# Nasdaq LadderRite Indexes

## A Risk Awareness Solution to the Current Fixed Income Market

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2018 has, thus far, proved to be a very challenging year for the fixed income market. As was widely contemplated through the extended low-interest environment (2009-2017), during which rates were held low by the Federal Reserve utilizing various monetary policy tools, the US 10-year Treasury yield has finally started to show a different regime, and breaching the 3% level for the first time in more than four years. Due to strong employment and economic indicators, the futures market predicts that the Fed will raise the fed funds rate 3 to 4 times this year, potentially bringing it above 2% this year and close to 3% by the end of 2019.

**Chart 1: The US 10 Year Treasury Yield Has Finally Crossed Above 3%**
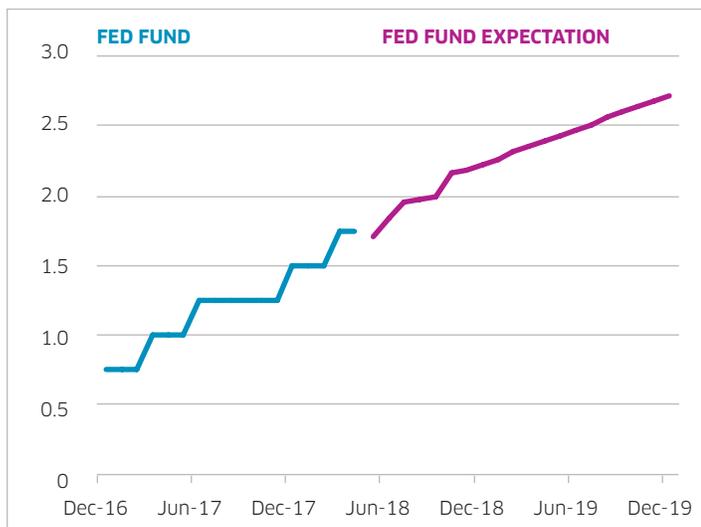


Source: Bloomberg

## Summary

- Traditional Fixed Income benchmarks provide broad access to bonds as an asset class, and may in-fact, not do well in a bond market downturn, such as the one that began in late 2017.

- Investors should look for more precise, smarter, and more-risk-aware ways to benchmark fixed income portfolios.

- The Nasdaq LadderRite 0-5 Year USD Corporate Bond Index (LDRIG05) is designed to focus on Target Duration Management and Turnover Optimization. All else equal, it could provide a greater level of risk-adjusted returns and reduced trading costs.

## Chart 2: The Fed May Continuously Raise Interest Rates to Well Above 2%

**FED FUND**   **FED FUND EXPECTATION**



Source: Fed fund target rates and fed fund futures from Bloomberg

For benchmarks that represent a traditionally less-volatile, cash-preservation asset class, the performance of the construction and rebalancing methods of traditional fixed income indexes creates undue risks to portfolio managers, especially in a rising rate environment. For example, iBoxx USD Liquid Investment Grade Index (IBOXIG), a commonly used benchmark for US corporate bonds, has lost more than 5% in 2018. Fixed Income investors need to seek more precise, smarter, and more-risk-aware index solutions to navigate this challenging environment. Thus far, the Nasdaq LadderRite 0-5 Year USD Corporate Bond Index (LDRIG05) has been able to better preserve capital during the downturn in the bond market that began in late 2017.

## Chart 3: Traditional Fixed Income Products Tend to Underperform in the Current Environment

**NASDAQ LADDERRITE 0-5Y USD CORP BOND INDEX**
**IBOXX USD LIQUID INVESTMENT GRADE INDEX**
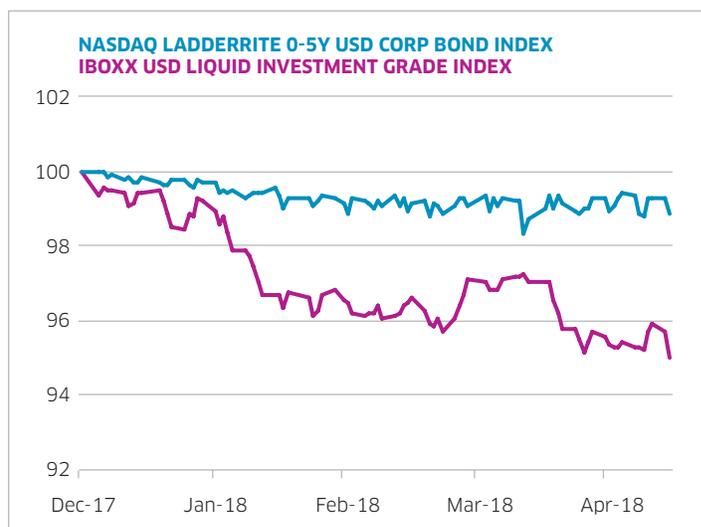


Source: Nasdaq and Bloomberg

Why may the Nasdaq LadderRite 0-5 Year USD Corporate Bond Index (LDRI) offer a better solution for fixed income investors? First, let's review some of the potential pitfalls of traditional fixed income indexes:

• **Minimum Maturity Rules**. Minimum maturity rules often require bonds maturing within a year to be moved out of an index. This can result in front-running, undesirable taxable events, and underperformance in a bearish bond market.

• **Non-Targeted Duration.** Traditional bond indexes are market value weighted; which can result in the concentration of index cash flows around certain maturities and fluctuations in the index's duration when it is rebalanced. Managing a portfolio benchmarked to such an index can make risk management a more difficult process.

• **Non-Optimized Rebalancing.** Traditional bond indexes do a complete rebalancing on a regular basis, which can generate costly portfolio turnover for funds that track them.

The Nasdaq LadderRite 0-5 Year USD Corporate Bond Index (LDRIG05) brings precise, liquid, targeted-duration exposure to passive fixed income indexing in order to address the above mentioned shortcomings in traditional fixed income benchmarks:

- **Laddered Allocation.** Employs a laddered approach targeting an equal weight for each maturity year in the index. This approach creates a more predictable, smoother cash flow stream and less-volatile index duration.

- **Equal Weighted Maturities/Rungs**: Within the same maturity year bucket (rung), bonds are also equally-weighted to mitigate the issuer concentration risk.

- **Bonds Held to Maturity**. Bonds are held to maturity in the Nasdaq LadderRite Indexes and are only removed from the index before maturity if they are called by the issuer or otherwise become ineligible for inclusion in the index. By holding bonds to maturity, the Index also prevents index front running, decreases taxable events, and reduces NAV-impairing realized losses in bearish bond markets.

- **Turnover Optimized Rebalancing Processes**. Nasdaq's (patent-pending) Turnover Optimized Portfolio (TOP) Rebalancing Process™ minimizes transaction costs while maintaining the index's targeted-duration exposure.

## Why Ladder?

In a challenging fixed income market coupled with a continued need for fixed income exposure, a laddered bond index provides an improved method of maintaining exposure while limiting the volatility of duration and realized losses induced by minimum maturity rules and non-optimized rebalancing. All else equal, a laddered investment strategy offers greater levels of risk-adjusted returns than a comparable market value weighted strategy.  The ladder methodology Nasdaq utilizes also maintains a near-constant exposure to a duration target during the monthly rebalancing process.

**Chart 4: Laddered Portfolio Duration Tends to be More Stable over Time**
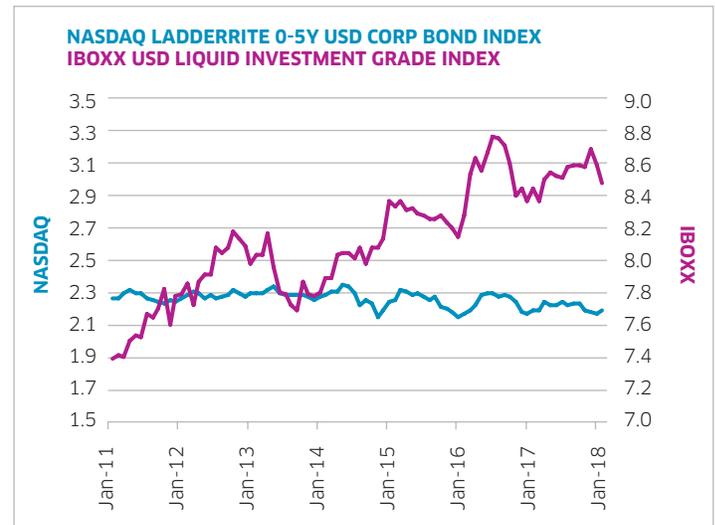


Source: Nasdaq and Bloomberg

## Why TOP?

The TOP index rebalancing process is a proprietary index calculation protocol that seeks to minimize turnover of index constituents. Under the TOP Rebalancing Process, the traditional index rebalancing process serves as a tool to produce a target portfolio that guides the application of index cash balances with a rule based approach. The cash flows provided by index constituents since the last rebalancing act as constraint on the amount of index rebalancing that occurs. The result is a three-step rebalancing process:

(1) Eligible index constituents are identified through the application of a series of screens;

(2) Eligible index constituents are then weighted according to the methodology to create a target portfolio; and

(3) Index cash balances are then applied to eligible index constituents in proportion to the extent they are underweighted relative to the target portfolio.

Using the TOP Rebalancing Process eliminates forced odd-lot portfolio sales while delivering index risk and return characteristics that are substantially identical to that of an index that uses the traditional rebalancing process.

## Table 1: How Reduced Index Constituent Turnover will Improve Fixed-Income ETF Outcomes

| WHAT REDUCEDTURNOVER MEANS | HOW SPONSORS & INVESTORS BENEFIT |
|---|---|
| Fewer Trades | • Less burden on portfolio management team |
| Lower Transaction Costs | • Improved risk-adjusted performance<br>• Less expected tracking error |
| Product Differentiation | • Evidence of thought leadership for sponsors<br>• Low turnover alternative for investors<br>• Transparent and rules-based |

## Table 2: Turnover for Traditional Fixed Income Products

| SYMBOL | FIXED INCOME FUND NAME | FUND TURNOVER& |
|---|---|---|
| VFSTX | Vanguard Short Term Investment Grade | 75% |
| VFICX | Vanguard Int. Term Investment Grade | 70% |
| VWEHX | Vanguard Core Corporate | 34% |
| VWESX | Vanguard Long-Term Investment Grade | 35% |
| CRED | Barclays Credit Bond Fund | 10% |
| CSJ | Barclays 1-3 year Credit Bond Fund | 17% |
| CIU | Barclays Intermediate Credit Bond Fund | 7% |
| LQD | iBoxx $ Investment Grade Corporate Bond | 9% |
| Average Turnover | | ~35% |

* Turnover is updated from annual reports.

## Table 3: Turnover Impact on TOP Index

| | TRADITIONAL LADDERED INDEX | TOP INDEX | MONTHLY SAVINGS |
|---|---|---|---|
| Gross Turnover | 20.6% | 2.4% | 18.2% |
| Anticipated Trading Costs[1] | .050% to .077% | .004% to .009% | .046-.068% |

### Top Impact On Laddered Strategy

Annualized Reduction in One-way Turnover

~90%

Annualized Performance improvement

0.55% TO 0.82%

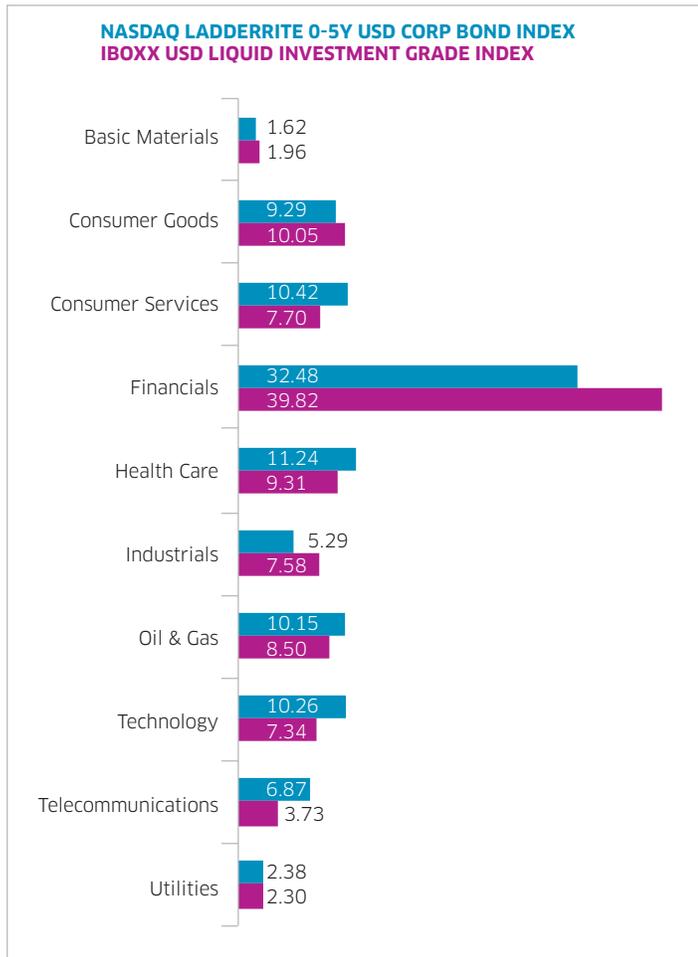1 Bid offer spread at 0.50% to 0.75%.

Source: Nasdaq

# Portfolio Review

The Nasdaq LadderRite 0-5 Year USD Corporate Bond Index (LDRIG05) holds a smaller number of individual bonds, yet more issuers than the iBoxx USD Liquid Investment Grade Index (IBOXIG). The two have similar issuer sector exposures. LDRIG05 maintained a lower yield and lower duration risk profile, but the overall Risk Reward ratio is more favorable than IBOXIG.

### Table 4: Statistics Summary (Feb. 2018)

| | LDRIG05 | IBOXIG |
|---|---|---|
| Total Bonds | 1674 | 1860 |
| Total Issuers | 492 | 375 |
| YTM (%) | 1.74 | 4.27 |
| Mod. Dur (Y) | 2.44 | 8.35 |
| Risk/Reward | 0.71 | 0.51 |

## Chart 5: Breakdown by Issuer Sectors



**NASDAQ LADDERRITE 0-5Y USD CORP BOND INDEX**
**IBOXX USD LIQUID INVESTMENT GRADE INDEX**

| Sector | NASDAQ LadderRite | iBoxx |
|---|---|---|
| Basic Materials | 1.62 | 1.96 |
| Consumer Goods | 9.29 | 10.05 |
| Consumer Services | 10.42 | 7.70 |
| Financials | 32.48 | 39.82 |
| Health Care | 11.24 | 9.31 |
| Industrials | 5.29 | 7.58 |
| Oil & Gas | 10.15 | 8.50 |
| Technology | 10.26 | 7.34 |
| Telecommunications | 6.87 | 3.73 |
| Utilities | 2.38 | 2.30 |

Source: Nasdaq and Bloomberg

## Conclusion

Given the current economic recovery signs, fluctuations in interest rates, and potentially-aggressive hikes in short-term rates by the Fed combine to present a challenging environment for fixed income investors. Because many traditional fixed income benchmarks provide only broad, issue-weighted exposure to fixed income markets, they may not perform well in a bearish bond market. Investors need to look for more precise, smarter, and more risk-aware solutions for benchmarking fixed income portfolios. The Nasdaq LadderRite 0-5 Year USD Corporate Bond Index (LDRIG05) is rigorously designed to overcome many of the pitfalls of traditional fixed income benchmarks by focusing on Target Duration Management and Turnover Optimization. All else equal, this process may provide a greater level of risk-adjusted returns and reduced trading costs.

| NAME | BLOOMBERG TICKER |
|---|---|
| The NASDAQ LadderRite 0-5 Year USD Corporate Bond Index | LDRIG05 Index |
| Invesco LadderRite 0-5 Year Corporate Bond ETF | LDRI US Equity |
| Invesco LadderRite U.S. 0-5 Year Corporate Bond Index ETF – CAD | USB CN Equity |
| Invesco LadderRite U.S. 0-5 Year Corporate Bond Index ETF – USD | USB/U CN Equity |