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Mutually Assured Destruction

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High yield mutual funds experienced significant outflows during the recent bout of volatility. Outflows exceeded 4.4% of AUM over a short period of four weeks ending last Wednesday, according to the universe of weekly reporters to Lipper. This ranks among four largest outflows for similar periods and is the largest since August 2014.

The timing of outflows corresponded to a period of significant share destruction in high yield ETFs and a reduced net investor position in CDX.HY. While some of the ETF and CDX selling was likely driven by underlying investors de-risking for reasons similar to those of high yield mutual fund investors, we believe this explains only a minority of the activity in portfolio products. Instead, we think the vast majority of portfolio product selling was driven by mutual funds and other institutional investors that use those products to manage their liquidity needs. In other words, the products were sold to fund the outflows and, thus, do not represent additional de-risking. First, we examine this hypothesis using evidence from the recent episode of outflows. Second, we estimate the potential rebalancing and determine the characteristics of bonds that could benefit from incremental mutual fund demand should managers replenish their liquidity buffers.

Recent Outflows Were Historically Significant

Figure 1 compares the recent period of outflows with other periods of concentrated investor selling. Along with episodes such as the Taper Tantrum and the oil-led volatility of 2015, it ranks among the most severe – in fact, it constitutes the largest outflow in almost five years.

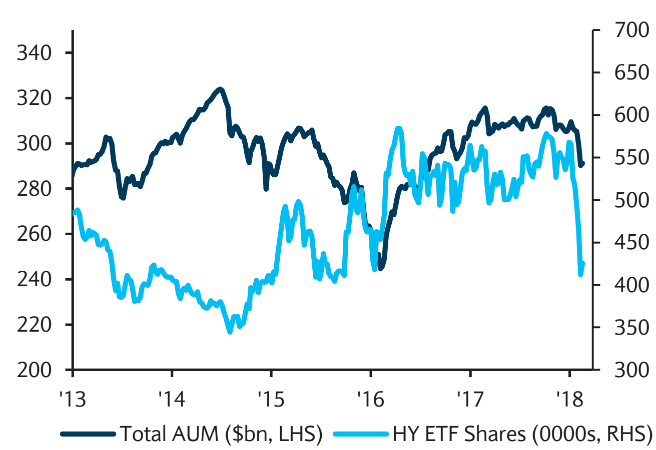
Although severe relative to other periods of mutual fund outflows, the recent flows were well below those experienced in other products – notably, high yield ETFs. HYG and JNK, the high yield ETFs with the most assets under management, saw the largest-ever percentage decline in their combined shares outstanding, with a near 18% drop over the one-month period ending last Wednesday, dwarfing the 4.4% decline in mutual fund AUM over the same period. Figure 2 compares the change in mutual fund AUM with the change in ETF shares to demonstrate the magnitude of the disparity.

FIGURE 1
Periods Characterized by Large Mutual Fund Outflows

Period	Episode	Fund Flow ($ bn)	Flow as % of AUM
Feb-18	Equity & Rates-Led Risk-Off	-6.9	-4.4%
Mar-17	Wirelines Weakness	-5.1	-3.0%
Dec-15	Oil-Led Volatility	-5.9	-3.9%
Aug-14	Geopolitical Risk Flare	-8.9	-5.8%
Jun-13	Taper Tantrum	-8.5	-6.4%

Note: Outflows measured for weekly only reporters captured in the Lipper high yield dedicated mutual fund universe. Source: Lipper, Bloomberg

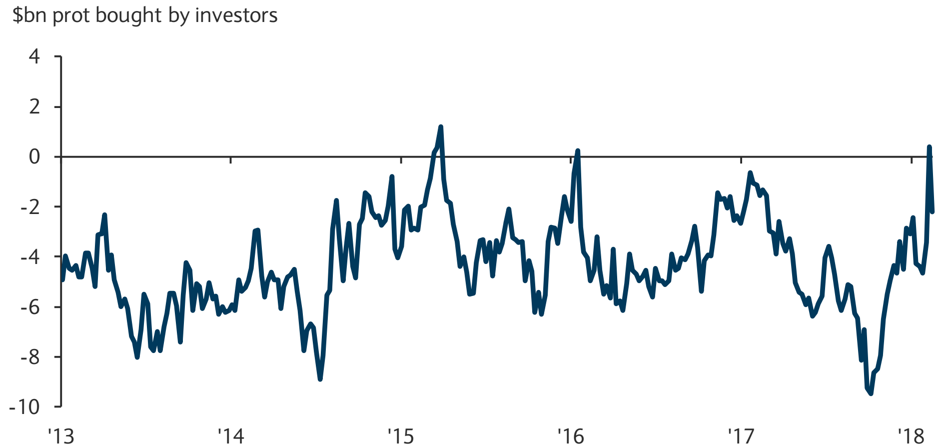
FIGURE 2
High Yield Total Mutual Fund AUM versus High Yield ETF Shares Outstanding



Source: Lipper, Bloomberg

The HY CDX market experienced similar flows. Figure 3 shows the net protection bought by investors over time. In general, investors are short protection, meaning that, on average, the investor community is long risk through the indices (in contrast to the dealer community, which is, on average, short risk, likely to hedge inventory). Investors approached the end of last year particularly long via the indices, and although that began to normalize before volatility picked up, the change during the volatility was particularly acute. Investors bought more than $3.5bn of protection through mid February, leaving them net short for only the third time in the past five years.

FIGURE 3
HY CDX (All-Series) Protection Bought by Investors



Source: DTCC

Double-Counting Not De-risking

A key question is what proportion of the portfolio product selling represented true de-risking. On the one hand, it would not be surprising to have seen significant de-risking in both ETFs and CDX, given the magnitude of the volatility and the obvious retail selling. Clearly, both retail and institutional investors were re-evaluating their portfolios. On the other hand, it is also possible that much of the selling in portfolio products was driven by mutual funds themselves, to fund the outflows that they were experiencing. There is strong evidence that funds have increased their holdings of portfolio products in order to manage their liquidity risk (see *Using ETFs to Mitigate Fund Flows*), and it is precisely in periods of outflows that they would sell those holdings and avoid selling individual securities.

Quantifying Selling of ETFs by Mutual Funds

One way to estimate the extent to which the ETF selling was driven by funds using the products for liquidity management (thus representing a double-counting of outflows) is to estimate how much retail holders of ETFs might have sold. The simplest starting point is to assume that retail investors sold ETFs in the same proportion that they sold high yield mutual funds. Assuming a 50/50 retail/institutional split of ETF ownership, this implies $1.1bn of ETF outflows from retail: [$52bn in ETF AUM]*[50% retail ownership of ETFs]*[4.4% in retail outflows].[1] The residual $4.4bn of outflows would then be attributed to institutional holders, representing 79% of the total share destruction.

[1] The 50% split is only an estimate, based both on feedback from our ETF trading desk and on our previous research (*Using ETFs to Mitigate Fund Flows*), but given the changes in trading patterns of high yield ETFs documented below, it is likely to be conservative.

However, this is almost surely an underestimate of retail ETF selling, as the intra-day liquidity of ETFs is likely to attract higher-frequency retail traders, who would be more prone to sell amid volatility. We compare flows in high yield ETFs with those for loans during periods of outflows for both. We choose loans to arrive at a sensible baseline for "retail-only" selling, considering that loan managers typically use revolvers to managing liquidity and typically do not manage this risk with portfolio products.

- First, we isolate periods during which high yield funds endured large outflows (such as the Taper Tantrum, the liquidation of Third Avenue Management, and the most recent flare in volatility) and consider the ratio of ETF flows to mutual fund flows in these periods.
- Second, we look at the same ratios for BKLN and the universe of loan fund managers tracked during periods when these managers experienced outflows. Given that loan managers do not typically use ETFs for liquidity management, this estimate provides a sensible baseline for "retail-only" selling.

FIGURE 4

Fund Flow Ratios over Periods of Outflows in High Yield and Loans with Cumulative Mutual Fund Flows in Excess of 2%

Period	Cumulative ETF Flow	Cumulative Mutual Fund	Ratio of ETF to Mutual Fund Flow
High Yield			
4-wk Period Ending 2/21/2018	-17.7%	-4.4%	4.0x
3-wk Period Ending 12/23/2015	-9.7%	-3.9%	2.5x
4-wk Period Ending 6/23/2013	-9.7%	-6.2%	1.6x
Loans			
3-wk Period Ending 11/8/2017	-1.5%	-2.1%	0.7x
6-wk Period Ending 1/20/2016	-8.9%	-7.1%	1.2x
4-wk Period Ending 12/31/2014	-5.9%	-5.6%	1.1x
5-wk Period Ending 10/29/2014	-6.4%	-5.2%	1.2x

Source: Lipper, Bloomberg

Figure 4 compares distinct periods of retail outflows observed for each asset class, the corresponding ratios over those periods, and total outflows from mutual funds and ETFs for each period observed. The observed ratio of loan ETF to mutual fund flows is slightly above 1.0x in most cases, suggesting that retail investors do, in fact, use ETFs more frequently than they do mutual funds, but only barely – the average ratio is only 1.1x. Assuming that retail behavior is consistent in the high yield and loan markets, we still conclude that institutions are responsible for more than 75% of the ETF share destruction.

Interestingly, the ratio is higher for high yield than it is for loans for all periods considered (Figure 4), although it has increased sharply, suggesting that ETF usage for liquidity management is more likely to have increased over time.

Paradigm Shift in High Yield ETF Activity

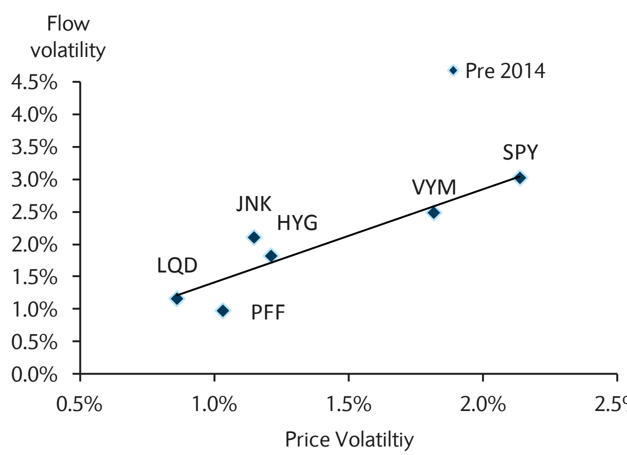
In fact, a convincing piece of evidence in favor of our conclusion that mutual funds are increasingly using ETFs to manage liquidity risk has been the stark change in the relationship between high yield ETF activity and price volatility over time. Our prior research (see *Sizing up the Liquidity Window*) has explored the link between volatility and volumes, showing that higher price volatility tends to coincide with higher trading.

Figure 5 compares the volatility in fund flows for select cross-asset ETFs with their price volatility prior to 2014. We selected a broad representation of ETFs spanning several asset classes, including investment grade corporate bonds, preferreds, dividend stocks, and equities. The mix of ETF products is characterized by varying degrees of volatility, ranging from least volatile (IG corporate ETFs) to most volatile (equity ETFs). Commensurate with our expectations, there was a strong relationship between price volatility and ETF fund flow volatility prior to 2014.

This dynamic has changed drastically for the set of observed high yield ETFs since 2014, following increased investor adoption of these products. Figure 6 examines the same relationship after 2014. The high yield ETFs – JNK and HYG – stand out relative to their cross-asset peers and exhibit fund flow volatility well in excess of levels implied by price volatility. This heightened trading activity gives credence to our view that mutual fund managers have increased their participation in ETFs and in fact, are the largest contributors to retail selling during periods of outflows. Our analysis indicates that institutional participation is lower in other asset classes than in high yield. We believe that high yield ETFs are more likely to be used to manage liquidity because the high yield market is characterized by a combination of relatively low liquidity at the security level and a sizable open-end mutual fund presence. Other less-liquid asset classes, such as bank preferreds, have a larger closed-end fund universe that does not have liquidity needs, as the shares are not redeemed but trade on the secondary market instead. Other asset classes with significant ownership by open-end funds have liquid assets to sell and, thus, do not need to manage fund flows with ETFs. Many investment grade funds, for example, are benchmarked against indices such as the Barclays Bloomberg Aggregate, which includes Treasuries and agencies, and are more liquid than the investment grade ETFs. High yield is unique in this regard, so we see more active management of the risks associated with fund flows.

FIGURE 5

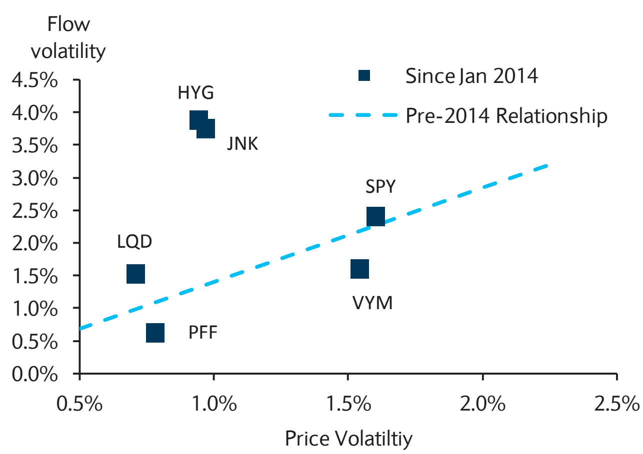
ETF Flow Volatility versus Price Volatility (Pre-2014)



Source: Bloomberg

FIGURE 6

ETF Flow Volatility versus Price Volatility (Since January 2014)



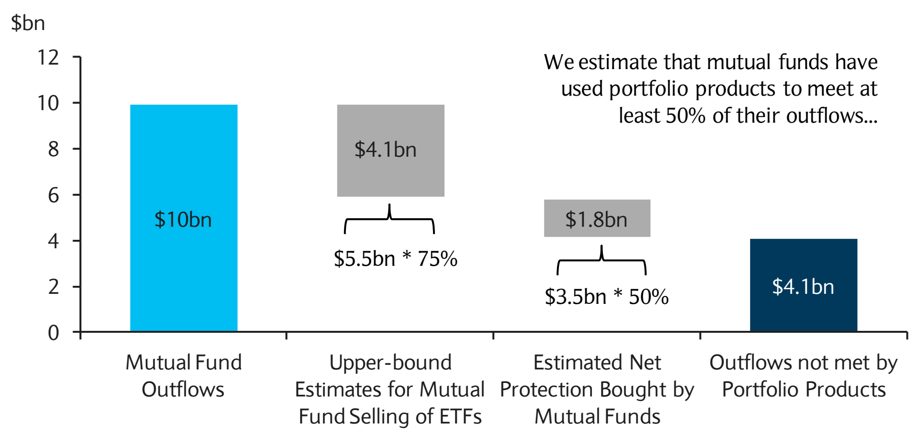
Source: Bloomberg

Putting the Pieces Together

Putting the various pieces together, Figure 7 outlines the steps to estimate the extent to which fund managers have used portfolio products to meet outflows. First, we estimate that institutions were responsible for roughly 75% of the $5.5bn worth of ETF share destruction. We believe that mutual funds would have made up the vast majority of the institutional selling of ETFs. Given that CDX.HY is used by a wider variety of institutions, we haircut the $3.5bn of protection buying and ascribe 50% of it to mutual funds. Together, these suggest that more than 60% of the recent mutual fund outflows could have been funded with portfolio products. Even if other types of institutions were responsible for some of the ETF share destruction, we believe plausible estimates would still suggest that more than half of the recent outflows were funded by selling portfolio products.

FIGURE 7

Estimated Use of Portfolio Products by Mutual Funds to Meet Outflows



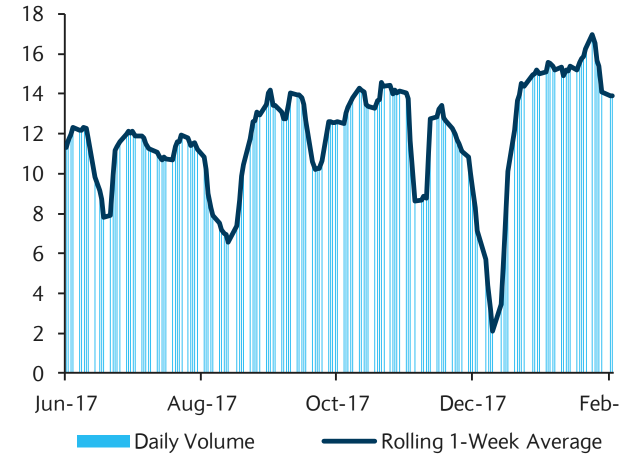
Source: Lipper, Bloomberg, Barclays Research

Estimating Magnitude of Potential Rebalancing

The unprecedented ETF share destruction and dramatic increase in CDX protection net bought raise the question of how managers may respond after sharply reducing their liquidity buffers. We believe that managers will replenish these buffers and, thus, anticipate further near-term rebalancing considering that much of the selling was driven by technical factors as opposed to managers' taking a directional view. Our assumption is that managers will, at the very least, need to repurchase the ETFs sold and increase long CDX exposure against the protection that they bought. In the foreseeable future, they will have to fund this buffer – typically defined as a percentage of AUM – either through inflows or by selling bonds.

Given that combined JNK and HYG shares outstanding have increased by 4%, after reaching a low in the middle of February, while mutual funds have continued to experience outflows, we posit that the recent share creation has been facilitated by selling bonds. This, combined with our estimate of ETF selling by mutual funds from the analysis above, implies that managers will still have to buy back roughly $2-3bn in ETF assets to fully replenish their buffers. Recent data suggest that managers have been using CDX even more aggressively to address their liquidity needs. After buying $3.5bn in protection through mid-February, managers have sold roughly $1.6bn in protection in subsequent weeks, and we estimate that an additional $1.0bn will need to be sold before institutions meet their liquidity targets. Of course, we cannot definitively attribute the increased balances in portfolio products to the same funds that experienced outflows. But we would expect those funds to rebalance along those lines over time as they re-establish appropriate liquidity buffers.

High Yield Average Institutional Trade Volume ($bn)

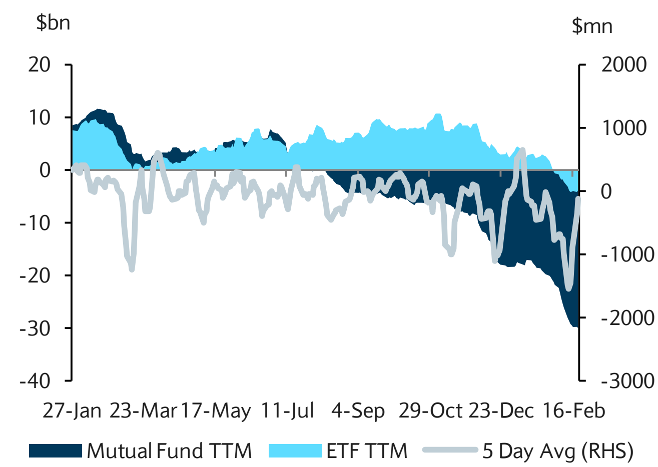


Note: Includes both registered and 144A volumes. Source: FINRA TRACE

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

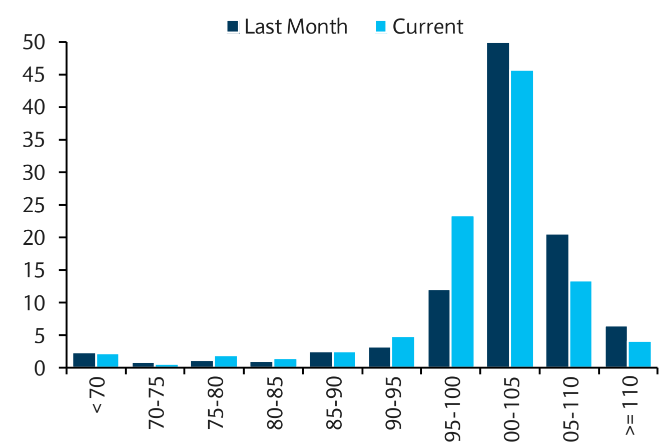
Source: Barclays Research

Flows to High Yield Mutual Funds and ETFs



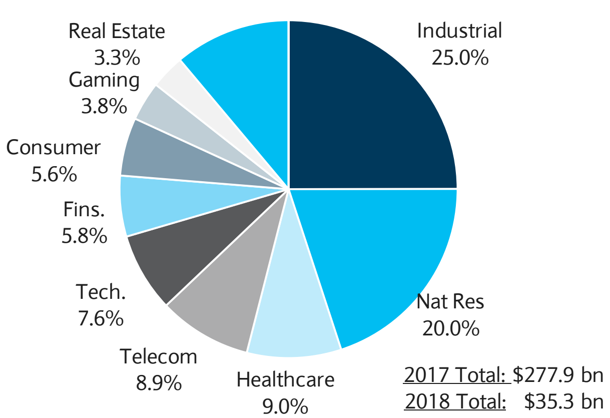
Note: Daily reporters only. Source: EPFR

High Yield Index Price Distribution by Par (%)



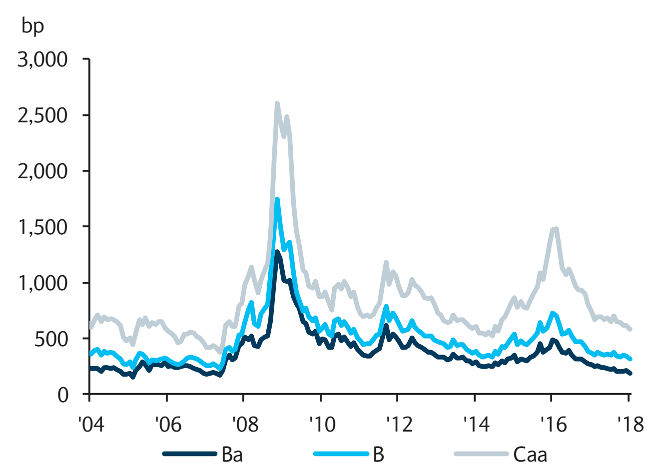
Source: Barclays Research

High Yield Supply by Sector



Source: Barclays Research

High Yield Spreads by Credit Quality



Source: Bloomberg Barclays Indices

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