

## A Case for Hedging with Credit ETFs

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Following a rather extended period of calm, trade headlines over the past two weeks have reintroduced volatility to the marketplace, with equity and credit markets selling off sharply. Risk assets have recovered somewhat over the past several days, but the escalation of trade tensions between the US and China comes at a time when year-to-date high yield returns of 7.96% have already exceeded many investors' return expectations from the start of the year. But with more than seven months remaining until 2019 comes to a close, we think this is an opportune time for high yield investors to consider hedges to protect this year's gains.

In last week's *high yield section*, we discussed the tendency of the most liquid segments of the market to underperform in sell-offs and outperform in rallies, and we think this dynamic supports the use-case for credit ETFs as hedges. The two largest high yield ETFs, HYG and JNK, are both benchmarked to liquid subsets of broader high yield indices. HYG is benchmarked to the iBoxx USD Liquid HY Index, which uses a minimum amount outstanding of \$400mn among other metrics as criteria for inclusion, while JNK is benchmarked to the Bloomberg Barclays US HY Very Liquid Index (VLI), which only includes bonds from the broader Bloomberg Barclays US High Yield Index ("the high yield index") that have at least \$500mn outstanding and were issued within the past five years. Approximately 84% of the iBoxx index is also included in the VLI.

Looking at the three distinct periods over the past five years when the high yield index widened by at least 100bp within a six-month period, we found that the credit ETFs sold off as much or more than the broader high yield index (Figure 1). Furthermore, looking at performance over the past month (as of May 15), ETFs have again underperformed the high yield index.

The use-case for credit ETFs was bolstered by their performance relative to CDX.HY in the first two periods in Figure 1. CDX.HY meaningfully outperformed (ie, sold off less) during those sell-offs, providing little protection for investors who chose to hedge with the derivatives index. At the time, CDX.HY had a significant underweight in terms of its energy exposure (4-5%), and we believe that this contributed to its relative outperformance versus cash. While the energy exposure of the index today (10%) is closer to that of the cash

FIGURE 1  
HYG and JNK Performance Has Been in Line with or Worse Than the High Yield Index in Recent Sell-offs

	Jun-Dec '14	Aug '15-Feb '16	Q4 2018	1mth Ending 5/15/19
HY Index	-5.54%	-9.81%	-4.53%	-0.52%
HYG	-6.28%	-9.81%	-4.41%	-0.89%
JNK	-7.82%	-12.46%	-4.99%	-0.85%
CDX.HY	-1.95%	-2.98%	-4.07%	-0.91%

FIGURE 2  
The CDX.HY-VLI Basis Widened Significantly in 4Q18



Source: Bloomberg, Bloomberg Barclays Indices, Barclays Research

Source: Bloomberg Barclays Indices, Barclays Research

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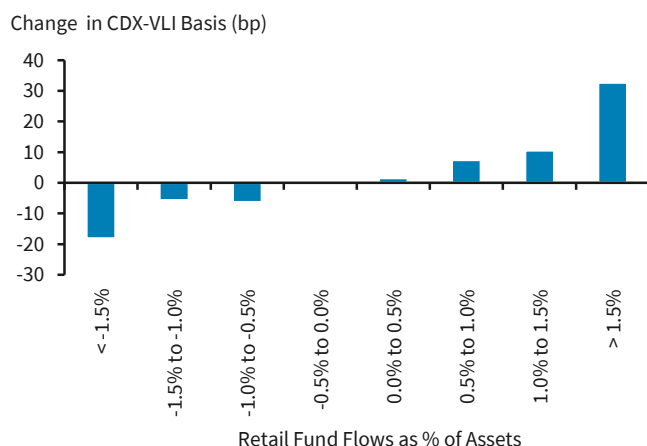
market (14%), there are other factors that continue to have the potential to drive tracking error between the derivatives index and the cash market, with the CDS-cash basis and interest rates being the two primary ones. We have found that the CDS-cash basis has tended to widen (ie, become more negative) during periods of significant weakness, and we think this dynamic has increased the attractiveness of hedging with credit ETFs. We saw this again in the fourth quarter of 2018 as the spread basis between CDX.HY and the VLI widened meaningfully (Figure 2).

Given that the credit ETFs are benchmarked to cash indices, they are more directly affected by changes in cash market technicals than CDX.HY, including funding conditions, fund flows, and cash market liquidity, and we believe that these factors can drive meaningful changes in the CDS-cash basis, particularly in periods of stress. In Figure 3, we calculate weekly changes in the CDX-VLI basis and bucket them by fund flows as a percentage of AUM over the past five years (Figure 3). On average, periods with strong outflows have been associated with the CDX-VLI basis becoming more negative (VLI underperforming), while periods with significant inflows have corresponded with the basis becoming less negative (VLI outperforming). For investors that are concerned about this year's inflows to high yield potentially reversing in a sell-off, the credit ETFs could be a more compelling hedge than CDX.HY.

Something else to consider is how the premium/discount to NAV might change for credit ETFs and CDX.HY in a sell-off. On a long-term basis (using the past five years of data), HYG, JNK, and CDX.HY have on average traded at a premium to NAV: HYG +25bp, JNK +19bp, CDX.HY +39bp (or -9bp in spread terms). We can compare these levels to the average premium/discount for each in the 4Q18 sell-off. As Figure 4 shows, the premium for the credit ETFs declined significantly relative to the long-term average, while the premium for CDX.HY actually increased. And in the most recent sell-off (measured from May 1 to May 13), the premiums for HYG and JNK again declined. We think that the tendency for the ETFs to cheapen in the most recent sell-offs should increase their attractiveness as potential hedges.

While the prior discussion has focused on the historical justification for hedging with credit ETFs, we think that current market conditions also support using credit ETFs over CDX.HY. First, looking back at Figure 2, while the CDX-VLI basis has widened in the most recent sell-off, it remains well off the widest levels from 4Q18. Therefore, we think there is scope for it

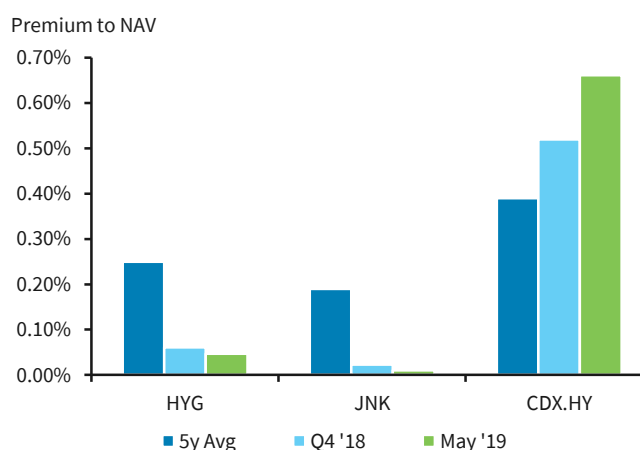
**FIGURE 3**  
CDX-VLI Basis Has Exhibited a Strong Relationship with Weekly Fund Flows



Note: Analysis based on the past five years.

Source: EPFR, Bloomberg Barclays Indices, Barclays Research

**FIGURE 4**  
The Premium to NAV Declined for Both HYG and JNK in Recent Sell-offs



Source: Bloomberg, Barclays Research

to widen further in a renewed bout of weakness. Second, with the market rallying over the past three days, the premium to NAV has actually increased for both JNK and HYG, to approximately 30bp as of the morning of May 16. We believe this creates a more attractive entry point for implementing hedges. Third, year-to-date inflows to high yield funds are still more than \$13bn, according to EPFR. We think a reversal of flows would more directly affect the ETFs based on our prior analysis of the relationship between fund flows and the CDX-VLI basis. Since the ETFs are benchmarked to the most liquid parts of the high yield bond market, they should be more susceptible to risk reduction in that part of the market.

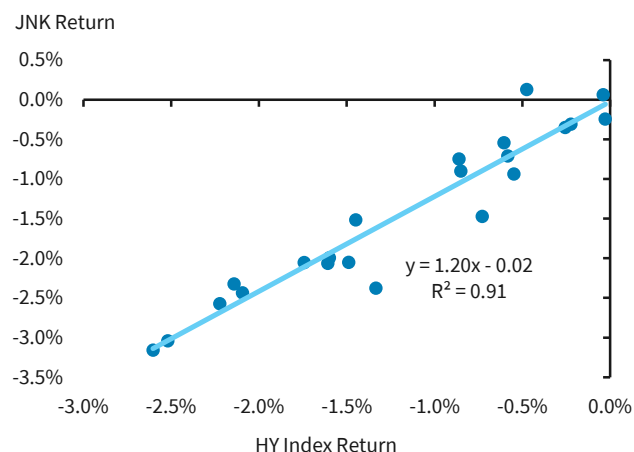
One consideration for investors is what they might be giving up by using the credit ETFs instead of CDX.HY. CDX remains the most liquid high yield portfolio product and does tend to respond to short-term market moves. Therefore, we believe it remains appropriate as a short-term market hedge. But for investors that are concerned about tracking error in a more prolonged selloff, we think the credit ETFs should be more effective.

In terms of implementing a hedge, the simplest thing would be to go short the ETF shares. Looking back at Figure 1, JNK has generally displayed more downside than HYG during the sell-offs in our sample. Furthermore, if we examine the relationship of JNK and HYG to the high yield index in months over the past five years when the index returns were negative, we find that JNK has displayed a higher beta to index returns than HYG (Figures 5 and 6). We think that this is likely due to compositional differences between the two. Looking at a breakdown of each ETF by rating, we find that JNK has a lower BB weighting than HYG (46.6% versus 51.6%) and a higher CCC weighting (13.1% versus 10.7%).

As a result, for investors looking to hedge by going short ETF shares, we have a slight preference for JNK because of its higher historical beta to the high yield index in past sell-offs. JNK recently underwent a reverse split, which should also increase its attractiveness as a hedging vehicle, as now fewer shares will be required to hedge the same exposure. One thing to be aware of, however, is that HYG is the more liquid of the two, averaging \$1.79bn in daily notional volume in 2019 versus \$0.55bn for JNK. Depending on the size of the hedge, HYG's greater liquidity could outweigh JNK's higher beta.

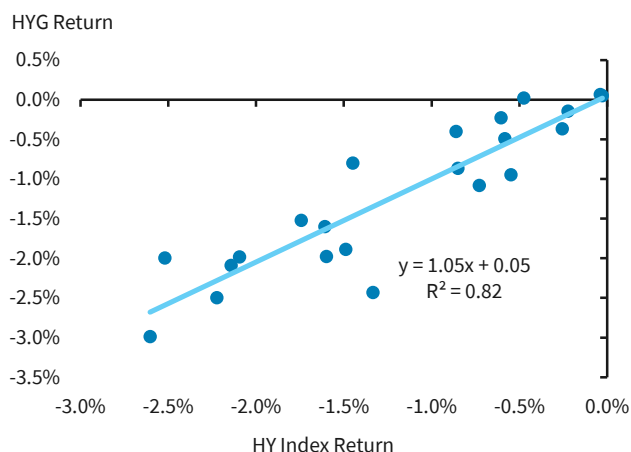
One potential issue with shorting ETF shares is having to borrow the shares. The borrow costs are variable and tend to increase during times of stress, when the demand for shares increases. Notably, despite the weakness at the beginning of May, the borrow cost for both HYG and JNK remained stable at 0.4%. However, in the 4Q18 sell-off, borrow costs went as

**FIGURE 5**  
JNK Exhibited a High Beta to High Yield Index Returns in Months When High Yield Index Returns Were Negative



Note: Based on monthly returns for the five-year period ending April 30, 2019.  
Source: Bloomberg, Bloomberg Barclays Indices, Barclays Research

**FIGURE 6**  
HYG Also Exhibited a Strong Relationship with High Yield Index Returns, but with a Lower Beta

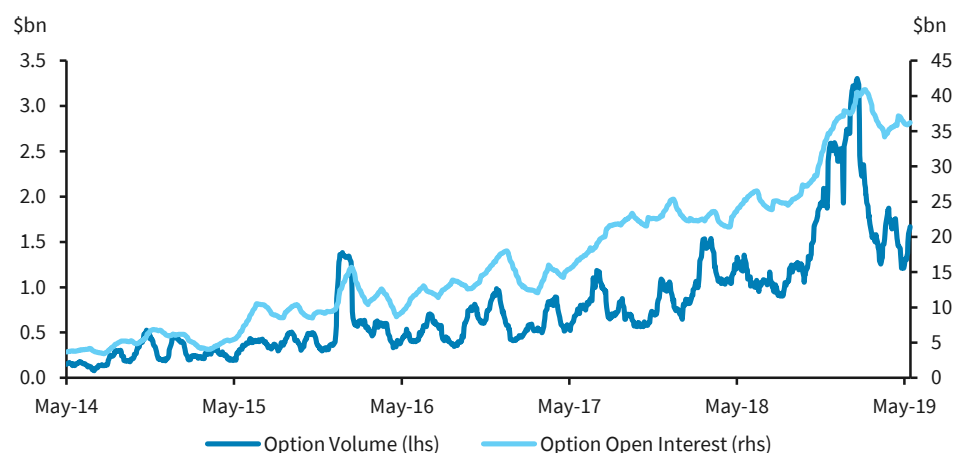


Note: Based on monthly returns for the five-year period ending April 30, 2019.  
Source: Bloomberg, Bloomberg Barclays Indices, Barclays Research

high as 3%. One alternative to shorting the ETFs is to use total return swaps (TRS). We recently discussed the growth in standardized iBoxx HY TRS (see [iBoxx TRS Primer](#)), which has the same underlying index as HYG. Although the cost to go short via TRS will be tied to the borrow cost of HYG, as large divergences between the two would cause investors to favor one product over the other (all else being equal), there are some potential advantages to using TRS. Investors with a defined hedging horizon can benefit from only having to pay bid-ask when entering the TRS trade (as they can hold the position to maturity). TRS also allows investors looking to hedge to effectively lock in the current borrow cost, which, as we mentioned previously, does tend to increase for ETFs during times of stress.

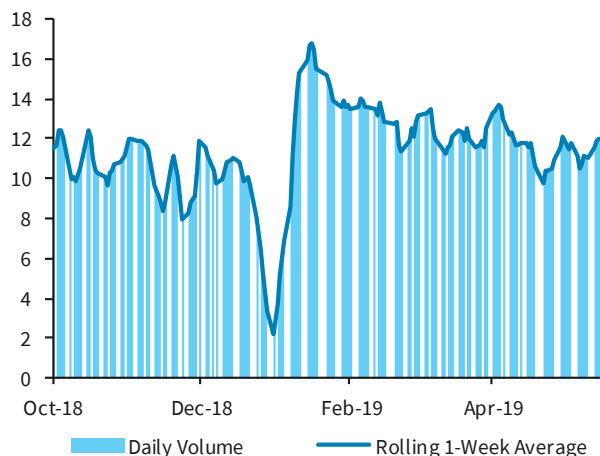
One potential concern with shorting ETF shares or going short via TRS is that losses for both could be significant if the market were to rally from current levels. For these reasons, we think investors should consider hedging by using ETF options. Unfortunately, liquidity in JNK options has been slow to develop, but HYG options have become quite liquid, with volumes and open interest increasing over time, particularly in the fourth quarter of 2018 (Figure 7). For investors looking to protect against a moderate sell-off, we think a put spread can be an attractive way to hedge with defined risk-reward. For example, a July \$85-\$82 HYG put spread (ref \$86.05) costs 55 cents and has a maximum net payout ratio of 4.5x the upfront premium paid if HYG closes at 82 or lower at July expiry. The trade provides protection and limits the downside to the upfront premium paid.

FIGURE 7  
HYG Option Volumes and Open Interest Increased Sharply in 4Q18



Note: Values shown are based on a rolling 21-day average and are in notional terms. Source: Bloomberg, Barclays Research

### High Yield Average Institutional Trade Volume (\$bn)



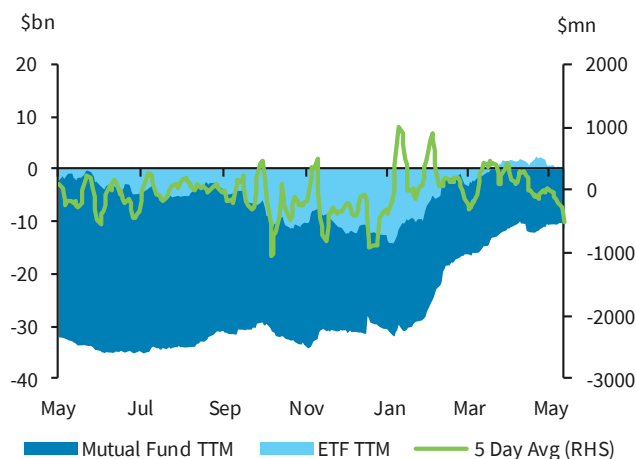
Note: Includes both registered and 144A volumes. Source: FINRA TRACE

### On-the-Run HYCDX versus US High Yield Index (bp)



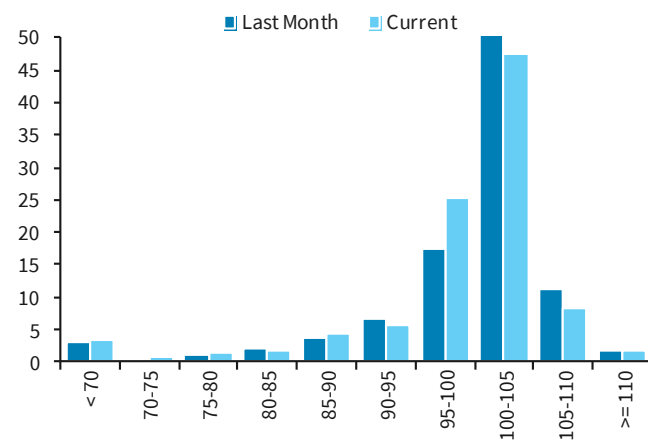
Source: Barclays Research

### Flows to High Yield Mutual Funds and ETFs



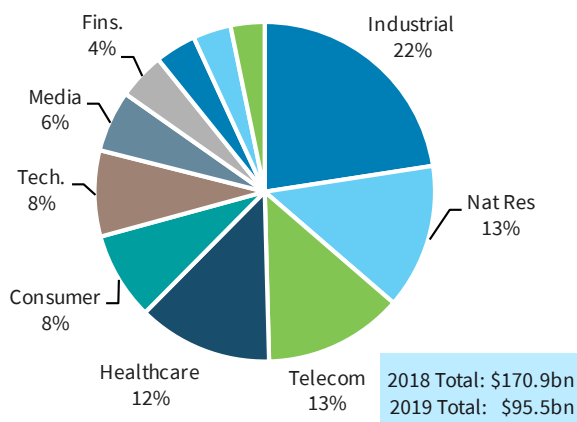
Note: Daily reporters only. Source: EPFR

### High Yield Index Price Distribution by Par (%)



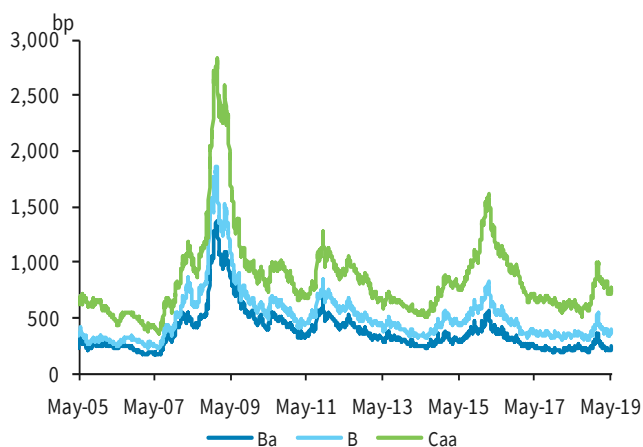
Source: Barclays Research

### High Yield Supply by Sector



Note: 2019 new issue data as of May 15.  
Source: Bloomberg Barclays Indices

### High Yield Spreads by Credit Quality



Source: Bloomberg Barclays Indices

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