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North America

Hunting for a Tail Risk Away from EM

And finding one – *inflation*

- **The Problem is that Perception = Reality:** Inflation has been subdued despite QE, and virtually no one expects this to change anytime soon. We don't disagree, but what troubles us is how dismissive investors are about the *potential* for any inflation. What if perceptions evolve?

- **What Does Higher Inflation Usually Mean for Credit?** Over the past few decades credit spreads and inflation have tended to be negatively correlated – inflation rises, spreads tighten, and vice versa.

- **But This Time Could Be Different:** That said, credit spreads may be vulnerable at this stage for two key reasons: (1) complacent investors, and (2) much larger than normal exposure to potential mutual fund outflows.

- **At Least Inflation Protection is Free!** Protecting against inflation risk can be incredibly affordable (whether or not one agrees with our "inflation is a risk" theory). For example, CDS for select issuers has been far more resilient to rising rates than their cash counterparts (after adjusting for duration differences), and can provide meaningful spread pickups as well.

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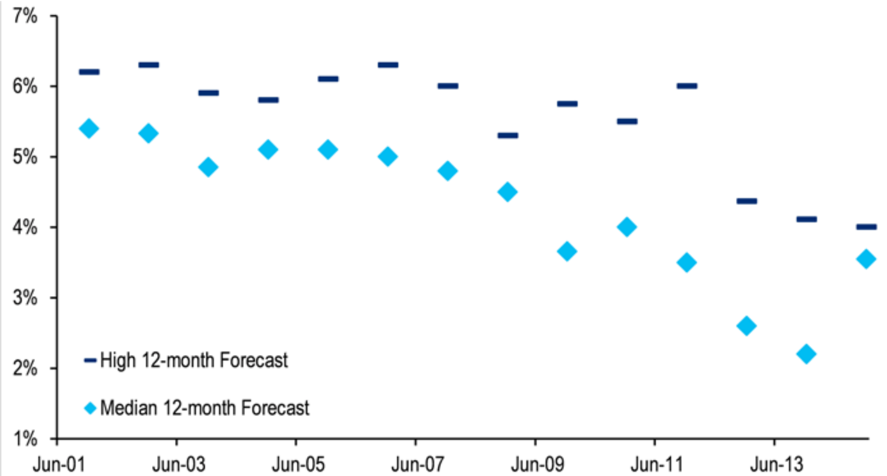
Figure 1. The difference between the highest and the median forecasts for the 10-year Treasury yield has never been smaller! No room for a surprise on the upside…



Source: Citi Research

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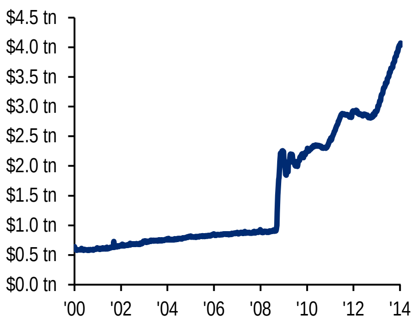
Hunting for a Tail Risk Away from EM

And finding one — *inflation*

The only two concerns that most investors seem to have at this stage are emerging markets and, to a lesser extent, full valuations. These concerns are justified, in our view. But our sense is that most see these factors as a reason to take profits after the December rally rather than a reason to get short (i.e., they are not tail risks). In fact, we would argue that most investors aren't worried about tail risk at all — defaults are tomorrow's problem, EM challenges will be contained, activism is a case-by-case challenge, etc.

Figure 2. Asset side of the Fed's balance sheet, 2000-current



Source: Citi Research, Bloomberg

Said differently, people seem complacent. It's worth noting that we are not terribly worried about all that much (away from EM) either, at least in the near-term. But that said, we do believe that some "just-in-case" hedges makes sense because they are incredibly affordable at this juncture.

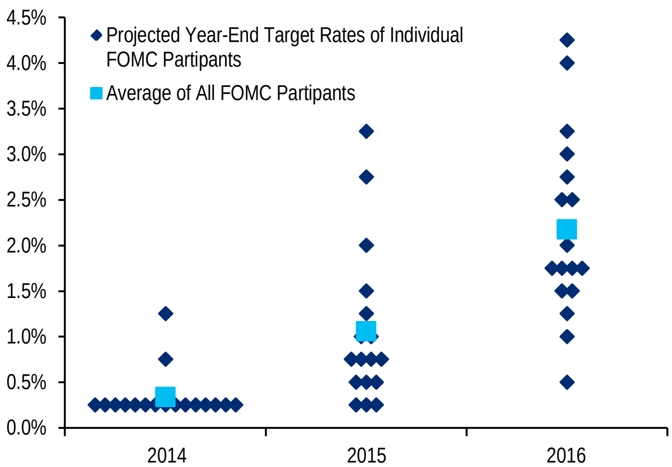
In this article we focus on inflation as a potential tail risk (a very non-consensus view!). We begin with a quick overview on how inflation could become a challenge in the period ahead. We then describe the normal relationship between spreads and inflation (higher inflation, tighter spreads), followed by why we may see the opposite relationship this time (higher inflation, wider spreads). Lastly, we highlight a "free" hedge to protect against a potential inflation-induced setback.

To be perfectly clear before we begin, the goal of this article is not to make the case that inflation will rise per se, but rather that because perception dictates reality it could become a problem for investors going forward.

1. The problem: perception = reality

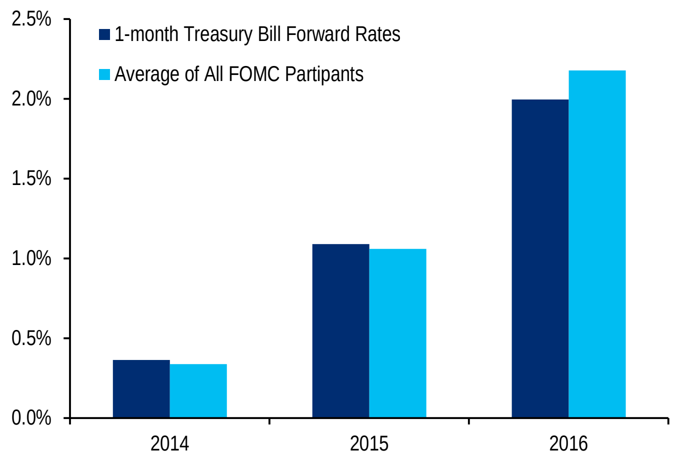
We all know that while QE has pushed an extraordinary amount of money into the system (Figure 2) inflation has nonetheless been very subdued, and most don't expect this backdrop to change anytime soon. According to Bloomberg the consensus is for CPI to remain around 2.0% this year and next.

Figure 3. FOMC participant expectations for the funds rate



Source: Citi Research, Federal Reserve
Note: Survey as of December 2013

Figure 4. One-month Treasury bill forward vs. average FOMC participant expectation — no cushion at all!



Source: Citi Research, Federal Reserve
Note: Forward Rates as of January 31, 2013, survey as of December 2013

We have no reason to believe that this view is wrong, but what gives us pause is how little margin of error there seems to be across the bond markets. For example, in Figure 3 we present FOMC participants forecasts for the funds rate in the coming years. On average a funds rate of 1.06% is expected by the end of next year, and 2.18% in ’16.

But **these expectations are close to if not higher than what the forwards are pricing in.** For example, if we use the 1-month Bill as a proxy for the expected funds rate we see that the difference between the market’s and the average FOMC participant’s expectation is only 3 bp in ’15 (1.09% vs. 1.06%); in ’16 the forward rate is below the average FOMC participant’s view (2.0% vs. 2.18%, Figure 4).

And if we look at expectations for the 10-year we come to a similar conclusion (i.e., no room for error). Figure 1 (cover page) shows the difference between the median Street forecast at year-end and the high forecast. The difference between the two has never been smaller (45 bp currently vs. an average of 135 bp).

So to the extent that rates and inflation are linked, there is little, if any, cushion in at least some valuations. Why not, especially after last spring’s Fed-induced setback? We are transitioning to new Fed leadership, and perhaps a communication breakdown between the Fed and investors could occur again. There have been pockets of inflation (e.g. housing), and with economic headwinds waning why couldn’t investors consider more broad-based price pressures to be possible?

Bottom line: we are not saying that there will be inflation, but we do wonder how vulnerable the markets might be if perceptions evolve.

2. What does higher inflation usually mean for credit?

Historically, credit spreads and inflation have tended to exhibit a negative correlation — inflation picks up and spreads tighten, and vice versa; note that the correlation since ’91 is -34%. Intuitively, this makes sense. Funding costs for the typical company will probably rise in an inflationary environment, but if the company has a positive profit margin the entire cost increase doesn’t have to be passed on to boost profits (Figure 5). In addition, spreads tend to tighten when Treasury yields rise, something we could expect if inflation concerns crop up.

Figure 5. Profit change assuming 2% increase in inflation for a hypothetical company

	2% Increase in Inflation		
	Pre-Inflation	Post-Inflation	Change
Revenue	1,000	1,020	+20
Cost	800	816	+16
Profit	200	204	+4

Source: Citi Research

Figure 6. Typically credit spreads tighten in periods of rising inflation and meaningfully higher Treasury yields

Period	10Y Treasury Yield Change	Core CPI Change	HG Spread Change	HY Spread Change
May '83 to Jul '84	+3.57%	+0.80%	-47 bp	—
Dec '86 to Oct '87	+2.45%	+0.50%	-79 bp	—
Mar '88 to Mar '89	+1.15%	+0.50%	-38 bp	—
Aug '89 to May '90	+1.22%	+0.20%	-20 bp	+132 bp
Jun '03 to Jun '04	+1.28%	+0.10%	-32 bp	-228 bp
Jul '05 to Jul '06	+1.22%	+0.60%	-7 bp	-43 bp
Sep '10 to Apr '11	+1.00%	+0.30%	-39 bp	-207 bp
Average	+1.69%	+0.38%	-37 bp	-87 bp

Source: Citi Research, Bloomberg
Note: All months are month-beginning

To illustrate in more detail, we looked at periods over the past 30 years when core CPI rose and the 10-year Treasury increased meaningfully (1% or more) over a fairly short period of time. We found seven such periods. On average high grade spreads tightened 37 bp during these periods and high-yield spreads tightened 87 bp (Figure 6). In fact, there is not a single period in which spreads did not tighten in high-grade, and there was only one time in high-yield.

3. But this time may be different

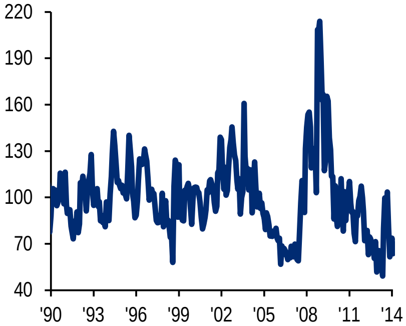
While credit spreads typically haven't been vulnerable, they may be at this stage. There are two key reasons:

- **Subdued implied volatility:** Again, investors seem complacent not only about inflation risk but risk in general. For example, the MOVE index is once again hovering near multi-year lows (Figure 7). Rising volatility isn't usually good for valuations.

- **Heightened mutual fund exposure:** Mutual funds make up a much larger part of the market today than they have in years past, and as a result the market may be more susceptible than usual to outflows.

To put these vulnerabilities into the historical context introduced above, note that on average the MOVE index was at 100.2 at the beginning of the seven periods and mutual fund holdings as a percent of the overall corporate market averaged 5%. Now the levels are 64.6 and 15%, respectively (Figure 8). A big, big difference, in our view.

Figure 7. MOVE index hovering near the multi-year lows



Source: Citi Research, Bloomberg
Note: As of January 24, 2013

Figure 8. Typically we have seen credit spreads tighten in periods of rising inflation and meaningfully higher Treasury yields

Period	10Y Treasury Yield Change	Core CPI Change	MOVE Index*	Corps Held by MFs as % of Market*
May '83 to Jul '84	+3.57%	+0.80%	—	1.8%
Dec '86 to Oct '87	+2.45%	+0.50%	—	3.5%
Mar '88 to Mar '89	+1.15%	+0.50%	—	3.6%
Aug '89 to May '90	+1.22%	+0.20%	121.5	3.4%
Jun '03 to Jun '04	+1.28%	+0.10%	99.8	7.2%
Jul '05 to Jul '06	+1.22%	+0.60%	75.6	7.4%
Sep '10 to Apr '11	+1.00%	+0.30%	103.7	10.3%
Average	+1.69%	+0.38%	100.2	5.3%
Current	—	—	64.6	14.8%

Source: Citi Research, Bloomberg
*levels at the beginning of the period
Note: All months are month-beginning

4. At least inflation protection is free!

To be perfectly honest, whether or not one agrees with our "inflation is a risk" theory is almost a moot point. The reason is simply because protecting against this potential challenge can be incredibly affordable! If inflation concerns do not pick up, no problem. If they do, the just-in-case position can really protect performance.

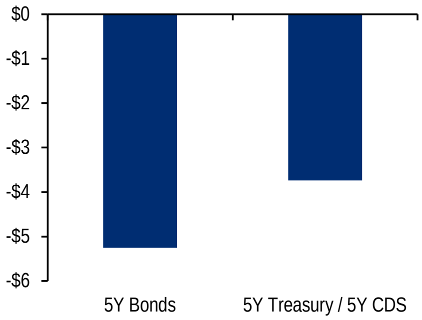
For example, consider CDS for select issuers relative to short-tenor bonds for the same issuers. In Figure 10 we present ADD and REDUCE candidates in both the high-grade and high-yield markets. CDS for all highlighted names exhibit three key characteristics:

1. **Attractive spread pickup:** HG 5-year CDS for each issuer trades wide to the comparable cash bond (on average 125 bp vs. 76 bp), and in HY the average spread pick is 25 bp (318 bp vs. 293 bp).

2. **Lower sensitivity to rising rates:** CDS for each name outperformed their cash counterparts when rates spiked last spring. In HG the average cash bond fell $5.3 last May/June while average CDS was down $0.5. Even after adjusting for interest rate duration differences (long 5-year Treasury / long CDS), CDS position outperformed meaningfully (-$3.7 vs. -$5.3, Figure 9). The story is similar for the HY names.

3. **Opportunity to add on weakness:** Lastly, CDS has lagged cash performance since last summer. The average high-grade cash bond tightened 64 bp relative to 17 bp for CDS. In HY cash bonds tightened 83 bp since last summer, versus 49 bp for CDS.

Figure 9. A long 5-year Treasury / long CDS basket outperformed cash counterparts when rates backed up last May



Source: Citi Research
Note: From May 1 to July 1, 2013; based on a sample of credits in index

Figure 10. To protect against rate risk add exposure to select names via CDS

	Current Spread		Price Change During Last Rate Back Up (May 1 to Jul 1, 2013)		Recent Spread Change (Jul 1, 2013 to Current)	
Issuer	Cash	CDS	Cash	CDS	Cash	CDS
HIGH-GRADE						
Ameren Corp	72 bp	145 bp	-$2.4	$0.2	-26 bp	-10 bp
American Tower	116 bp	164 bp	-$5.0	$0.4	-58 bp	-10 bp
Barrick Gold Corp	166 bp	185 bp	-$17.0	-$7.0	-248 bp	-145 bp
Entergy Corp	106 bp	122 bp	-$5.2	-$0.2	-39 bp	-25 bp
Exelon Corp	29 bp	81 bp	-$4.9	-$0.5	-28 bp	+15 bp
Ford Motor Credit	97 bp	120 bp	-$5.7	-$1.0	-116 bp	-42 bp
Kohl's Corp	67 bp	164 bp	-$1.6	$1.6	-62 bp	+24 bp
National Oilwell Varco	30 bp	73 bp	-$3.4	-$0.1	-22 bp	-5 bp
Occidental Petroleum	30 bp	61 bp	-$4.1	-$1.0	-28 bp	-18 bp
Rio Tinto Alcan	75 bp	99 bp	-$8.5	-$1.0	-62 bp	-13 bp
Staples Inc	96 bp	218 bp	-$1.9	$2.6	-41 bp	+44 bp
Toyota Motor Credit	27 bp	69 bp	-$3.6	-$0.1	-36 bp	-12 bp
Average	76 bp	125 bp	-$5.3	-$0.5	-64 bp	-17 bp

4.

Issuer	Current Spread		Price Change During Last Rate Back Up (May 1 to Jul 1, 2013)		Recent Spread Change (Jul 1, 2013 to Current)	
	Cash	CDS	Cash	CDS	Cash	CDS
HIGH-YIELD						
CoreLogic	359 bp	381 bp	-$4.3	$0.9	-55 bp	+10 bp
Gen Motors Fin	159 bp	164 bp	-$2.4	-$1.3	-88 bp	-77 bp
Peabody Energy	319 bp	335 bp	-$8.2	-$5.3	-133 bp	-133 bp
Sinclair Television Group	336 bp	393 bp	-$3.4	$1.2	-56 bp	+6 bp
Average	293 bp	318 bp	-$4.6	-$1.1	-83 bp	-49 bp

Source: Citi Research
Note: Current as of January 27, 2014; cash bonds are MV weighted average of near 5-year issues

Summary

Most of investors with whom we speak seem to place a 100% likelihood on inflation continuing to be well behaved. But what if, for whatever reason, this probability edges lower…95%? 90%? This is our concern.

While upticks in inflation and rates haven't been bad for credit spreads in recent decades, we believe the market could be more vulnerable than usual at this stage. One reason is simply due to investor complacency. Another reason is that mutual funds and ETFs have become such a large part of the market that spreads may be far more susceptible to inflation-induced outflows.

If one is worried about inflation fears cropping up (or for that matter even if one isn't) just-in-case hedges can be quite affordable. CDS for select issuers has been far more resilient to rising rates than cash counterparts (even after adjusting for interest rate duration differences) and can provide meaningful spread pickups.

Appendix A-1

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