

## Generate Carry, but Protect Yourself

### USE OPTION LADDERS TO GENERATE HEDGES WITH POSITIVE CARRY

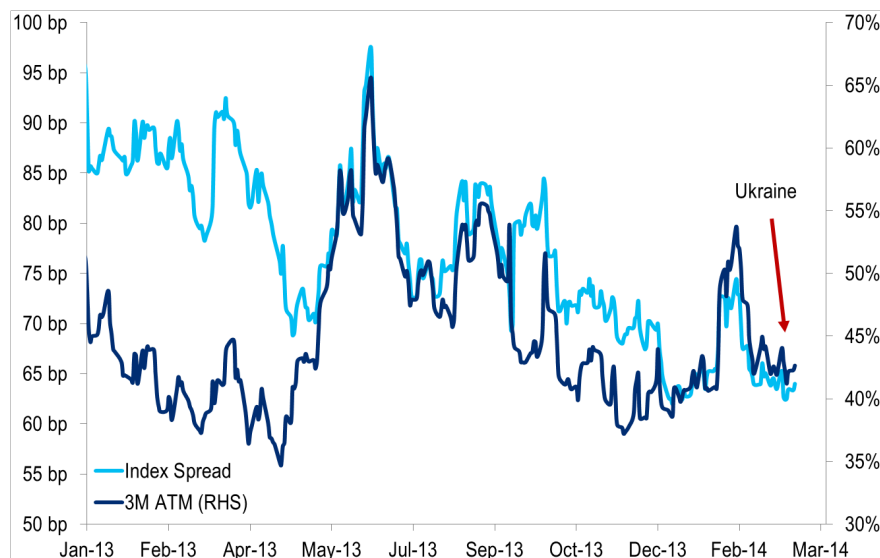
#### Summary

We describe two positive carry trades that also provide downside protection. The first trade has exposure to downside risk if spreads were to widen significantly, but provides positive carry for a tightening scenario. The second trade has downside risk if spreads tighten beyond a threshold but has unlimited upside if spreads widen. We believe the lack of market reaction to recent events is likely to continue for the short to medium term, and such positive carry trades that can also act as a hedge are appropriate for this kind of environment.

#### Will nothing rid the market of its complacency?

“Yawn”. That was the sum total of the market’s reaction to the events unfolding in Ukraine over the past week and a half. Yes, there was a brief 1.75bp widening in CDX IG spreads (0.5pt fall in CDX HY), but that lasted for all of one day before getting reversed completely (see Fig 1). Credit option markets also followed suit, with a very brief upward move (2-5 volatility points), before resuming the usual downward trajectory. In short, nothing has really changed in credit markets, despite increased geopolitical risks.

**Fig 1. Markets barely reacted to the Ukrainian events – CDX IG spreads and volatility moved little and reversed those small moves almost immediately.**



Source: Markit, Citi Research

Why are markets failing to react? There could be many reasons, the foremost of

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which is the relentless influx of cash into credit assets as a result of easy money policies from central banks. In fact, our IG credit strategists believe (see [US Credit Weekly: Everything is awesome](#)) that this is why credit investors are reluctant to cut risk, reflecting the difficulty in getting risk back on, especially in cash assets.

Given the dynamics in the cash markets, synthetic credit assets are to some extent bearing the brunt of market moves in response to global events (see Fig 2). However, with the cash markets acting as a rock-solid anchor, these moves are also muted. Going forward, we expect the status quo not to change by much in the short to medium term, even in synthetic credit markets. There could be bouts of short-lived volatility spikes, but in the absence of a definitive market catalyst, the effects are unlikely to be permanent.

**Fig 2. Less volatile cash spreads, which are also tighter relative to historical levels indicate the difficulty of sourcing risk in cash credit markets – to some extent this has been acting as an anchor for the more volatile synthetic market.**



Source: Markit, Yieldbook, Citi Research

In some sense, investors find themselves in a dilemma. They are reluctantly bullish despite the tight spread levels, given the fear of underperforming if they cut risk and are unable to get it back. At the same time, absent any certainty around the timing of a catalyst that would re-price risk, it is difficult to construct efficient shorts that will not eat away a significant portion of the already meager returns.

So what should an investor do till something shakes the market out of its current torpor? We consider two different strategies, both of which have been constructed to satisfy the following criteria: first, the strategy must generate positive carry if markets remain close to current levels. Second, the strategy must provide protection if spreads were to widen, which is our base case given the considerably tight levels in credit spreads. In short, we would like to generate carry, but in a way that would provide downside protection.

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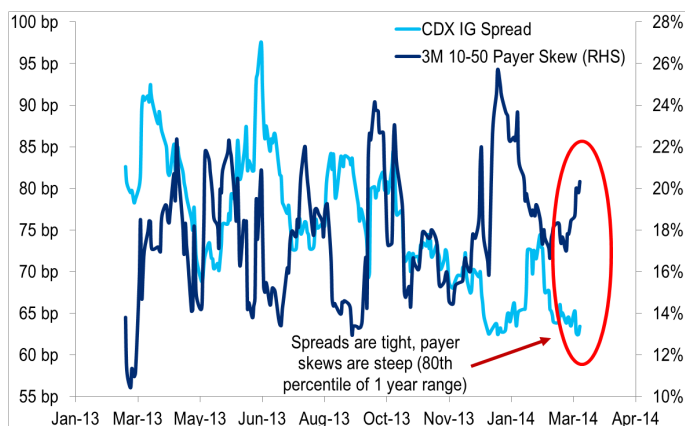
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## Strategy #1: IG Payer ladder

Payer ladders allow investors to put on zero-cost hedges while taking downside risk if spreads widen beyond a certain limit. We leverage the current steep payer skews (see Fig 3) in CDX IG and construct our strategy such that the trade has a negative upfront cost for the investor. This translates into a positive carry if markets do not move appreciably from current levels.

**Fig 3. CDX IG spreads are close to post crisis tights, but 3M payer skews are steep right now, at the 80<sup>th</sup> percentile of the 1 year range.**

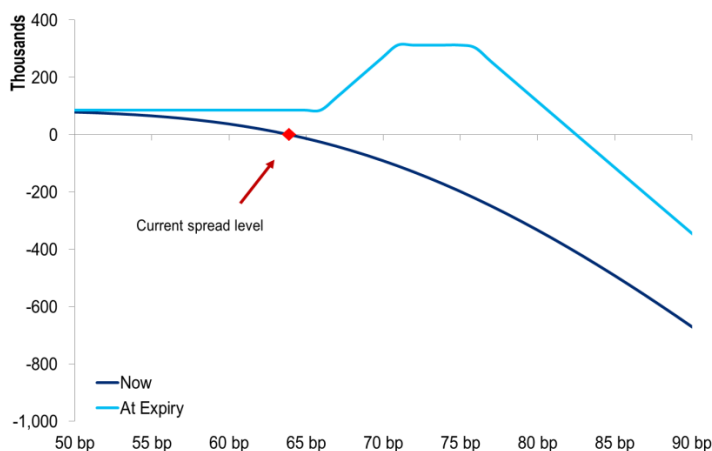


Source: Markit, Citi Research

The projected performance of the trade is shown in Fig 4, and the details are in Fig 5. The trade retains its upside (from positive carry) if spreads were to tighten from current levels. This is a non-negligible risk for the current index, given the upcoming roll (more on that in the next section).

The trade provides upside if spreads were to widen modestly from current levels all the way up to 72bp. The tradeoff here is that the investor gives up any further gains if spreads were to widen beyond 72bp and is exposed to unlimited downside risk if spreads widen beyond 82.5bp, a move of 18.5bp from current levels.

**Fig 4. Projected payer ladder trade performance – note the positive carry on the trade upon expiry if the options were to expire worthless.**



Source: Markit, Citi Research.

We believe that a widening of 18.5bp is a fairly significant 3 month move for CDX IG – based on the probability distribution of realized 3 month moves going back to 2011, we estimate a probability of 11% for such a move under current conditions. The last time we saw a 3 month move of this magnitude was during the summer of 2012, when the European crisis was raging.

**Fig 5. Trade details, prices/spreads as of EOD 11-Mar-2014, spot = 64bp. Click [here](#) for the trade model.**

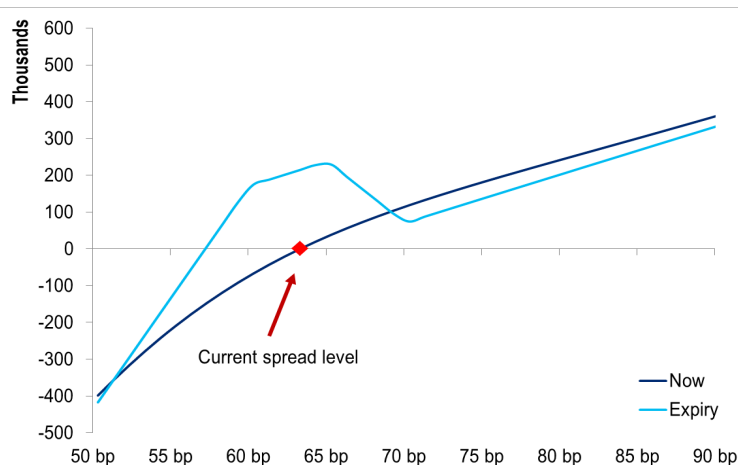
Trade	Index	Strike	Expiry	Notional	Vol	Price	Upfront	Delta	Gamma	Theta	Vega
Buy Payer	IG21	65	18-Jun-14	100MM	41.35%	29.46c	-294,619	27,218	1,254	-2,515	5,343
Sell Payer	IG21	70	18-Jun-14	100MM	44.56%	21.67c	216,699	-21,546	-1,208	2,341	-5,487
Sell Payer	IG21	75	18-Jun-14	100MM	47.95%	16.37c	163,718	-17,021	-1,078	2,135	-5,250
Net							85,798	-11,349	-1,031	1,961	-5,393

Calculations do not include fees and other transaction costs.  
Source: Markit, Citi Research

## Strategy #2: IG receiver ladder + short index

Our second strategy is a little different in the sense that it is more strongly geared towards a view of spread widening. The trade combines a receiver ladder with a short index position to generate a payoff profile that has positive net carry under standard roll down scenarios.

**Fig 6. Projected payer ladder trade performance – note the positive carry on the trade upon expiry if spreads do not move a lot.**



Source: Markit, Citi Research

The performance profile is shown in Fig 6, and the trade details are in Fig 7. This trade provides unlimited upside in spread widening scenarios with positive carry if spreads were to roll down the curve. The tradeoff here is an unlimited down side if spreads were to tighten below 57bp.

There are two factors that are worth considering in this context. First, we are currently trading very close to post-crisis tightness in IG spreads – a move tighter of this magnitude will require some kind of positive catalyst in the short to medium term that is hard to anticipate. Indeed, the on-the-run IG spread seems to have found a floor at 60bp (see Fig 2) and we do not anticipate that dynamic to change.

**Fig 7. Trade details, prices/spreads as of EOD 10-Mar-2014, spot = 63bp. Click [here](#) for the trade model.**

Trade	Index	Strike/Spot	Expiry	Notional	Vol	Price	Upfront	Delta	Gamma	Theta	Vega
Buy Recv	IG21	70	18-Jun-14	10MM	44.56%	34.85c	-348,513	-24,513	1,267	-364	5,730
Sell Recv	IG21	65	18-Jun-14	100MM	41.55%	21.19c	211,852	18,694	-1,299	484	-5,542
Sell Recv	IG21	60	18-Jun-14	100MM	38.25%	10.61c	106,060	12,174	-1,171	486	-4,687
Buy Prot	IG21	63		30MM		101.69c	506,081	14,115			-565
Net							475,481	20,470	-1,204	42	-4,498

Calculations do not include fees and other transaction costs.

Source: Markit, Citi Research

The second factor is the upcoming roll – as the current on-the-run IG21 index goes off-the-run, there is some possibility that the IG21 index will breach the 57bp level. One alternative for investors who are concerned about this possibility is to wait until the roll and put on a similar trade using the IG22 index – of course, that would mean doing the trade with somewhat different strikes.

As-is, the trade needs a 6bp move over the next 3 months in IG21 to breach the 57bp level – the issue here is that the tighter the spread level is, the lower are the chances for such a move. We look at the realized distribution of 3 month spread moves when the spread level was below the current 63bp. This gives us a probability of 23% for such a move – or a less than 1 in 4 likelihood of losing money.

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When buying calls and puts (or receivers and payers) the maximum loss is the premium paid. When selling calls (or receivers), the maximum potential loss would occur as the index spread decreases but is limited by the index spread being floored at zero. For puts (or payers), the maximum potential loss (amount below the strike) would eventuate should the index price fall to zero. Sector index options are cash settled. The above calculations do not include any additional fees or transaction costs. Note that ratio writing would leave the writer uncovered in one leg of the trade.

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