Dissecting the IG Index Arb

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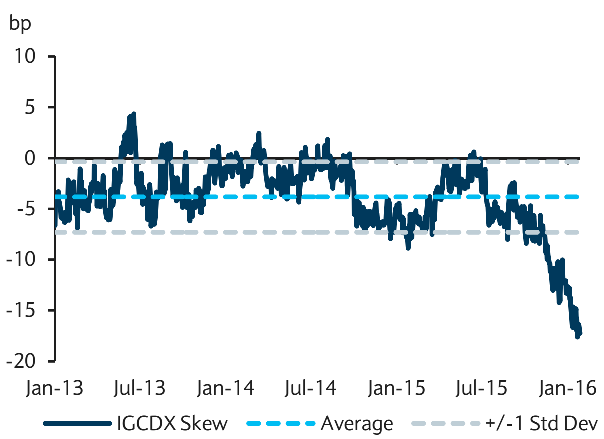
With the recent pickup in volatility, one area of the credit market that is likely to present an increasing number of opportunities is IGCDX index arbitrage (or, more accurately, reverse arbitrage). We discuss the reasons these opportunities exist and then review the mechanics of the arb, including execution, margin, and clearing. We also contrast index arb trading with CDS-cash basis trading.

Understanding the Index Skew

As credit markets have sold off over the past couple of months, one notable development has been the richening of IGCDX versus its underlying intrinsic (NAV) value (Figure 1). This difference between the traded value of the index and its intrinsic value is commonly referred to as the "skew." While IGCDX has historically traded rich to intrinsic (about 90% of the time since 2013), the current richness of the skew (-17bp) is nearly four standard deviations below the average since 2013. In the past, differences in supply/demand dynamics between the index and its underlying constituents largely explained the divergence. With the index serving as a popular long instrument because of its appeal as a diversified investment grade portfolio, investor demand to get long (ie, sell protection) would generally keep the index modestly tight to its intrinsic value. This demand to sell protection on the index is perhaps best illustrated by positioning data from DTCC, which shows that non-dealers (clients) have been persistently long IGCDX (Figure 2).

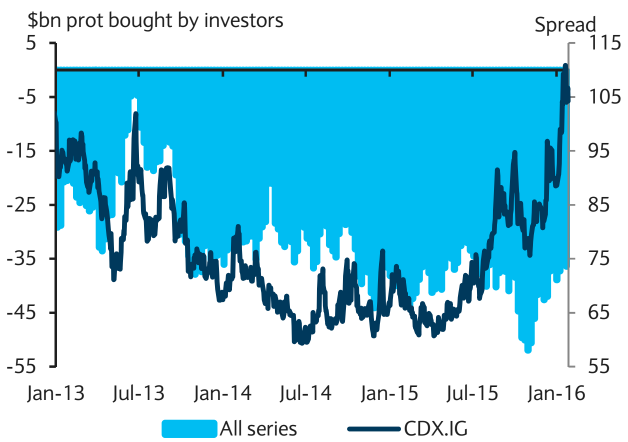
While the appeal of IGCDX as a liquid, diversified investment grade product is still relevant today, one thing has changed and is affecting the skew. Currently, there is a real bid to hedge or short risk at a single-name level in the energy and metals sectors, which is keeping spreads on those credits wide. It is these credits that are keeping intrinsic so wide versus the traded index. One way to illustrate the effect of these credits on intrinsic is to compare the index today with the index in a prior period (November 8, 2012) when it traded at a similar level. Figure 3 calculates the effect of the 10 widest credits on the intrinsic spread in both periods. On November 8, 2012, the 10 widest credits accounted for only 18% of the intrinsic spread, whereas today they account for 36%. Notably, the remaining 115 credits were trading at 85.7bp in the prior period, whereas today they trade at 76.9bp, or approximately 9bp tighter. We believe this demonstrates the effect that the widest trading credits are having on intrinsic.

FIGURE 1
IGCDX Skew (Traded Spread – Intrinsic Spread)



Source: Barclays Research

FIGURE 2
Client Positioning in IGCDX



Source: DTCC, Barclays Research

FIGURE 3

Assessing the Effect of the 10 Widest Credits on Intrinsic

	8-Nov-12	26-Jan-16
Traded Index Spread	104.6bp	104.2bp
Intrinsic Spread	104.3bp	121.0bp
Intrinsic ex-10 Widest Credits	85.7bp	76.9bp
10 Widest Credits*	18.6bp	44.1bp
10 Widest as % of Intrinsic	18%	36%

Note: * Indicates the contribution of the 10 widest credits in the index to the index intrinsic value. Source: Barclays Research

FIGURE 4

Examining the Drivers of Skew Tightening: January-June 2015

	26-Jan-15	29-Jun-15	Change
Traded Index Spread	65.9bp	71.1bp	+5.3bp
Intrinsic Spread	74.8bp	69.0bp	-5.8bp
Skew	-8.9bp	2.1bp	+11.0bp
Intrinsic ex-10 Widest	48.6bp	48.6bp	0.0bp
10 Widest Credits*	26.2bp	20.4bp	-5.8bp

Note: * Indicates the contribution of the 10 widest credits in the index to the index intrinsic value. Source: Barclays Research

Catalyst for Skew Tightening

It stands to reason that since the widest credits have helped drive the skew wider, they also have the ability to drive it tighter. We can test this theory by examining the last time the skew tightened meaningfully, in the first half of 2015. Figure 4 compares the change in traded value, intrinsic value, and skew for IG23 from January 26, 2015, to June 29, 2015. During this period, the skew tightened 11bp, with half of the tightening coming from a widening in the traded index and the other half from a tightening in intrinsic. Interestingly, the tightening in intrinsic was driven entirely by the 10 widest credits, as the other 115 credits were collectively unchanged. This leads us to conclude that a high-beta rally similar to the one in the first half of 2015 could be a catalyst for skew tightening. While we are not particularly bullish on the widest-trading credits, we can envision a scenario in which a stabilization of commodity prices leads to a short-term rally.

The Mechanics of Reverse Arbitrage

When the skew is sufficiently rich, there tends to be what is referred to as reverse arbitrage activity in the index. This is when an investor buys protection on the index and simultaneously sells protection on each underlying index constituent at a ratio of 1/125 of the index notional. In order to have both legs of the trade represent identical risk, the single-name trades are matched to the coupon and maturity of the index.

In theory, since both legs are equivalent from a risk perspective, they should trade at the same price. But because of the technical factors discussed previously, the values can deviate, which creates an opportunity for investors to profit from the skew. The trade can either be held to maturity or be unwound if the skew tightens. The primary risk from a P&L perspective is if the skew widens further. But this would represent only a mark-to-market loss, as the profit from the skew is effectively locked in if the trade can be held to maturity. This risk is obviously not trivial, since most trades will be of significant size in order to capture enough P&L.

In addition to the level of the skew, there are several factors to consider when evaluating opportunities to trade the arb:

Transaction Costs

Based on anecdotal evidence, the bid-ask for trading the IG index arb tends to range from 3 to 5bp.

Trade Size

Trade size will depend on how much single-name liquidity dealers can provide or source at any one time. Based on anecdotal evidence, $2-4mn per credit seems reasonable, which translates into a trade size of $250-500mn per leg. It could be possible to execute larger trades if dealers are able to provide greater single-name liquidity.

Trade Execution

For simplicity, the trade can be executed as a package using a netted fees approach in which no fees (points upfront) are exchanged for the single names and the fees are netted on the index leg. For those that intend to manage the trade as a package, this option makes the most sense and is operationally the easiest to implement. It is also possible to send bid lists to multiple dealers to request bids on the single names, but this approach is more involved and incurs execution risk if the entire list does not print.

Clearing

For US persons and affiliates (ie, those subject to mandatory clearing under CFTC regulations), the index leg will have to be cleared, so it makes sense to clear the single names as well in order to benefit from portfolio margining. Currently at ICE, 122 of the 125 index constituents are clearing eligible (with Best Buy Co., Inc., Assured Guaranty Municipal Corp, and General Motors Co (SNAC100) the exceptions). For offshore accounts, the trade can also be executed bilaterally with a dealer under an ISDA agreement.

Initial Margin

For trades that are cleared, actual margin rates will depend on the entire portfolio that is held at the clearinghouse, but initial margin of 50-100bp of the total trade notional (both index and single names) is a good rule of thumb based on anecdotal evidence. For trades executed bilaterally under an ISDA, the margin could be lower depending on whether the dealer collects margin on the total trade notional or only one leg of the notional.

Variation Margin

Additional capital could be required to cover mark-to-market losses if the skew widens further. On the other hand, variation margin could be received from the clearinghouse if the skew tightens (resulting in a mark-to-market gain).

A Note on the HY Arb

While we are focusing on the IG arb, the HY arb also trades from time to time. The typical trade size tends to be lower than IG, at $100-200mn. Bid-ask costs are also higher (50-125 cents), but when the skew is as rich as it is currently ($2.15), trading the HY arb can be attractive. Currently, by our count, 65 HY constituents are currently clearing eligible, and we expect this number to increase over time.

Working through an Example

Probably the best way to understand the potential P&L opportunity from trading the IG skew is to go through an example, for which we use the following levels and assumptions:

- **IGCDX Traded Spread:** 104bp
- **IGCDX Intrinsic Spread:** 121bp
- **Bid-Ask:** 5bp
- **Trade Size:** $125mn (each leg)
- **Trade Execution:** Netted fees
- **Cleared:** Yes
- **Initial Margin:** 100bp

With the IG skew at -17bp, and assuming bid-ask is 5bp (at the high end of the range), an investor who wants to buy the arb package can capture 12bp of the skew. In upfront terms, this translates to 55 cents, or $687,500 in actual cash flow based on the index notional ($125mn * 0.55%).

For the trade, we assumethat 100bp of initial margin will need to be posted (this is again at the high end of the range; the conservative assumption is meant to account for the fact that three of the index constituents will need to be traded bilaterally with a dealer). This means that the investor would need to post $2.5mn for the trade ($125mn * 2 * 100bp). As mentioned previously, it may be possible to post less margin if the trade is executed under an ISDA, but for this example, we assume that the trade will be cleared.

The upfront fee or points collected of $687,500 represents a 27.5% return relative to the initial margin posted. This will be the total return if the trade is held to maturity. The total return could be higher or lower depending on whether the trade is unwound prior to maturity. The potential return could also be higher if less margin is required to be posted.

Primary Risk to the Trade

The primary risk to the arb package, in our view, is mark-to-market risk. If the skew widens further, variation margin would need to be posted to account for the change in mark to market. Although both legs of the trade represent identical risk, the clearinghouse would need to account for any change in pricing between the two legs. As a result, the trade may not be appropriate for investors who cannot manage the potential mark-to-market changes resulting from a further widening of the skew. That said, we believe the current level of the IG skew represents an attractive low-risk opportunity to profit from the valuation difference between the traded index and its underlying constituents.

Comparing IG Arb with the CDS-Cash Basis

While trading the IG index skew remains an attractive arbitrage opportunity, another type of “arb” trade – trading the basis between CDS and cash – has become less common over the past several years. Although the spread between a cash bond and maturity-matched CDS with the same seniority and reference entity should represent an arbitrage-like opportunity, it has become less attractive for many investors because of funding constraints. Investors who choose to finance the purchase of the bond in a basis trade through repo (in order to take advantage of leverage) are assuming the risk of a funding mismatch, ie, using short-term repo funding to finance a long-term investment. This mismatch came to the forefront during the financial crisis, but remains an issue today, especially as banks have reduced the availability of repo financing because of new regulations (see *The Decline in Financial Market Liquidity*). It is this funding mismatch that could prevent investors from realizing the spread between CDS and cash, especially if funding conditions tighten and the trade is forced to be unwound.

That said, for investors who fully fund their bond purchases, are willing to hold the trade to maturity, and can withstand mark-to-market swings, negative basis trades could be attractive. But for investors who want to take advantage of the embedded leverage in CDS, trading the IG index arb appears attractive. We believe that the much better funding for index arb packages will prevent the index versus intrinsic relationship from materially disconnecting the way that the CDS- cash basis has over the past year.

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