

Nasdaq BulletShares Indexes

Dynamic Strategies in Fixed Income

The fixed income market is diverse, large, and complicated. Access to the asset class has changed over the years as more traders have begun utilizing index-based ETFs to gain exposure to the bond market. The ETF has allowed users to take meaningful positions to express investment views quickly and efficiently. This capability was of particular note over the past few years as fixed income continues to be in the spotlight with central banks across the globe beginning to tighten monetary policy after years of very accommodating conditions. During 2017, the Fed raised that target for the federal funds rate on three different occasions, the final time being on December 13th which brought the benchmark rate to the 1.25% - 1.5% range. It should also be added that during the first FOMC meeting under new Federal Reserve Bank President Jay Powell, the fed funds rate was raised by 0.25% to 1.50% - 1.75%.

It's important to remember there are a number of different fixed income products which exist outside of US Treasuries. As the ETF world continues its expansion towards Fixed Income, investors will be able to access these products in a much easier manner. Below we have listed a number of fixed income products and how each fared during 2017. Renewed strength in emerging market equities also helped spur flows into bonds from the these markets, with EM Local Currency Debt notching a 12.49% gain. Preferred bonds also trended solidly higher, gaining 8.10%. The table below lists performance for a number of different Fixed Income categories, all of which had positive performance last year.

FIXED INCOME INDEX	2017 PERFORMANCE
Emerging Markets Local Currency Debt	12.49%
Preferred Stock	8.10%
Investment Grade Corporates	7.05%
High Yield Bonds	6.07%
Municipal Bonds	4.72%
TIPS	2.92%
7-10 Year US Treasury	2.55%
Mortgage Backed Securities	2.49%
International Govt Bonds	2.40%
Floating Rate Bonds	1.65%

*Figures represent USD Denominated ETF Total Returns

Bond Market Risks

Although the above examples make it clear that volatility certainly exists in Fixed Income given the dispersion of returns, many often perceive the bond market as being a mostly "risk-free" environment. While the leverage and risk may tend to be lower than other investment vehicles such as futures, interest rate risk is certainly abundant. The main risks often associated with the bond market are as follows: interest rate risk, inflation risk, and credit risk. We won't go into the details of each one of them, but there are ETF products linked to Nasdaq Indexes which can help mitigate each of the risks listed above. The Nasdaq BulletShares Index Family was launched in 2013 and this research piece will detail some of their unique characteristics and advantages.

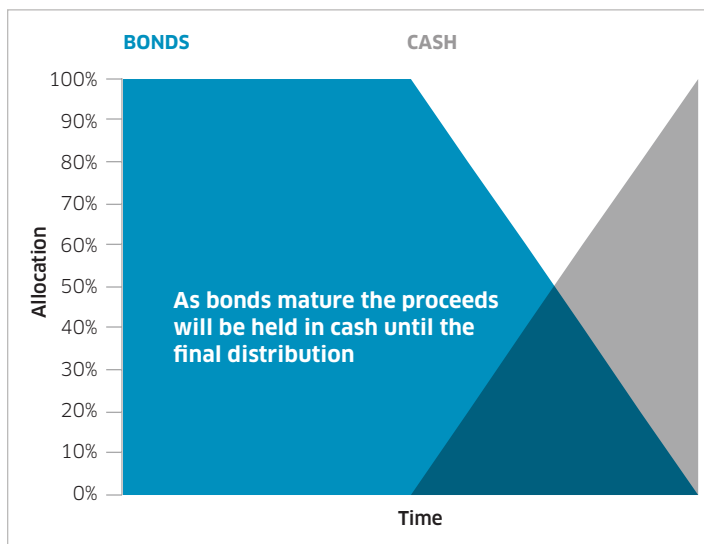
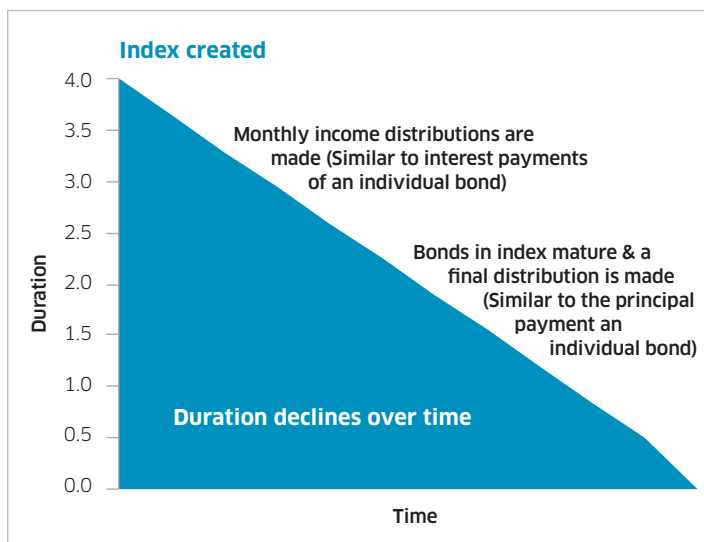
Nasdaq BulletShares Index Family: Overview

The Nasdaq BulletShares Index family is dynamic in that it offers flexibility in a number of ways traditional bond indexes do not. For example, traditional bond funds are perpetual, therefore investors in these funds cannot avoid interest rate risk by holding them to maturity. On the other hand, the Nasdaq BulletShares Indexes each have a defined maturity with all the bonds in the portfolio maturing in the same year, allowing it to be held to maturity. Another major difference between a traditional bond index fund and BulletShares family is that traditional indexes are often designed to give exposure to an entire fixed income market (e.g. U.S. corporate bonds), while the BulletShares product line is designed to give exposure to a specific set of underlying bonds, which all mature in the same year. Some of the basic advantages of owning bonds with a defined maturity are listed below.

Defined Maturity Concepts:

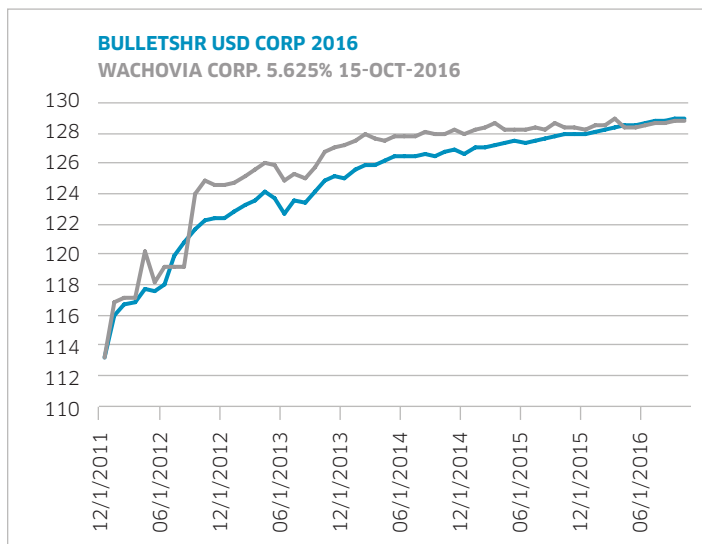
- A defined maturity bond fund allows investors the ability to mitigate or eliminate interest rate risk by holding the fund to maturity;
- By focusing on a more precise point of the yield curve, investors can better define the risks associated with their investment;
- Allows investors to create a laddered portfolio with predetermined cash flows that can be used to satisfy future liabilities;
- Investors receive NAV per share upon termination.

As the investing world continues to become more comfortable with the structure of defined maturity indexes, the assets which are linked to them have continued to grow. Many market participants find them as a good addition to their portfolio since they are considered to be an ideal blend between individual bonds and bond funds. Defined maturity indexes combine the best features of both – known maturity and return of capital with the added benefit of diversification. Grouping analogous bonds (rating and maturity) together in a single index, the performance can track that of an individual bond far better than any traditional bond index.

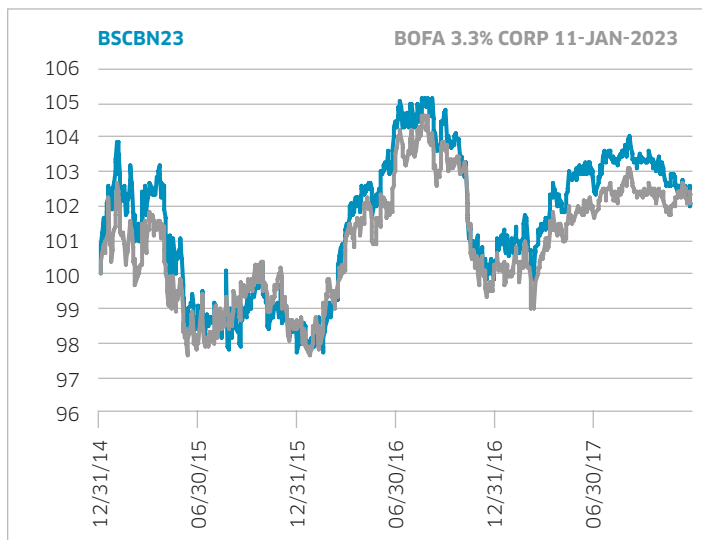


Bond-Like Performance with Diversification (correlations to the underlying holdings)

The Nasdaq BulletShares Index family is noted for its acting as a bond versus gaining exposure to the bond market. Acting as a bond means it has the ability to be held to maturity. In order to properly analyze this story, we can use any one of the Nasdaq BulletShares Corporate Bond Indexes and compare it against one of its individual bond that is an underlying holding. The below graphic compares the NASDAQ BulletShares 2016 Corporate Bond Index with one of its underlying holdings in order to help display both the similar correlations and returns.

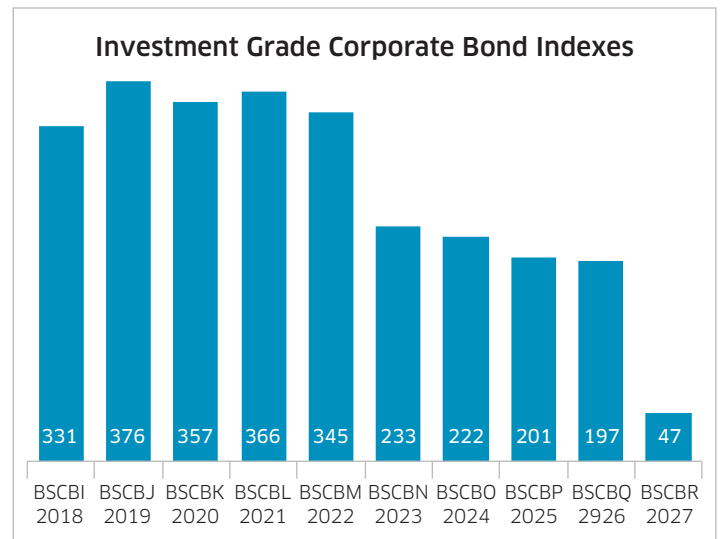
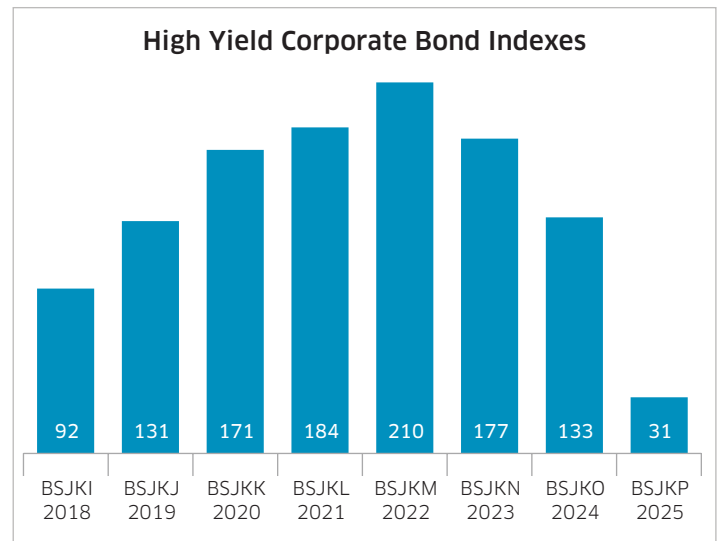


Below is an analysis of a longer-maturity index and individual bond, which illustrates the close correlation between the Nasdaq BulletShares2023 Corporate Bond (BSCBN23), along with one of its underlying holding which will also mature in 2023.



Nasdaq BulletShares Index Family (# of Components)

The graphics below show the number of bonds as of 12/29/2017 within each individual Nasdaq BulletShares Index. In regards to the Corporate Bond Indexes, BSCBJ 19 currently has the largest number of components at 376. On the flip side, BSCBR 27 has the fewest number of components at 47. Regarding the Nasdaq BulletShares High Yield Corporate Bond Indexes, the largest number of holdings exists in BSJKM 22 with 210 components.



Nasdaq BulletShares Ladder Indexes

Combining a number of these funds together (a concept known as bond laddering) can also provide additional benefits to investors. A few bond laddering indexes within the Nasdaq Family are as follows: Nasdaq BulletShares Investment Grade 3 Year Ladder Index (NQBIG3) and Nasdaq BulletShares Investment Grade 5 Year Ladder Index (NQBIG5). More information about the entire family can be found [here](#).

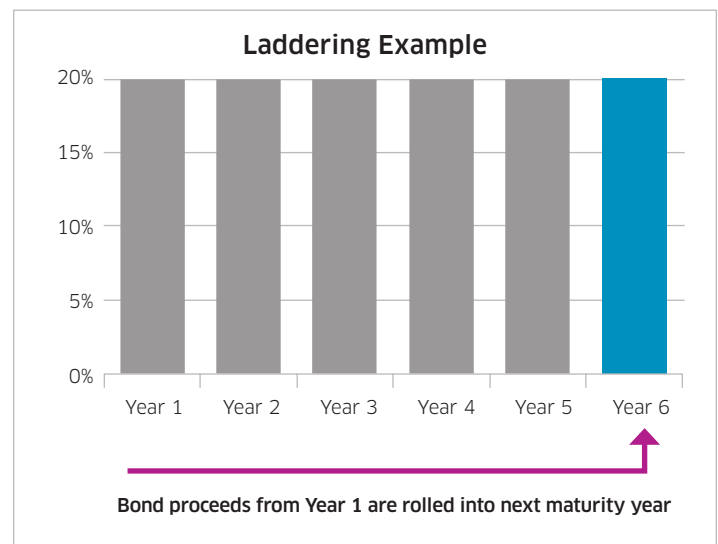
Below we have listed holdings as of 2/28/2018 in the Nasdaq BulletShares Investment Grade 5 Year Ladder Index (NQBIG5).

SYMBOL	NAME	INDEX WEIGHT
BSCI	BulletShares 2018 Corporate Bond ETF	16.85
BSCJ	BulletShares 2019 Corporate Bond ETF	20.11
BSCK	BulletShares 2020 Corporate Bond ETF	19.96
BACL	BulletShares 2021 Corporate Bond ETF	19.89
BSCM	BulletShares 2022 Corporate Bond ETF	19.85
BSCN	BulletShares 2023 Corporate Bond ETF	3.34

Bond Laddering Concepts:

- Laddering is an efficient way of helping Fixed Income investors reduce interest rate risk;
- The strategy involves purchasing a number of different bond funds, each of which has a defined maturity;
- Each of the holdings are unique in maturity when compared to the other holdings in the portfolio;
- Proceeds from maturing bonds are rolled into the bonds further out on the ladder;
- Strategy helps avoid trying to time shorter term interest rate moves and take advantage of the typically upward-sloping structure of the yield curve.
- One major disadvantage of laddering using individual bonds is the large capital requirement necessary and/or concentrated credit risk.

Laddering Example

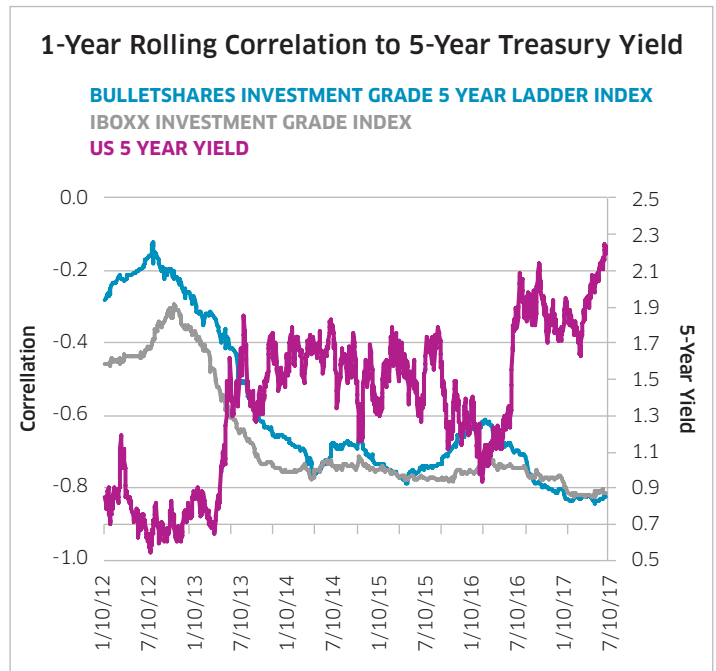
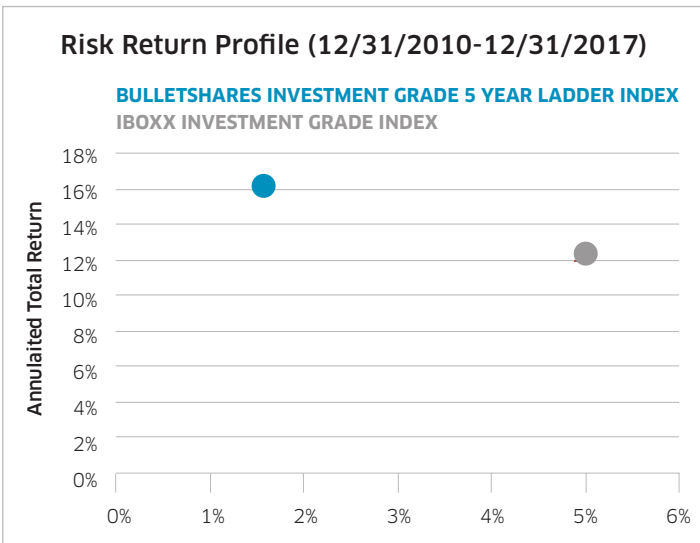


Nasdaq BulletShares Ladder: Reward/Risk

The direction of future interest rates plays a key role in the fixed income decision making process. Although the focus in recent months has been on the sharp rise in rates, defined maturity laddering can provide consistent returns in any type of rate context:

- Interest Rates Unchanged: Investors are shifted into longer term investments and since the yield curve is normally upward-sloping, will generate a higher yield;
- Interest Rates Rise: The investor benefits from consistently reinvesting proceeds from maturing bonds into new higher-yielding bonds and avoid loss of principle as these target maturity ETFs can be held to maturity;
- Interest Rates Fall: Investors benefit because they are locked into higher yielding bonds than they could otherwise obtain in the current market.

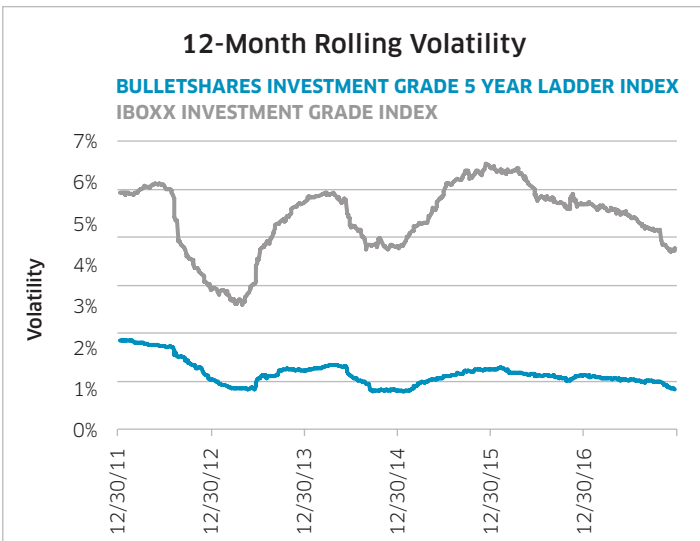
Laddering can also help produce better risk-adjusted returns. The scatter plot below highlights the risk/return profiles of the Nasdaq BulletShares Investment Grade 5 Year Ladder Index to the traditional iBoxx Investment Grade Index. On a risk adjusted basis, the laddering methodology is a more attractive alternative.



One of the key features of laddering is not necessarily the return, but the efficient control of volatility, which can lead to better risk-adjusted returns overall. On a rolling basis, the Nasdaq BulletShares Investment Grade 5 Year Ladder Index displays lower volatility characteristics over time.

Conclusion

Moving forward, managing risk in a new interest rate environment proves to be a daunting task. With rates jumping over the last year and few months since the election and the largely unclear moves from the Fed looming, investors have taken on additional risk in the “search of yield.” The utilization of defined maturity indexes allows investors to better target and manage those risks within their tolerances. The Nasdaq BulletShares suite of defined maturity indexes offers the fixed income investor a range of benefits including transparency, diversification, and flexibility. Additionally, these indexes allow investors to easily create and implement strategies such as laddering, which have historically only been achievable with individual bonds. Defined maturity indexes represent the latest innovative thinking in the fixed income realm which can help provide attractive risk adjusted return, regardless of the interest rate environment. Below is a complete list of each Nasdaq Index symbol/name, along with the corresponding ETP symbol/name for each.



In addition to better volatility control, the chart below highlights the sensitivity of both indexes to changes in the 5-Year Treasury Yield. Laddering is less sensitive to changes in rates and is better positioned to withstand a move higher in rates, with less volatility.

ETP SYMBOL	ETP NAME	INDEX TICKER	INDEX NAME
BSCI	Invesco BulletShares 2018 Corporate Bond ETF	BSCBI	Nasdaq BulletShares USD Corporate Bond 2018 Index
BSCJ	Invesco BulletShares 2019 Corporate Bond ETF	BSCBJ	Nasdaq BulletShares USD Corporate Bond 2019 Index
BSCK	Invesco BulletShares 2020 Corporate Bond ETF	BSCBK	Nasdaq BulletShares USD Corporate Bond 2020 Index
BSC L	Invesco BulletShares 2021 Corporate Bond ETF	BSCBL	Nasdaq BulletShares USD Corporate Bond 2021 Index
BSCM	Invesco BulletShares 2022 Corporate Bond ETF	BSCBM	Nasdaq BulletShares USD Corporate Bond 2022 Index
BSCN	Invesco BulletShares 2023 Corporate Bond ETF	BSCBN	Nasdaq BulletShares USD Corporate Bond 2023 Index
BSCO	Invesco BulletShares 2024 Corporate Bond ETF	BSCBO	Nasdaq BulletShares USD Corporate Bond 2024 Index
BSCP	Invesco BulletShares 2025 Corporate Bond ETF	BSCBP	Nasdaq BulletShares USD Corporate Bond 2025 Index
BSCQ	Invesco BulletShares 2026 Corporate Bond ETF	BSCBQ	Nasdaq BulletShares USD Corporate Bond 2026 Index
BSCR	Invesco BulletShares 2027 Corporate Bond ETF	BSCBR	Nasdaq BulletShares USD Corporate Bond 2027 Index
BSJI	Invesco BulletShares 2018 High Yield Corporate Bond ETF	BSJKI	Nasdaq BulletShares USD High Yield Corporate Bond 2018 Index
BSJJ	Invesco BulletShares 2019 High Yield Corporate Bond ETF	BSJKJ	Nasdaq BulletShares USD High Yield Corporate Bond 2019 Index
BSJK	Invesco BulletShares 2020 High Yield Corporate Bond ETF	BSJJK	Nasdaq BulletShares USD High Yield Corporate Bond 2020 Index
BSJL	Invesco BulletShares 2021 High Yield Corporate Bond ETF	BSJKL	Nasdaq BulletShares USD High Yield Corporate Bond 2021 Index
BSJM	Invesco BulletShares 2022 High Yield Corporate Bond ETF	BSJKM	Nasdaq BulletShares USD High Yield Corporate Bond 2022 Index
BSJN	Invesco BulletShares 2023 High Yield Corporate Bond ETF	BSJKN	Nasdaq BulletShares USD High Yield Corporate Bond 2023 Index
BSJO	Invesco BulletShares 2023 High Yield Corporate Bond ETF	BSJKO	Nasdaq BulletShares USD High Yield Corporate Bond 2024 Index
BSJP	Invesco BulletShares 2025 High Yield Corporate Bond ETF	BSJKP	Nasdaq BulletShares USD High Yield Corporate Bond 2025 Index

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