

## The Big Mo

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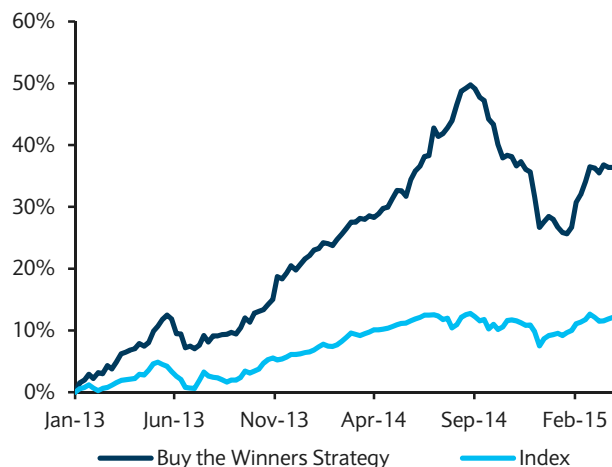
The high yield market has exhibited significant momentum in the past couple years. Looking at weekly data from 2013 to present, we found that bonds that gained in a given week tended to continue to perform well in subsequent weeks. Similarly, bonds that sold off were more likely to underperform in the weeks that followed. The 117-week period in our analysis is admittedly not very long, and it would be interesting to see how persistent this behavior has been historically, especially through the credit crisis. That said, we are encouraged that the risk-adjusted performance of a systematic strategy to take advantage of this observation remained solid through the so-called taper tantrum and the 2H14 oil-led sell-off.

In order to set up the strategy, we assembled weekly prices and total returns for the approximately 4,500 bonds that have been in the Barclays U.S. High Yield Index since January 2013. We then tested several combinations of performance thresholds and holding periods to determine where momentum was the strongest, both on the way up and on the way down. Importantly, we chose to include a 10pt cap on weekly outperformance and a 10pt floor on weekly underperformance to be included in the strategy. The rationale for the upside cap and downside floor is that the high flyers and big losers that jumped more than 10pts in a week added more volatility to the portfolio than they contributed in returns, in both the winner and loser momentum strategies.

On the long side, we settled on a 2pt week-over-week gain as the threshold for determining which bonds to buy and a one-week holding period (Figure 1). While the strategy remains attractive at other prior-week gain thresholds around 2pts, its performance weakens with longer holding periods. More specifically, the strategy continues to outperform when bonds are held for 2-5 weeks, but risk-adjusted metrics begin looking comparable to the broader index at those longer horizons.

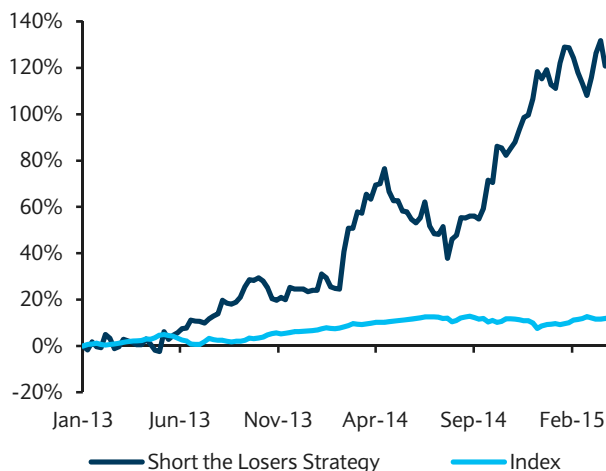
On the short side, we chose a 4pt week-over-week loss as the threshold for determining which bonds to sell and a one-week holding period (Figure 2). The loss threshold is once again relatively robust, and the strategy outperforms the index when the threshold is set

FIGURE 1  
Cumulative Returns of the “Buy the Winners” Strategy



Note: Winners strategy involves buying 2-10pt prior week gainers and holding them for just the following week. Risk-adjusted stats in Figure 3.  
Source: Barclays Research

FIGURE 2  
Cumulative Returns of the “Short the Losers” Strategy



Note: Losers strategy involves selling bonds that lost 4-10pts in the prior week and remaining short just the following week. Risk-adjusted stats in Figure 3.  
Source: Barclays Research

FIGURE 3

## Returns and Risk Statistics of Momentum Strategies versus Barclays U.S. High Yield Index

			Buy the Winners Strategy				US HY Index		
Period		# Weeks	Avg # Bonds	Avg Return	Volatility	Return/Vol	Avg Return	Volatility	Return/Vol
1/4/2013 to 3/27/2015	Full Period	117	57	14.1%	7.7%	1.84	5.1%	3.9%	1.32
5/8/2013 to 6/25/2013	Taper Tantrum	7	50	-17.6%	9.3%	-1.89	-27.7%	3.5%	-7.98
6/23/2014 to 12/16/2014	Energy-led selloff	25	52	-17.4%	10.8%	-1.61	-9.3%	5.4%	-1.73
			Sell the Losers Strategy				US HY Index		
Period		# Weeks	Avg # Bonds	Avg Return	Volatility	Return/Vol	Avg Return	Volatility	Return/Vol
1/4/2013 to 3/27/2015	Full Period	117	31	38.0%	23.3%	1.63	5.1%	3.9%	1.32
5/8/2013 to 6/25/2013	Taper Tantrum	7	12	99.7%	25.8%	3.87	-27.7%	3.5%	-7.98
6/23/2014 to 12/16/2014	Energy-led selloff	25	35	66.2%	28.5%	2.32	-9.3%	5.4%	-1.73
			Combined Strategy				US HY Index		
Period		# Weeks	Avg # Bonds	Avg Return	Volatility	Return/Vol	Avg Return	Volatility	Return/Vol
1/4/2013 to 3/27/2015	Full Period	117	57/31	26.0%	11.4%	2.29	5.1%	3.9%	1.32
5/8/2013 to 6/25/2013	Taper Tantrum	7	50/12	41.0%	13.4%	3.06	-27.7%	3.5%	-7.98
6/23/2014 to 12/16/2014	Energy-led selloff	25	52/35	24.4%	13.0%	1.87	-9.3%	5.4%	-1.73

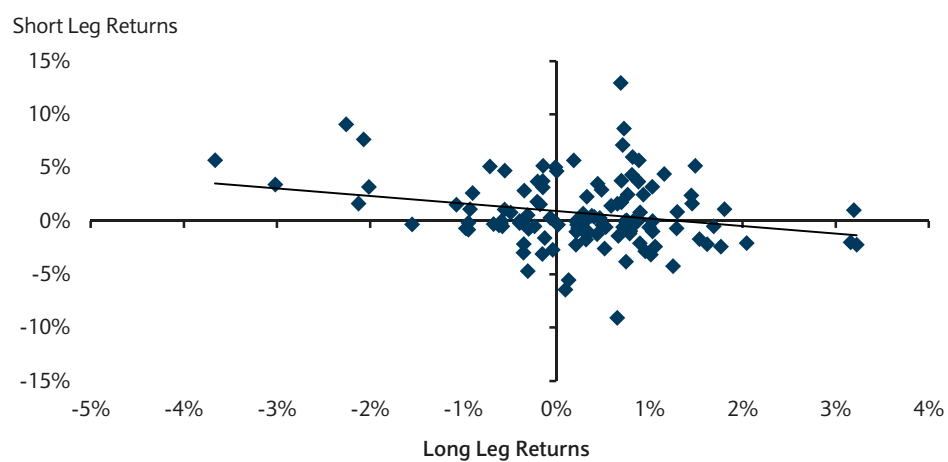
Note: "Buy the Winners" strategy involves buying 2-10pt prior week gainers and holding them for just the following week. "Sell the Losers" strategy involves selling bonds that lost 4-10pts in the prior week and remaining short for just the following week. Source: Barclays Research

anywhere from 2 to 5pts. That said, the strategy was not compelling on a risk-adjusted basis at a 2pt or 3pt cut-off. We opted for the 4pt cut-off (over the 5pt cut-off) not only because of superior risk/return metrics, but also to ensure that the results were driven by a larger sample of bonds in each period. With respect to the investment horizon, both one-week and two-week holding periods were attractive. The two-week holding period produced somewhat higher average risk-adjusted returns, but the one-week horizon metrics were more stable with respect to the cut-off threshold, and in the end, that made us more confident in the results. Naturally, shorting bonds can be prohibitively expensive or even impossible at times; these results can also be interpreted as bonds not to own (or to be underweight) for long-only investors.

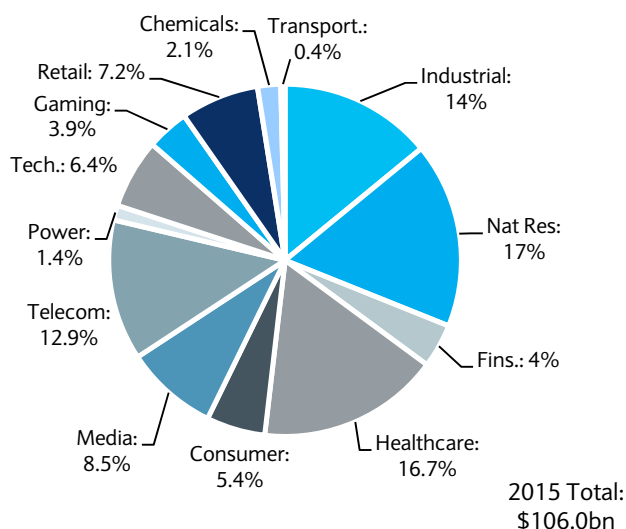
Combining the long and short momentum strategies produces even more attractive absolute and risk-adjusted results, as the last section of Figure 3 shows, reflecting the fact that the outperformance of the "Buy the Winners" strategy is negatively correlated with that of the "Sell the Losers" strategy (Figure 4). We believe these results show that portfolio managers can generate risk-adjusted outperformance by following the momentum in the big market movers.

FIGURE 4

Relationship between Long and Short Leg of Combined Strategy



### High Yield Supply by Sector – 2015 Breakdown



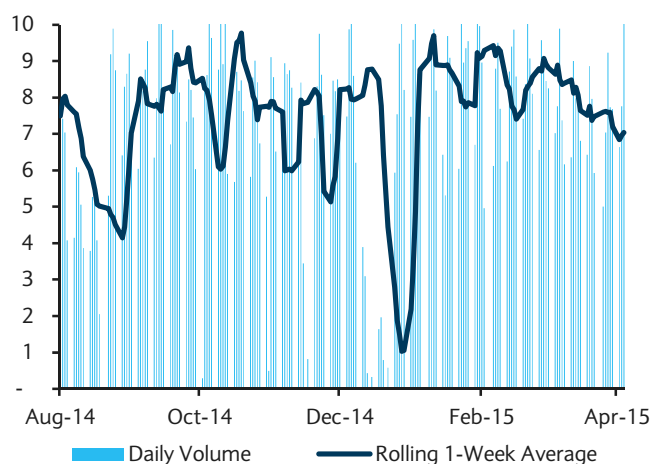
Source: Barclays Research

### Top On-the-Run CDX Index Names by Weekly CDS Volume

	Notional Outstanding (\$bn)		Volume – Week Ending 4/10/15 (\$mn)
	Gross	Net	Gross
Chesapeake	9.7	0.9	240.8
Heinz	11.4	0.8	229.8
Royal Caribbean	9.3	0.7	214.0
U.S. Steel	8.3	0.9	197.5
MGM Resorts	7.5	0.9	177.0
Universal Health	9.2	0.6	175.8
Level 3 Communications	3.4	0.5	148.1
Sealed Air	4.8	0.3	143.5
Owens-Illinois	1.8	0.2	140.0
Community Health	3.8	0.6	135.0

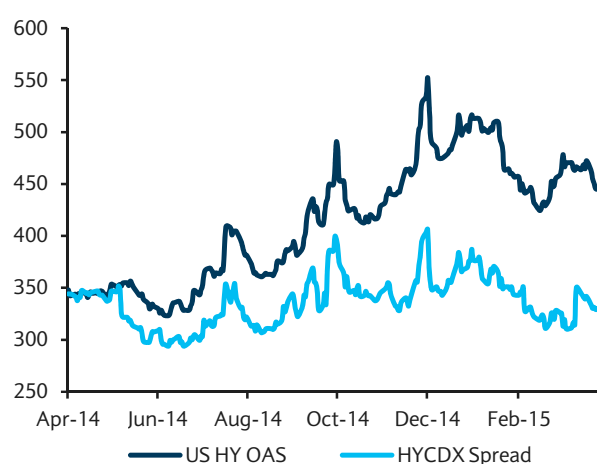
Source: DTCC

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



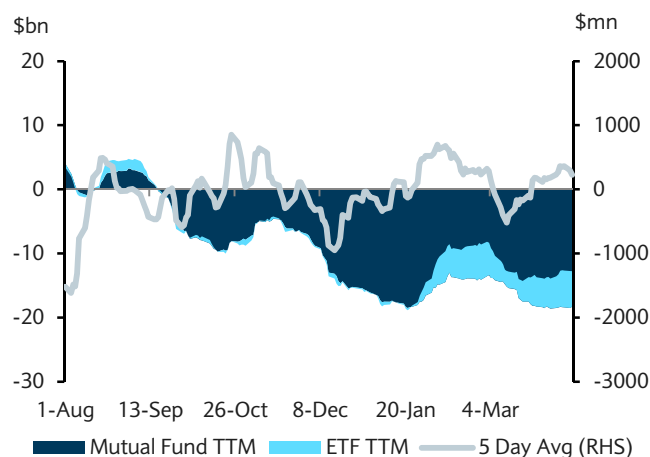
Source: FINRA TRACE

### On-the-Run HYCDX versus U.S. High Yield Index (bp)



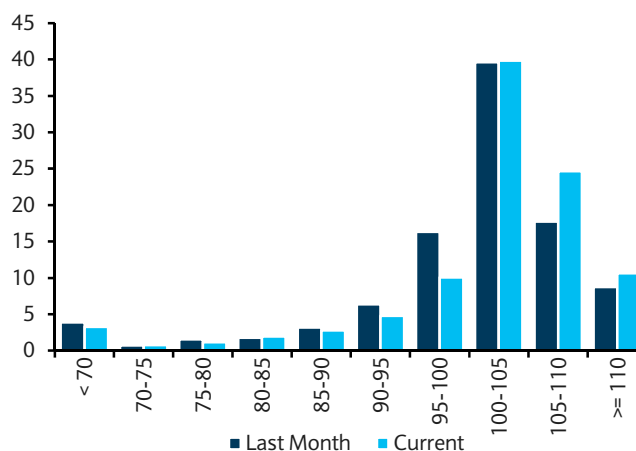
Source: Barclays Research

### Flows to High Yield Mutual Funds and ETFs



Note: Daily reporters only. Source: EPFR

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



Source: Barclays Research

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