. A thoughtful investment management process should at least evaluate – even try to hang a price upon – the potential, however slim, for such a major transition.

Market seers seem stymied by the notion that there may be a better benchmark than U.S. Treasury yields; this is where confusing “benchmark” and “risk-free” becomes confounding. Some ratings agencies (perhaps hypersensitive after their earlier MBS missteps) reduced the U.S. credit rating to less than triple-A, suggesting a whiff of risk, an infinitesimal potential for default. However, via the rubric “ability to pay principal and interest on a timely basis,” it is effectively impossible for a UST to default outside of a deliberate political decision to allow it to do so, as the U.S. government issues its debt in a currency it alone can print.

But just because a UST is a perceived nearly “risk-free” asset does not automatically make it the superior benchmark. USTs are issued in a fixed quantity with a single CUSIP; a derivative IRS has no such limitations. USTs demand a place to be stored (balance sheet), while IRSs do not. USTs have a huge terminal principal that must be safeguarded in case of financing counterparty default; IRSs have only a rate differential at risk. This concept also affects investors in currencies other than the U.S. dollar since currency movements can have a greater impact on principal than mark-to-market value movements.

While one may debate which is more liquid, there is no questioning the efficiency of the swap market. Buying and selling large notional IRSs requires little preparation – they can be bought or sold in any size, at any time. In contrast, selling short a single CUSIP UST security can have both a large and uncertain cost, and their availability can vary widely. As such, the analysis of the interest rate term structure is almost solely the purview of the IRS market since UST long-term funding (the cost to borrow a single CUSIP) is relatively rare.

Finally, following the massive growth in global trade, finance has now become a business without borders, and as such, an internationally accepted rate structure may make more sense for a global economy than a rather parochial single-country issuer.

Notwithstanding the fact that Libor was manipulated by a few banks (whose public exposure and subsequent legal entanglements in 2012 prompted regulatory actions and discussions of index replacement), it is still the most common benchmark for overnight U.S. dollar funding. While the Federal Reserve may exert the greatest influence on interest rates around the world, philosophically, one might prefer the ultimate benchmark rate not to be fully controlled by a single government institution.

As a point of pride, I do enjoy the notion that the securities issued by my home country have been considered the definitive investment baseline. But once I peel away that layer of ego, I may in the end find that IRSs are now more qualified to be the international benchmark for U.S. interest rates, especially in the longer term, where markets set the levels. Consequently, that value proposition may well demand that IRS yields be lower than those of USTs. Again, let me state plainly this is *not* a prediction that swap spreads are destined to remain inverted; the shore of the Dead Sea is the lowest spot on the earth, yet the heights of the seven peaks are not measured against it.

The possibility that the spread between USTs and IRSs may return to a positive profile is almost beside the point. The more salient question I am raising is how we, the community of investors worldwide, define a universally accepted benchmark, the interest rate against which all others are measured. So while the various parties debate the melt speed of the polar ice caps, let us also ask whether we have found a new sea level for interest rates.

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