



MUSINGS FROM HARLEY BASSMAN:

The Convexity Maven

Value Concepts from the BAS/ML Trading Desk
February 19, 2010

“Look Right.....”

Emergency Medicine Journal 2008



Tourists in London are four times more likely than natives to be injured as a pedestrian in a car accident. In fact, this may be the most likely manner in which to be hurt in Jolly ol' England as a visitor. The reason is simple, when crossing the street, we look the wrong way. We turn our heads left, see nothing, and waltz into oncoming traffic from the right.

So we now have you in the correct frame of mind to consider the unexpected as the most obvious risk in the Rates markets today: The dreaded Bull Flattener.

Now let's be clear, our predilection towards inflation makes us fundamentally bond neutral at best; but if you want to consider the risk that no one is prepared

for, it is a sharp flattening of the Yield Curve created by lower long-term rates. It is for this reason that we maintain a core long in 5% and 10% delta calls on 15yr to 20yr rates. (Specifically: The 124 strike call on the US contract)

Although we cannot cite "proof" of this risk, what we can point to is all the secondary signals that indicate the market is totally unprepared for this type of event.

We always jump at the opportunity to flash the chart of the unusually strong correlation between Implied Volatility and the Yield Curve. Below, the **-rose line-** is the slope of the Sw10yr rate vs. the Sw2yr rate. On the other axis, the **-peach line-** is the Implied Normal Volatility of a 6m into 10yr swaption.

Rose - right - Sw10yr minus Sw2yr
Peach - left - 6m into 10yr Imp Nvol



All charts, unless otherwise noted, are sourced from BAC/MER data

For reasons we have described in detail in the past, there is strong theoretical underpinning for this relationship. Strikingly, these two risk vectors have diverged sharply over the past few months. We can assure you that this will correct itself. The only question is whether it will be by the Curve flattening or Volatility rising; we think it will certainly be the former.

The options market offers further clues that the market is ignoring the risk of a back-end rally. In our next chart, the **-pink line-** is the Normal Volatility "skew" of a +100bps OTM 1yr into 10yr payer swaption. The **-teal line-** is the Normal Volatility "skew" of a -100bps OTM 1yr into 10yr receiver swaption. Starting early last year, fears grew that the FED would lose control of the markets and fumble the "exit strategy". This was clearly evident from the

massive increase in payer skew. Simultaneously, the market discounted the risk of substantially lower rates as indicated by the inversion of the receiver skews.

Recently, some market participants have begun to have second thoughts. Despite a nearly 70bps increase in Rates since late November, the put vs. call "risk reversal" has decreased from a 33Nvol spread to 22Nvol spread.

Pink - 1y-10yr +100bp otm pyr vs ATM Nvol
Teal - 1y-10yr -100bp otm rcv vs ATM Nvol



A similar shift in the risk profile has occurred in the gamma options listed on the CBOT. In this case, the put vs. call skew for 15% delta options has decreased from 20% to 12%. Almost the entire change can be accounted for by an increase in OTM call Volatility as opposed to a decline in OTM put Volatility.

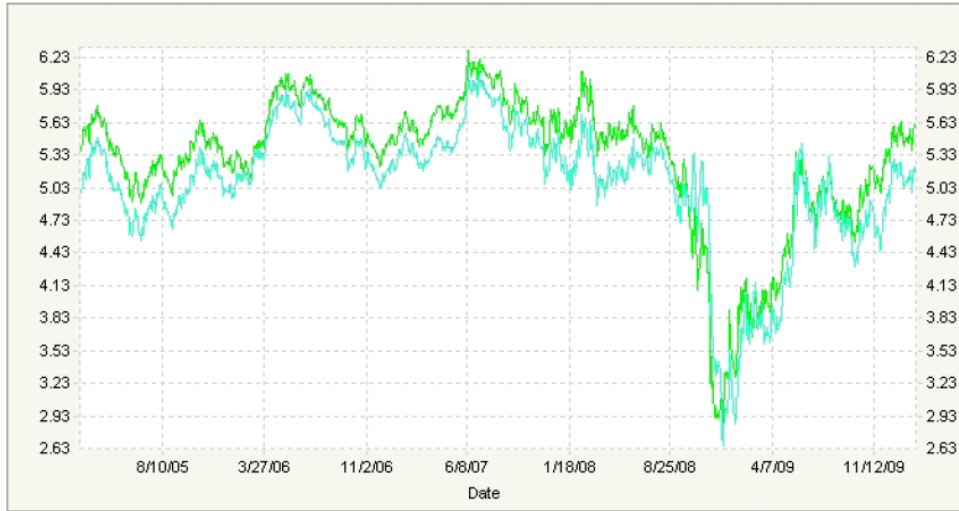
Our point here is that the options market tends to presage events. The heavy cost of decay usually indicates a strong sense of commitment from the buyers. This is known in layman's terms as "putting your money where your mouth is".

Another way to quantify risk is to establish what is the value of the reverse bet. Specifically for this example: What is the outlook for being short?

In a nutshell, as detailed in our January 15 publication - "*Wearing a Belt and Suspenders*", not too great when one fully accounts for the cost of carry.

In the chart below, the **-lime line-** is the ultra-distant Sw2yr rate ten years forward. The **-sky line-** is the more proximate Sw5yr rate five years forward. In both these cases, the shape of the curve, which defines the opportunity cost of carry, has pushed these forward rates to levels above their five year averages.

Lime - Sw2yr ten years forward
 Sky - Sw5yr five years forward



So for the shorts to “win”, net of carry, the overall rate surface needs to eventually rise above the 5.5% level. If we ever realize the inflation built into the FEDs bloated balance sheet, 5.5% does not seem too high. Nonetheless, this is a breakeven level, not a “winning” rate. As such, all the rates below 5.5% would be winners for the longs. Since the market has already priced in a significant rate rise over the medium term, the risk of being long has been greatly reduced. When someone who has “pain exposure” to lower rates figures this out, the market will be no bullets left to defend the current Rate structure.

Blue - US Sw20yr ten years Forward
 Red - EU Sw20yr ten years Forward
 Green - UK Sw20yr ten years Forward



Looking globally does not help the "Bear's case" either. The **blue line** above is the US 20yr rate ten years forward. The **red line** and the **green line** is the same for the Euro and the Gilt markets, respectively.

Not only are all three rates near their recent averages, but the spread of the USD rate vs. the EUR rate at 122bps is nearing its decade maximum of 131bps. It is not too hard to imagine a European based long liability manager writing a substantial "buy ticket" to immunize their entire book of business.

If I had to pin this story on to a single concept, it might be: If rates cannot go higher, then they must go lower, or at least beat forwards. The chart below may be the most compelling. Here, the **olive line** is the spread between the cash Tsy 10yr rate and the Fed Funds rate. Notice that the 60 year high is about 395bps. With a current 12bps Fed Funds rate, we are quickly approaching that level. So unless we believe the market can make new all time steps or the FED decides to hike rates at the next meeting, the downside on the cash 10yr is limited to about 4.05%.

Tsy10yr minus Fed Funds rate



Let's synthesize our facts:

- 1) Both the level of Implied Volatility and the absolute slope of Fed Funds vs. T10yrs insist that the next "big move" will be a flattener;
- 2) The recent change in the supply::demand function in the options market indicates a desire to own OTM calls;
- 3) Distant USD forward rates are at least fair, and probably cheap;
- 4) USD forwards are certainly cheap to EUR and maybe BP;
- 5) Although not detailed, MBS servicers have significant exposure to a flattener via their "hedge accounting" valuation models.

Toss into the mix the fact that the GSE retained investment portfolio (RIP) could be taken onto the US Government's balance sheet at any time. Recall from a previous discussion that the GSE's spend upwards of \$40bn a year hedging both their rate and convexity risks. A Government take over would not only save taxpayers a massive sum, but to execute this notion, the GSEs would need to unwind all of their duration hedges. That means they would need to receive hundreds of billions of long dated swaps. The real event risk the GSEs pose for the markets is not a "sell" ticket, but rather it is a massive "buy" ticket !

How could this play out ?

Over the next few months, the CIO of some huge long liability entity is going to wake up and kiss himself that he dodged two bullets. First, he did not buy 30 year Treasuries at 2.50% in the Capital/Accounting panic of late 2008. Second, he did not flush out his entire equity portfolio at the bottom in March of 2009. So now Rates are 200bps higher and Stocks are 60% above the lows.

He thinks to himself: "Hhhmmmm.....I can eliminate all my risk and finally catch a few Zzz's."

He does this: *Buy 20 billion 5y into 20yr 4.00% receiver*
 Sell 20 billion 5y into 20yr 7.00% payer

All for zero cost.

Sound crazy.....well it is not. An almost identical situation occurred a little less than ten years ago. How did the market react ? Just check out the Derivative headlines for late 2004, it was not a pretty sight for some Wall Street dealers.

Simple advice: Do not be short long-dated OTM receivers and have a tight stop on your long Curve trades.

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