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Research

Income in Indexing:

How the iBoxx Liquidity Ecosystem Impacts Credit Markets

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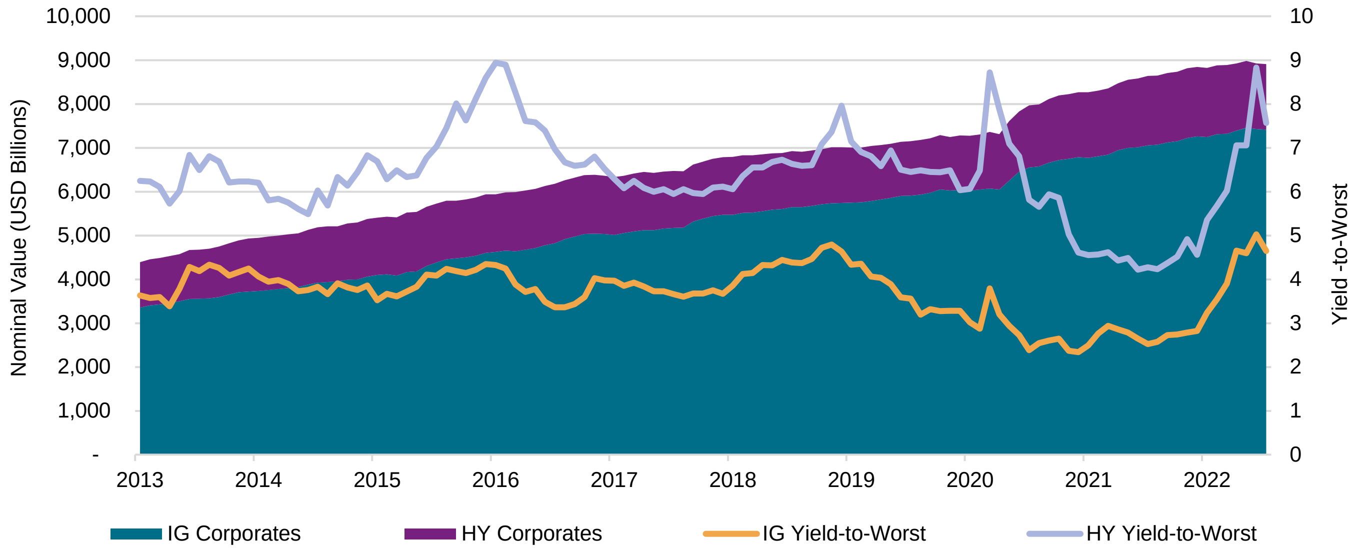
Part 1: Index and Pricing

The iBoxx USD Liquid High Yield Index has served as the leading benchmark for the high yield market since its debut in 2006. Designed to track the most liquid instruments in the high yield market, the index supports a broad trading ecosystem via ETFs and derivatives. Though they have been generally excluded from traditional aggregate-type fixed income benchmarks in the past, high yield bonds remain a growing asset class that has historically offered yields that exceed investment grade debt (see Exhibit 1). In exchange for incremental yield are typically heightened credit and liquidity risk. In this article, we examine the components of the iBoxx USD Liquid High Yield Index ("IBOXHY") that have demonstrated potential mitigation of liquidity risk. Contrasting other broad benchmarks to IBOXHY helps explain why liquid index construction matters, not just for the indices, but for the broader corporate bond ecosystem. We estimate the size of the ecosystem currently supported by IBOXHY to be in the hundreds of billions of U.S. dollars, and liquidity is measured as its underlying bond bid offer spreads. Because of the index design, it has been able to achieve the liquidity objective for over 15 years.

Promoting transparency with an emphasis on liquidity, the indices are constructed to serve as a basis for tradable instruments like ETFs, swaps and futures. In a follow up to this paper, we will explore the fund, derivative and securities lending markets that propagate liquidity in various forms.

Exhibit 1: Growth of the U.S. Credit Markets



Source: S&P Dow Jones Indices LLC. Information above pertains to iBoxx USD Corporates (Investment Grade Corporates) launched June 28, 2005, and iBoxx USD High Yield Developed Markets (High Yield Corporates) launched on May 31, 2018. Chart is provided for illustrative purposes.

The iBoxx Liquidity Ecosystem in Different Markets

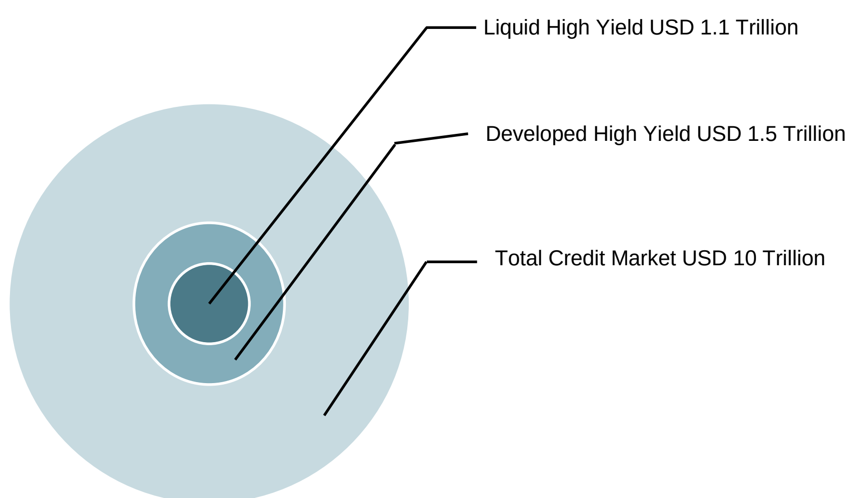
ETFs have been used to access high yield markets since the first ETF tracking the iBoxx USD Liquid High Yield Index launched in 2007. We will detail how index construction plays a pivotal role in identifying the optimal mix of bonds to track the performance of the overall high yield market. Beyond ETFs, total return swaps on IBOXHY are often used to express short positions, or to hedge a long position. We will discuss how volumes in that market have exceeded assets in the funds several times over, perhaps due to use as a means to hedge risk. For example, in 2021 iBoxx Standardized Total Return Swaps and futures volumes linked to the iBoxx USD Liquid High Yield Index were USD 57.3 billion and USD 40.6 billion, respectively. Given the USD 21.4 billion in ETF AUM tracking the iBoxx USD Liquid High Yield Index at year-end 2021, derivative trading volume-to-ETF AUM was 4.6x.[1] Lastly, holders of funds tracking the iBoxx USD Liquid High Yield Index are seeing increased demand for their shares in the securities lending market, highlighting the growing opportunity set that has evolved around the iBoxx HY ecosystem. Thus, by comparing liquidity of eligible and ineligible bonds in the securities lending market of the iBoxx USD Liquid High Yield Index, we see new ways to independently measure liquidity. Each of these areas shines a light on how together they contribute to the index liquidity ecosystem.

[1] Source: S&P Dow Jones Indices, fund analysis: FactSet Company/Security Analysis Tool, trade volume analysis: DTCC (https://www.dtcc.com/repository-otc-data), futures volume analysis: Cboe Global Markets. (https://www.cboe.com/us/futures/market_statistics/historical_data/)

How Index Construction Contributes to the Liquidity Ecosystem

With just over USD 10 trillion in debt outstanding, the U.S. corporate bond market is among the largest and fastest growing non-Treasury markets in the U.S. (see Exhibit 2). With its size comes an extensive array of features from borrower type, tenor, embedded options, capital structure, credit quality and covenants. Indices' role in measuring the market helps isolate the critical criteria, defining characteristics that help identify the common bond features. The iBoxx USD Benchmark Indices feature standardized index construction rules for the investment marketplace. Going beyond benchmarks, the iBoxx USD Liquid High Yield Index takes additional measures to identify the largest issuers in the market through issuer size minimums, while maintaining diversification through issuer caps. The index also includes enhanced size criteria versus the broader iBoxx USD High Yield Index. This narrows the market substantially to about USD 1 trillion represented in the iBoxx USD Liquid High Yield Index, or about 70% of the broader HY market captured by the iBoxx USD HY Benchmark as of July 2022.

Exhibit 2: Targeting Liquidity in the USD 10 Trillion Corporate Bond Market



Source: S&P Dow Jones Indices LLC. Information above pertains to: iBoxx USD High Yield Developed Markets Index ("Developed High Yield"), iBoxx USD Liquid High Yield Index ("Liquid High Yield") and Total Credit Market as reported by SIFMA 2022 U.S. Fixed Income Securities Outstanding. See https://www.sifma.org/resources/research/us-fixed-income-securities-statistics/. Chart is provided for illustrative purposes.

We can see the extent to which the liquid indices filter the broader benchmark universe by comparing the criteria for the iBoxx USD Liquid High Yield Index to the iBoxx USD High Yield Developed Markets Index (see Exhibit 3).

Exhibit 3: Index Comparison

	iBoxx USD Liquid High Yield Index	iBoxx USD High Yield Developed Markets Index
Amount Outstanding	USD 400 million	USD 200 million
Issuer Size	USD 1 billion	NA
Issuer Cap	3%	NA
Lockout Period	3 months	NA
Minimum Run	6 months	NA
Time to Maturity	12 months, 18 months for new insertions	12 months

Source: S&P Dow Jones Indices LLC. Data as of May 2022. Table is provided for illustrative purposes.

Comparing the two indices, the required minimum amount outstanding per issue doubles from USD 200 million to USD 400 million for the liquid index. Also, the iBoxx USD Liquid High Yield Index introduces an issuer size criterion, such that the overall issuer must have a minimum of USD 1 billion in debt outstanding. These criteria target the most liquid segment of the high yield market, selecting the most liquid bonds from the most liquid high yield issuers. The iBoxx USD Liquid High Yield Index also includes an issuer weighting cap of 3%, which helps ensure the index is diversified and prevents idiosyncratic risk from affecting the index's risk/return profile.

The iBoxx USD Liquid High Yield Index also has minimum run criteria, such that new entrants remain in the index for six months post-addition, except for upgrades or default. It also has a three-month lockout period, which prevents bonds that get removed from the index from rejoining for three months from the point of removal, even if the bond subsequently meets all other criteria for the index. The minimum run and lockout period rules are unique to the iBoxx USD Liquid High Yield Index and have the effect of reducing turnover within the index, which enhances tradability by avoiding arbitrary trading costs.

As of July 31, 2022, the effect of these enhanced liquidity measures filtered the iBoxx USD High Yield Developed Markets Index value down from USD 1.5 trillion to USD 1.1 trillion in the iBoxx USD Liquid High Yield Index, with the number of bonds included decreasing from over 2,050 to just under 1,200. The resulting universe is a focused subset of the broader market that prioritizes liquidity and, hence, trade efficiency while providing a diversified representation of the broad high yield market.

The price of index bonds is a critical component of all iBoxx index methodologies, especially in fixed income markets where securities are traded over-the-counter. The pricing for iBoxx indices is provided by S&P Global's Evaluated Bond Pricing Team, which is a part of S&P Global Market Intelligence (an independent affiliate of S&P Dow Jones Indices LLC). S&P Global's Evaluated Bond Pricing Team conducts rigorous reviews across multiple data sources throughout the day to determine bond pricing. In particular, the Pricing Team reviews pre- and post-trade data. Pre-trade data includes real-time bid-offer spreads sourced from market makers, which are captured via Financial Information Exchange (FIX) protocol feeds, dealer runs and inter-dealer brokers feeds. Post-trade data includes executed trades as observed via TRACE from FINRA.

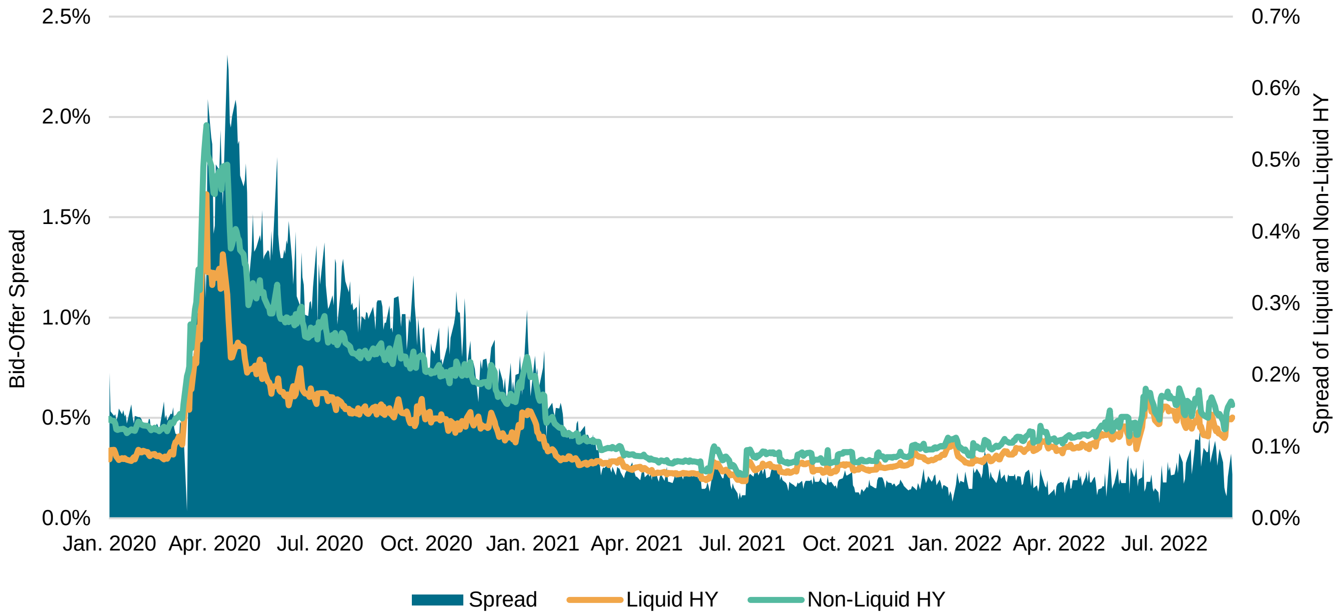
FIX feeds from banks and inter-dealer broker feeds provide the S&P Global's Evaluated Bond Pricing Team with bid and offer data not always available on electronic trading venues. A flow of dealer runs provides the Pricing Team with bond dealer quotes disseminated to institutional clients and also often carries "Axe" data. In general, there are significantly more data points from the pre-trade side versus what actually trades. This means the review of pre-trade data provides important color on where markets are at any moment and is an important differentiator from trade-only based approaches.

Instruments tied to the iBoxx USD Liquid High Yield Index strike a balance between breadth and diversification through the index's unique construction. In the next section, we measure the liquidity benefit also found in the instruments.

Measuring Liquidity in the Bond Market

Measuring the liquidity premium of high yield bonds offers a stark contrast for the sector. S&P Global's Evaluated Bond Pricing Team, tracks bid-offer spreads, reported transactions and depth of dealer quotes to assess liquidity. Independent analysis of bond liquidity supports the index construction process of the iBoxx USD Liquid High Yield Index. Comparing the bid-offer spread of IBOXHY to the broader high yield market highlights the liquidity of bonds within IBOXHY. Spreads for IBOXHY constituents averaged 48 bps through the summer of 2022, 7 bps tighter than high yield bonds not eligible for IBOXHY. Tighter spreads translate to better pricing for buyers and sellers, improving access to markets at a lower cost. The spread advantage of eligible constituents arising from index construction methods seeking out the most liquid bonds also appears to uphold throughout times of stress. During the extreme events of 2020, the spread advantage for IBOXHY grew to 65 bps, averaging over 50 bps at the height of the pandemic in April 2020 (see Exhibit 4).

Exhibit 4: Tighter Bid-Offer Spreads in the iBoxx USD Liquid High Yield Index



Source: S&P Global Evaluated Bond Pricing. Liquid HY represent index weighted constituent spreads of the iBoxx USD Liquid High Yield Index. Non-Liquid HY represent index weighted constituent spread of the iBoxx USD Developed Markets High Yield Index excluding bonds in Liquid HY. Spread represents the difference between average spread of Liquid HY and Non-Liquid HY. Constituent scores as of August 2022. Chart is provided for illustrative purposes.

Conclusion

Information is essential to achieving financial goals. As advocates of indexing, central to that view is access to quality benchmarks and measurement data over time. As bond markets evolve and the methods of accessing them create new opportunities, indices continue to provide transparent performance across markets. These advancements are also driven by developments in multi-source pricing of fixed income instruments. The high yield market continues to evolve as well. The iBoxx USD Liquid High Yield Index and its ecosystem offer essential insight into and a means to access the market.

The discerning rules in the iBoxx USD Liquid High Yield Index resulted in a universe composed of the most accessible HY bonds. The index liquidity rules serve as a useful foundation for tradable products, which currently span ETFs, total return swaps and futures. In Part 2, "Income in Indexing: How the iBoxx Liquidity Ecosystem Lends Well to Credit Markets," we will review a more recent evolution in the high yield ecosystem—the high yield lending market surrounding the iBoxx USD Liquid High Yield Index—which enhances the overall Index liquidity.

For more information on the iBoxx USD Liquid High Yield Index, please see the complete methodology here.

Performance Disclosure/Back-Tested Data

The iBoxx USD High Yield Developed Markets was launched on May 31, 2018. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. However, when creating back-tested history for periods of market anomalies or other periods that do not reflect the general current market environment, index methodology rules may be relaxed to capture a large enough universe of securities to simulate the target market the index is designed to measure or strategy the index is designed to capture. For example, market capitalization and liquidity thresholds may be reduced. Complete index methodology details are available at www.spglobal.com/spdji. Past performance of the Index is not an indication of future results. Back-tested performance reflects application of an index methodology and selection of index constituents with the benefit of hindsight and knowledge of factors that may have positively affected its performance, cannot account for all financial risk that may affect results and may be considered to reflect survivor/look ahead bias. Actual returns may differ significantly from, and be lower than, back-tested returns. Past performance is not an indication or guarantee of future results. Please refer to the methodology for the Index for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations. Back-tested performance is for use with institutions only; not for use with retail investors.

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