BondBloxx™

Why Precision Matters in U.S. High Yield

This piece explores the potential opportunities of investing in precise segments of the U.S. high yield bond market, including industry sectors and credit rating categories.

Highlights

- After U.S. high yield experienced the worst total return year in 2022 since the Great Financial Crisis, the asset class has rebounded during the first half of 2023.
- Investors may want to consider increasing their allocation to high yield, as the doubling of yields in 2022 reset valuations to levels that appear more attractive and may provide cushion for potential spread widening.
- We believe the allocations that investors make among U.S. high yield industry sectors and credit rating categories can have material risk/return implications for their portfolios.
- Seeking to capitalize on the potential for continued wide dispersion within high yield can create opportunities for potential outperformance in 2023.

Dispersion of Historic Returns in U.S. High Yield

A CLOSER LOOK AT U.S. HIGH YIELD SECTOR RETURNS

Over the past 26 years, the U.S. high yield bond market has exhibited wide variations in returns across industry sector and credit rating categories, as shown on Figure 3 on the next page. For example, **while the median annual broad high yield return from 1996-2022 was 5.7%, the range between the best and worst industry sectors over that time period was 13.3%.**[1] This differential of around 200% has held steady for nearly every 5-year period since the year 2000, as illustrated by Figure 1. We believe this trend will likely continue, potentially creating opportunities for investors to pick their spots among high yield industry sectors.

Furthermore, an industry sector that has experienced the lowest return in any given year has the potential to rise to the top the next, and vice versa. With few exceptions, sectors rarely stay in the top or the bottom spot for very long, as demonstrated by the color mapping on Figure 3. Over the past 26 years, Energy, Financials and Healthcare have exhibited the most volatile historic returns, but **nearly every industry sector has had its turn as the best or worst performer**, as illustrated by Figure 2.

1. The median annual broad index return and range between best and worst were calculated based on ICE Data Services data between1996 and 2022.

FIGURE 2

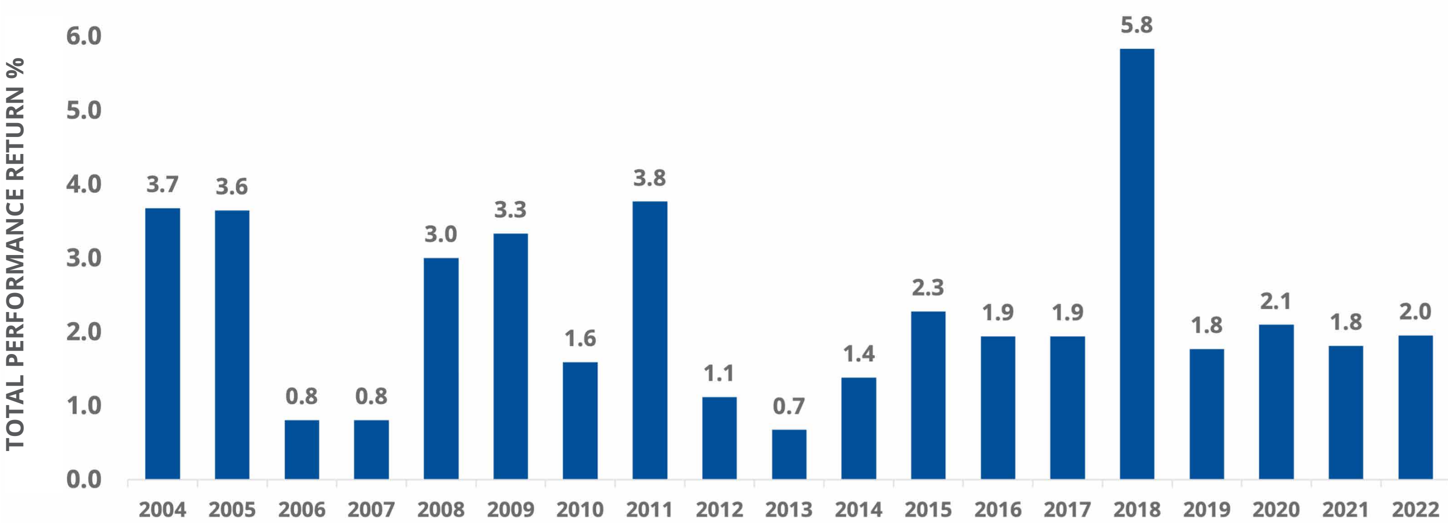
Best and Worst Annual Performers: ICE High Yield Sector Indices (1997–2022)

	Number of Years	
	Best	Worst
Consumer Cyclical	1	2
Consumer Non-cyclical	1	2
Core Industrial	1	0
Energy	8	7
Financial	8	4
Healthcare	6	6
Telecom, Media & Technology	3	5

Source: ICE Data Services, as of 12/31/2022, based on historical annual returns

Most of the significant sector return disparities are the result of specific boom and bust cycles affecting particular sectors with greater impact. This played out in the run-up and fall-off in Telecom, Media and Technology (TMT) during the late 1990s and early 2000s, the Global Financial Crisis and subsequent recovery in the Financials sector in the late 2000, and oil price pressures in the Energy sector in the mid-2000s. **While all sectors can experience idiosyncratic issuer risks/rewards, systemic trends have generally driven specific sector returns.**

FIGURE 1: Best–High Yield Sectors versus Total High Yield Return (rolling 5-year median)



Source: ICE Data Services, as of 12/31/2022, based on rolling 5-year median annual total returns. Past performance is not indicative of future results.

FIGURE 3. **Ranked Annual Historical Performance of ICE High Yield Sector Indices 1997–2022**

	Consumer Cyclical	Consumer Non-Cyclical	Core Industrial	Energy	Financial	Healthcare	Telecom, Media & Tech	Total HY
2022	-12.6%	-10.6%	-8.1%	-5.5%	-11.2%	-16.3%	-14.2%	-11.1%
2021	5.7%	3.7%	5.2%	13.6%	4.4%	2.7%	2.2%	5.3%
2020	5.5%	8.8%	7.0%	-6.4%	7.1%	8.9%	6.1%	6.1%
2019	16.7%	16.0%	15.4%	5.6%	18.8%	14.9%	15.2%	14.4%
2018	-3.5%	-0.9%	-2.9%	-6.4%	-2.8%	1.4%	-0.3%	-2.3%
2017	5.7%	6.5%	9.3%	7.6%	9.2%	8.6%	5.8%	7.5%
2016	13.0%	11.7%	21.2%	37.4%	9.6%	4.0%	14.7%	17.3%
2015	0.8%	1.2%	-6.0%	-23.4%	2.7%	1.0%	-1.3%	-4.5%
2014	1.9%	5.6%	1.9%	-7.4%	6.1%	6.9%	5.7%	2.5%
2013	7.0%	7.7%	7.9%	6.1%	9.0%	7.1%	7.0%	7.4%
2012	15.3%	12.4%	15.0%	11.6%	21.8%	14.6%	16.4%	15.4%
2011	4.6%	6.7%	2.7%	8.2%	0.9%	7.0%	4.5%	4.5%
2010	17.0%	8.8%	14.9%	13.0%	25.7%	11.6%	14.3%	15.1%
2009	64.4%	35.4%	57.5%	51.0%	97.0%	41.9%	54.6%	56.8%
2008	-30.4%	-16.0%	-26.0%	-24.7%	-45.2%	-12.0%	-29.0%	-26.0%
2007	-1.1%	4.1%	3.0%	5.6%	-3.1%	6.4%	1.9%	2.5%
2006	13.1%	9.5%	10.6%	7.9%	9.0%	5.3%	12.2%	10.6%
2005	-0.8%	1.9%	1.6%	6.2%	7.8%	4.5%	4.8%	2.9%
2004	9.9%	11.8%	11.0%	12.8%	12.8%	8.9%	8.8%	10.8%
2003	18.0%	36.0%	21.1%	35.8%	21.3%	13.5%	36.3%	27.0%
2002	11.4%	-4.9%	6.0%	15.7%	8.0%	6.6%	-15.5%	0.1%
2001	14.1%	15.0%	12.9%	12.5%	14.5%	23.4%	-11.7%	6.2%
2000	-6.1%	-1.5%	-6.2%	14.8%	2.5%	4.9%	-8.1%	-3.9%
1999	-1.2%	-5.4%	5.0%	10.2%	1.2%	-11.7%	3.8%	1.6%
1998	5.4%	4.8%	1.1%	-5.4%	-3.2%	5.2%	7.9%	3.6%
1997	12.3%	12.2%	11.7%	12.4%	10.5%	12.1%	14.7%	12.6%

Key

Annual Returns

Top performing sector

Middle performing sector

Bottom performing sector

We believe an important source of potential outperformance for investors is their ability to correctly anticipate the dispersion of returns across targeted sectors, especially during times of heightened market volatility. However, fixed income investors currently have limited options to access these categories via ETFs.

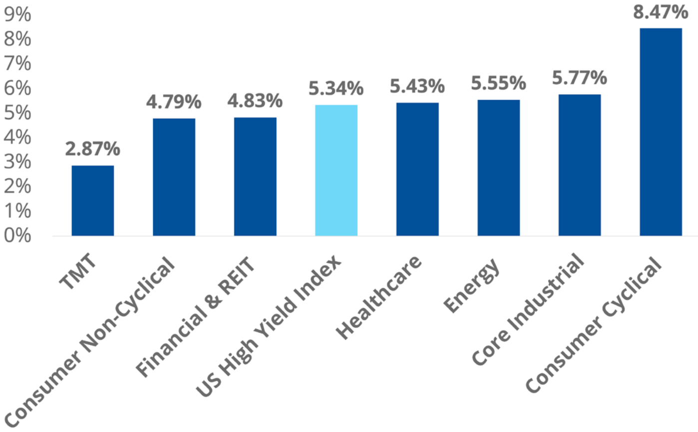
Source: ICE Data Services, as of 12/31/2022. Past performance is not indicative of future results. It is not possible to invest in an index.

2023 TRENDS IN U.S. HIGH YIELD SECTOR RETURNS

The pattern of return dispersion within high yield has persisted during the first half of 2023 with a **differential of 560 basis points between the best-performing industry, Consumer Cyclicals, and the worst-performing industry, TMT** (Figure 4). This follows over 1,100 basis points difference between the performance of the Energy and Healthcare industries in 2022.

FIGURE 4

High Yield Sectors: YTD Total Return Performance



ICE Data Services, as of 6/30/2023. Past performance is not indicative of future results.

U.S. HIGH YIELD INDUSTRY SECTOR CHARACTERISTICS

The increase in interest rates and widening in credit spreads experienced in 2022 resulted in a doubling of high yield bond yields across every industry sector except for Energy at the beginning of 2023. These higher average yields, as highlighted on Figure 5, may serve to improve the income generation in high yield investing over the life of the investments, and also provide cushion for potential spread widening.

U.S. HIGH YIELD RETURNS ACROSS CREDIT RATING CATEGORIES

Similar to the high yield industry sectors, **the U.S. high yield market has exhibited considerable dispersion in total return performance among the BB, B and CCC credit rating categories.** This dispersion has corresponded with their specific risk characteristics as well as the prevailing macroeconomic and liquidity conditions in the market. Just like the industry sectors, a credit rating category that reports the worst performance one year has the potential to finish an upcoming year as the best-performing, and vice versa, as illustrated in Figure 6. Also, as demonstrated by the color mapping, the three different rating categories rarely stay as the top or bottom performing for more than a couple years at a time. Moreover, **the difference in median performance between the best and worst-performing credit rating categories is almost 90% greater than the median return of the broad high yield index over the last 26 years (6.2% versus 5.7%).**

FIGURE 5 **High Yield Industry Sector Characteristics**

INDEX TICKER	INDEX DESCRIPTION	YIELD TO WORST	OPTION ADJ. SPREAD	EFFECTIVE DURATION	AVERAGE RATING
JDCD	Consumer Non-Cyclical	7.72%	327	4.05	BB3
JDER	Energy	7.93%	327	3.41	BB3
JDCI	Core Industrial	7.99%	341	3.41	B1
JDCC	Consumer Cyclical	8.03%	347	3.53	B1
JUC0	U.S. High Yield	8.55%	404	3.65	B1
JDFR	Financial & REIT	8.67%	414	3.53	BB3
JDHC	Healthcare	9.74%	530	3.79	B2
JDTM	Technology, Media, & Telecom	9.81%	545	4.01	B1

Source: ICE Data Services, as of 6/30/2023. Credit quality ratings on underlying securities of the fund are received from S&P, Moody's and Fitch and converted to the equivalent S&P major rating category. This breakdown is provided by BondBloxx and takes the medium rating of the three agencies when all three agencies rate a security, the lower of the two ratings if only two agencies rate a security, and one rating if that is all that is provided. Ratings are expressed as letters ranging from 'AAA', which is the highest grade, to 'D', which is the lowest grade. Unrated securities do not necessarily indicate low quality. Below investment-grade is represented by a rating of BB, B, CCC and below. Ratings and portfolio credit quality may change over time. See glossary for mode definitions.

FIGURE 6

Ranked Annual Historical Performance of ICE High Yield Credit Rating Category Indices (1997–2022)

Year	BB	B	CCC	Range: Best–Worst	Total HY
2022	-10.4%	-10.6%	-15.7%	5.2%	**-11.1%**
2021	4.2%	4.9%	9.5%	5.4%	**5.3%**
2020	8.0%	3.0%	4.0%	5.0%	**6.1%**
2019	15.7%	14.3%	10.0%	5.7%	**14.4%**
2018	-2.6%	-1.7%	-4.4%	2.7%	**-2.3%**
2017	7.3%	6.9%	8.9%	2.1%	**7.5%**
2016	13.4%	16.8%	33.7%	20.3%	**17.3%**
2015	-1.2%	-4.8%	-14.2%	13.1%	**-4.5%**
2014	5.4%	1.3%	-3.1%	8.4%	**2.5%**
2013	5.1%	7.5%	13.6%	8.4%	**7.4%**
2012	14.0%	14.6%	18.5%	4.5%	**15.4%**
2011	6.2%	4.7%	-0.5%	6.7%	**4.5%**
2010	14.3%	13.7%	18.4%	4.7%	**15.1%**
2009	44.9%	48.5%	100.4%	55.5%	**56.8%**
2008	-18.9%	-28.1%	-43.4%	24.5%	**-26.0%**
2007	3.3%	3.5%	0.2%	3.3%	**2.5%**
2006	7.8%	10.8%	16.2%	8.3%	**10.6%**
2005	3.2%	3.7%	1.6%	2.1%	**2.9%**
2004	9.2%	10.4%	14.8%	5.6%	**10.8%**
2003	19.1%	25.1%	48.1%	29.0%	**27.0%**
2002	2.3%	3.5%	-1.8%	5.4%	**0.1%**
2001	11.9%	2.6%	4.3%	9.2%	**6.2%**
2000	1.0%	-6.3%	-16.6%	17.6%	**-3.9%**
1999	2.0%	2.3%	-4.9%	7.3%	**1.6%**
1998	6.0%	2.7%	-8.9%	14.9%	**3.6%**
1997	12.1%	12.6%	17.7%	5.5%	**12.6%**

Key: Annual Returns

Top performing sector (green) | *Middle performing sector* (yellow) | *Bottom performing sector* (red)

Source: ICE Data Services, as of 12/31/2022.
Past performance is not indicative of future returns.

Every credit rating category has had its turn as the best or worst performing credit sector (Figure 7). **Not surprisingly due to its higher credit risk, the CCC rating category has historically exhibited the most volatility in returns.** Illustrative of their mean reversion tendencies, each rating category has experienced almost the same number of years as the top performer as it has in last place.

FIGURE 7 **Best and Worst Annual Performers: ICE High Yield Rating Indices (1997–2022)**

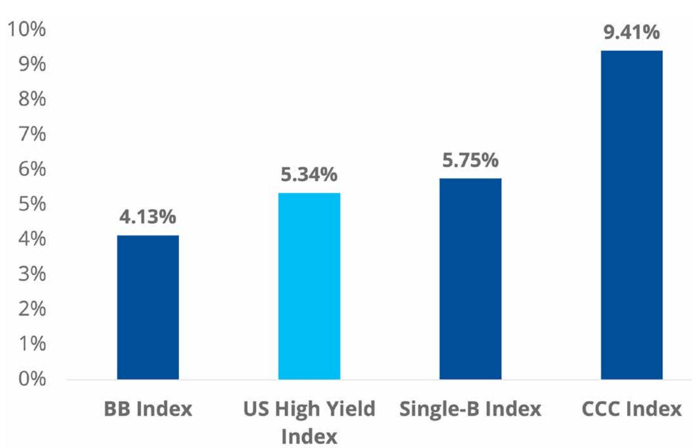
	Number of Years	
	Best	Worst
BB	10	9
B	5	4
CCC	11	13

Source: ICE Data Services, as of 12/31/2022. Based on historical annual returns.
Past performance is not indicative of future results.

2023 TRENDS IN U.S. HIGH YIELD RETURNS BY CREDIT QUALITY

Through the end of June, CCCs have been the clear performance leader among the three credit rating categories, returning 9.41%, while BB-rated bonds have returned less than half this with their 4.13% return (Figure 8). CCCs got off to a very strong start in January, returning over 6% in this one month alone. Single-B's are in the middle spot year-to-date with their 5.75% return, outperforming the broad index return of 5.34%. **Return dispersion remains elevated in the credit rating categories year-to-date,** with a 528 basis point differential between the best and worst-performing credit tiers during this time period.

FIGURE 8 **High Yield Credit Rating Categories: YTD Total Return Performance**



Source: ICE Data Services, as of 6/30/2023. Past performance is not indicative of future returns. It is not possible to invest in an index.

U.S. HIGH YIELD CREDIT RATING CATEGORY CHARACTERISTICS

Within the three high yield credit rating categories, there are notable differences in industry sub-sector weightings. These weighting differences also factor into their dispersion in total return performance, versus each other and versus the broad high yield index. As Figure 9 illustrates, the Energy industry is currently the largest industry sector in the broad high yield index, as well as in the BB rating category. The over 14% weighting for the Energy sector in the BB index is due to its composition of prominent rising star candidates, which have the potential to be upgraded back to investment grade ratings in 2023. Leisure has its largest weighting in the single-B index, while Financials is the largest weighting in the CCC index, reflecting downgrades experienced in 2023.

In terms of other characteristics, the BB-rated category exhibits the most interest rate risk of the three rating categories with its longer effective duration, while the CCC sector is the most sensitive to economic conditions with its higher credit risk. The single-B rating category is in the middle, offering a yield advantage versus both BB's and the broad high yield index, with less interest rate sensitivity than BB's and lower credit risk than CCC's.

High yield bond yields doubled in 2022 for each of three credit rating categories (Figure 10). Just like the industry sectors, these higher average yields may potentially serve to improve income generation in high yield investing over the life of the investments and may provide cushion for potential spread widening.

FIGURE 9 Industry Sub-Sector Weightings by Rating Category

INDUSTRY SUB-SECTORS	TOTAL HIGH YIELD	BB INDEX	B INDEX	CCC INDEX
Automotive	3.7%	3.4%	2.1%	2.5%
Basic Industry	8.0%	9.5%	6.8%	8.2%
Capital Goods	7.1%	5.9%	7.6%	10.5%
Consumer Goods	3.8%	3.4%	4.4%	4.8%
Energy	11.4%	14.3%	10.5%	5.4%
Financials	7.4%	9.7%	4.3%	12.0%
Healthcare	8.0%	5.8%	10.2%	10.3%
Leisure	8.5%	4.9%	13.2%	7.6%
Media	9.1%	7.5%	8.2%	10.2%
Real Estate	4.1%	5.1%	3.8%	2.1%
Retail	5.6%	6.7%	4.4%	4.2%
Services	6.6%	5.2%	8.5%	7.0%
Technology & Electronics	5.7%	5.7%	4.9%	9.8%
Telecommunications	5.5%	4.1%	8.0%	4.3%
Transportation	2.3%	3.3%	1.5%	1.1%
Utility	3.2%	5.5%	1.6%	0.0%
TOTAL	100.0%	100.0%	100.0%	100.0%

Key

The blue cells represent the largest sectors in each index.

Source: ICE Data Services, as of 6/30/2023.

FIGURE 10 **High Yield Industry Sector Characteristics**

INDEX	INDEX DESCRIPTION	YIELD TO WORST	OPTION ADJ. SPREAD	EFFECTIVE DURATION	AVERAGE RATING
JUC1	BB-Rated Corporates	7.12%	264	3.94	BB2
JUC0	U.S. High Yield	8.55%	404	3.65	B1
JUC2	B-Rated Corporates	8.81%	425	3.39	B2
JCCC	CCC-Rated Corporates	13.20%	868	3.21	CCC2

Source: ICE Data Services, as of 6/30/2023. Credit quality ratings on underlying securities of the fund are received from S&P, Moody's and Fitch and converted to the equivalent S&P major rating category. This breakdown is provided by BondBloxx and takes the medium rating of the three agencies when all three agencies rate a security, the lower of the two ratings if only two agencies rate a security, and one rating if that is all that is provided. Ratings are expressed as letters ranging from 'AAA', which is the highest grade, to 'D', which is the lowest grade. Unrated securities do not necessarily indicate low quality. Below investment-grade is represented by a rating of BB, B, CCC and below. Ratings and portfolio credit quality may change over time.

Conclusion

In summary, we believe the positioning decisions that high yield investors make among industry sectors and credit rating categories can have material performance implications for their portfolios. Managers can position their portfolios to express their risk tolerance, their views as to where we are in the credit cycle, as well as their views on interest rates, among other factors. See how you can use targeted U.S. high yield exposures in portfolios with BondBloxx ETFs.

BondBloxx High Yield Bond ETFs

Ticker	ETF name	Expense ratio (%)
U.S. High Yield Bond Sector ETFs		
XHYC	BondBloxx USD High Yield Bond Consumer Cyclicals Sector ETF	0.35
XHYD	BondBloxx USD High Yield Bond Consumer Non-Cyclicals Sector ETF	0.35
XHYE	BondBloxx USD High Yield Bond Energy Sector ETF	0.35
XHYF	BondBloxx USD High Yield Bond Financial & REIT Sector ETF	0.35
XHYH	BondBloxx USD High Yield Bond Healthcare Sector ETF	0.35
XHYI	BondBloxx USD High Yield Bond Industrial Sector ETF	0.35
XHYT	BondBloxx USD High Yield Bond Telecom, Media & Technology Sector ETF	0.35
U.S. High Yield Ratings ETFs		
XBB	BondBloxx BB Rated USD High Yield Corporate Bond ETF	0.20
XB	BondBloxx B Rated USD High Yield Corporate Bond ETF	0.30
XCCC	BondBloxx CCC Rated USD High Yield Corporate Bond ETF	0.40

Use Case Ideas

› STRATEGIC IMPLEMENTATION

- Establish long-term positions within fixed income allocations
- Pursue specific goals based on investment policy considerations
- Redeploy broad bond market allocations into more precise exposures

› TACTICAL POSITIONING

- Establish opportunistic views on specific bond market categories
- Rapidly implement short-term strategies
- Manage credit cycle and interest rate risks

› CASH MANAGEMENT & DIVERSIFICATION

- Utilize as investment placeholders while ramping-up new mandates, sourcing new bonds, or managing rebalancing activity
- Increase diversification, reducing idiosyncratic risk from individual securities

Glossary and Index Definitions

AVERAGE CREDIT RATINGS
Credit quality ratings on underlying securities of the fund are received from S&P, Moody's and Fitch and converted to the equivalent S&P major rating category. The breakdown provided by BondBloxx takes the medium rating of the three agencies when all three agencies rate a security, the lower of the two ratings if only two agencies rate a security, and one rating.

BASIS POINT
A standardized measure to denote a percentage change in interest rates, spreads, or other financial metrics. 1 basis point is equivalent to one-hundredth of a percentage point (0.01%).

CREDIT RATING
Credit ratings refers to the evaluation of the credit worthiness or risk associated with a security. Ratings agencies such as S&P, Moody's and Fitch assign a rating to each security. Ratings are expressed as letters ranging from 'AAA', which is the highest grade, to 'D', which is the lowest grade. Unrated securities do not necessarily indicate low quality. Below investment-grade is represented by a rating of BB, B, CCC and below. Ratings and portfolio credit quality may change over time.

CREDIT RISK
The risk that a lender may not receive the amount owed for a loan.

CREDIT SPREAD
The difference in yield between a debt security and its benchmark measured in basis points.

DISPERSION
Range of potential outcomes of investment returns.

EFFECTIVE DURATION
A measure of interest rates sensitivity for bonds with embedded options.

HIGH YIELD BONDS
Securities that generally pay higher interest rates to compensate investors for the bond's higher risk of default.

ICE BofA U.S. HIGH YIELD INDEX
The ICE BofA U.S. High Yield Index tracks the performance of U.S. dollar-denominated, below investment grade-rated corporate debt publicly issued in the U.S. domestic market. This index represents a broad range of U.S. High Yield Corporate Bonds.

ICE DIVERSIFIED U.S. CASH PAY HIGH YIELD RATING CATEGORY INDICES
The ICE Diversified U.S. Cash Pay High Yield Rating Category Indices contain all securities in the ICE BofA U.S. Cash Pay High Yield Index, broken down by their rating categories: BB1-BB3, B1-B3, and CCC1-CCC3. Index constituents are capitalization-weighted, based on their current amount outstanding.

ICE DIVERSIFIED U.S. CASH PAY HIGH YIELD SECTOR CATEGORY INDICES
The ICE Diversified U.S. Cash Pay High Yield Sector Category Indices contain all securities in the ICE BofA U.S. Cash Pay High Yield Index, broken down by industry including: Industrials; Telecom, Media & Technology; Healthcare; Financial & REIT; Energy; Consumer Cyclicals; Consumer Non-Cyclicals. Index constituents are capitalization-weighted, based on their current amount outstanding.

MEAN REVERSION
Asset prices will tend to move towards the average overtime.

OPTION ADJUSTED SPREAD (OAS)
For a bond, the option-adjusted spread is the measurement of the spread between the bond and the underlying government yield curve. For an Index, the average of its constituent security government option-adjusted spreads, weighted by full market value.

YIELD
Annual rate of return on a bond. It has a reverse relationship with price such that as bond prices rise, yields fall.

YIELD TO WORST (YTW)
A measure of the lowest possible yield that can be received on a bond that fully operates within the terms of its contract without defaulting.

Disclosures

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Bond ratings are grades given to bonds that indicate their credit quality as determined by private independent ratings services, such as Standard & Poor's, Moody's and Fitch. These firms evaluate a bond issuer's financial strength or its ability to pay a bond's principal and interest in a timely fashion. Ratings are expressed as letters ranging from 'AAA', which are the highest grade, to 'D', which is the lowest grade.

Index performance is not illustrative of fund performance.
One cannot invest directly in an index.
Please visit bondbloxxetf.com for fund performance.