

Introducing the iBoxx USD Liquid Investment Grade BBB 0+ Index

Contributor

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Executive Summary

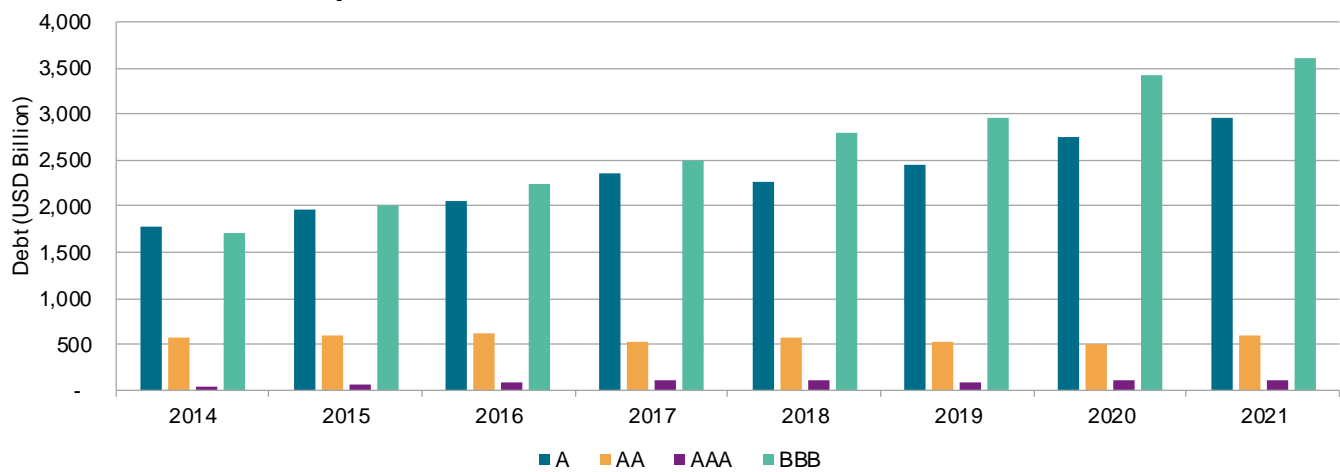
The iBoxx USD Liquid Investment Grade BBB 0+ Index seeks to track the BBB segment of the investment-grade (IG) universe. As the IG universe has evolved in the past few years, the launch of this index comes at an opportune time for the following reasons:

- The BBB rated segment of the USD IG corporate bond market is the largest segment of the IG credit markets, at 50% of the notional outstanding. It has become increasingly important for IG debt investors looking for incremental yield and risk exposure;
- Further, BBB rated debt has outperformed the broader IG market on a risk-adjusted return basis;
- BBB rated debt can offer a pickup in yield; and
- Incorporating a basis of investment that targets the investable BBB rated segment of the USD IG bond market could help refine exposure and grant greater flexibility in positioning.

Overview of the BBB Market

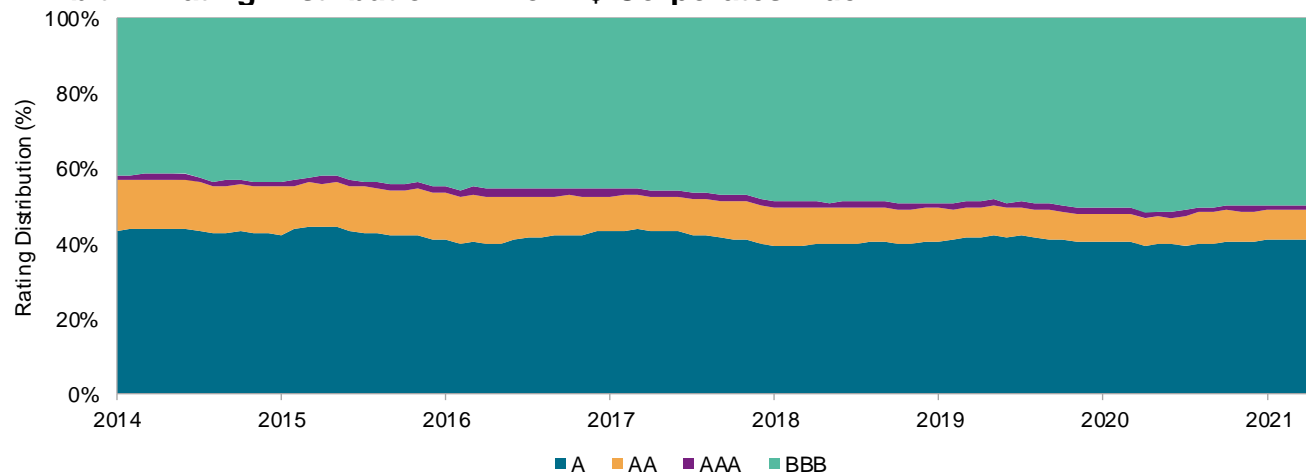
The share of BBB rated debt in the iBoxx \$ Corporates Index, a benchmark tracking USD IG corporate debt with over USD 500 million in debt outstanding per issue and over one year to maturity, was USD 3.7 trillion (49.7% of the market cap) as of March 31, 2022. A rated debt was the second-largest component of the benchmark, with USD 3.0 trillion of notional, followed by AA rated (USD 586 billion) and then AAA rated (USD 101 billion).

Exhibit 1: iBoxx \$ Corporates Index Par Amount



Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Exhibit 2: Rating Distribution in iBoxx \$ Corporates Index



Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

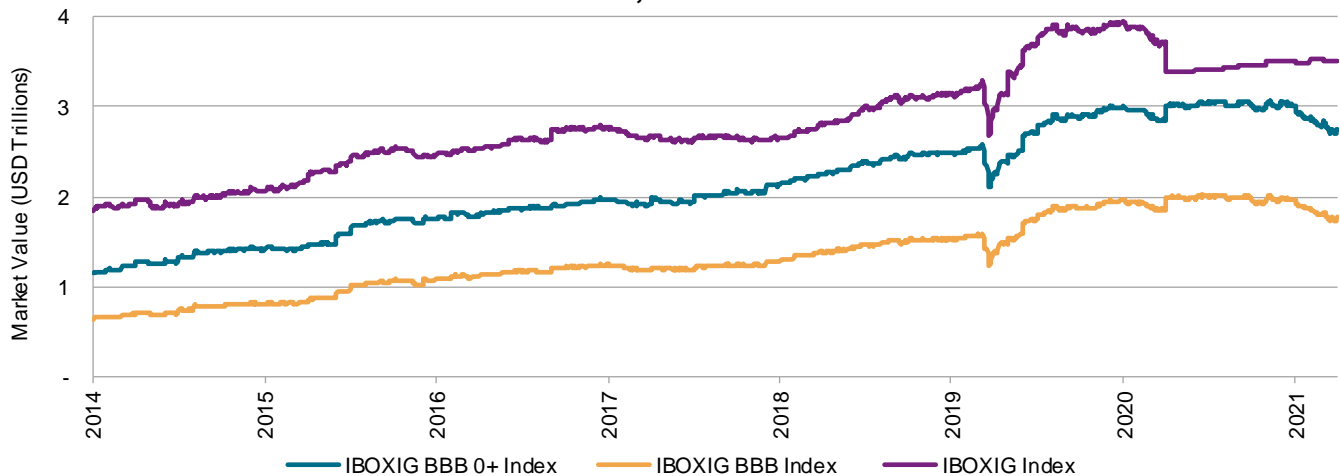
To provide investors a potential way to define access to the most liquid and investable segment of the USD BBB rated corporate bond market, IHS Markit, part of S&P Global, has developed the iBoxx USD Liquid Investment Grade BBB 0+ Index (IBOXIG BBB 0+ Index).

The IBOXIG BBB 0+ Index seeks to provide investors with access to the liquid BBB rated slice of USD corporate bonds across all maturities and is designed to be a suitable basis for liquid, tradable products. The index rules differ from the iBoxx \$ Liquid Investment Grade Index (IBOXIG Index), the USD IG index that underlies the most liquid tradable corporate IG instruments, to enhance the coverage of this important rating slice. The IBOXIG BBB 0+ Index also maintains criteria that support liquidity and accessibility, which are explained in the next section. With index data starting in 2010, investors can now observe how this important credit segment has evolved and continues to take shape.

Rules Comparison

The IBOXIG BBB 0+ Index has several criteria that distinguish it from the IBOXIG Index. In addition to the BBB rating focus of the IBOXIG BBB 0+ Index, it also has lower issuer and issue amount outstanding criteria: USD 1 billion and USD 500 million, respectively, versus USD 2 billion and USD 750 million for the IBOXIG Index. Separately, the IBOXIG BBB 0+ Index includes bonds that mature between 0 and 3 years, which the IBOXIG Index does not. These two distinguishing criteria provide for a broad investment universe within the BBB rating slice while not sacrificing liquidity measures. They also enable the index to include USD 2.7 trillion of BBB rated market value versus the USD 1.8 trillion covered in the iBoxx USD Liquid Investment Grade BBB Index (IBOXIG BBB Index), which is the BBB rated subindex of the IBOXIG Index. As Exhibit 3 shows, the market value of the IBOXIG BBB 0+ Index covered USD 758 billion less than the USD 3.5 trillion included in IBOXIG Index as of March 31, 2022. The broad coverage of debt while maintaining liquidity-driven criteria could be what makes the IBOXIG BBB 0+ Index well suited as a tradable basis for the BBB rated corporate bond market in USD.

Exhibit 3: Market Value of IBOXIG BBB 0+, IBOXIG BBB and IBOXIG Indices



Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

The key methodological differences between the IBOXIG BBB 0+ Index and IBOXIG Index are highlighted in the summary in Exhibit 4.

Exhibit 4: Index Methodologies of the IBOXIG BBB 0+ and IBOXIG Indices

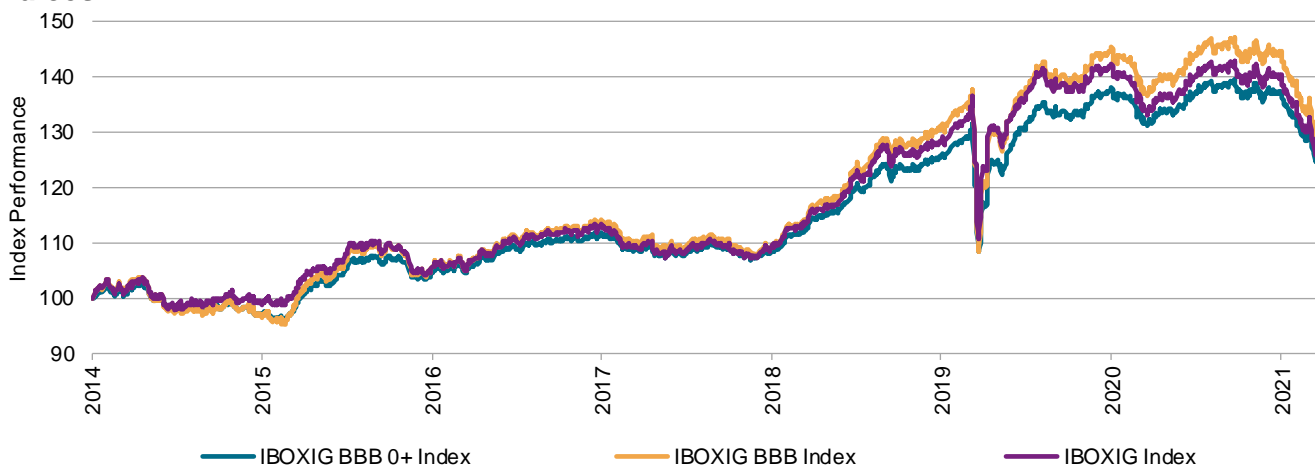
Category	IBOXIG BBB 0+ Index	IBOXIG Index
Bond Denomination	USD	USD
Credit Rating	iBoxx rating of BBB only	Investment grade (iBoxx rating of BBB and above)
Minimum Maturity	0 years for existing index constituents	3 years for existing index constituents
	New index additions must have a minimum time to maturity of 0.5 years (6 months) Included bonds must have a minimum time to maturity at issuance of at least 1 year	New index additions must have a minimum time to maturity of 3.5 years Included bonds must have a minimum time to maturity at issuance of at least 3.5 years
Maximum Maturity	N/A	N/A
Issuer Amount Outstanding Threshold	USD 1 Billion	USD 2 Billion
Issue Amount Outstanding Threshold	USD 500 Million	USD 750 Million
Lockout Period	3 Months	3 Months
Minimum Run	6 Months	6 Months
Weighting Approach	Market value weighted, with 3% issuer caps	Market value weighted, with 3% issuer caps

Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Table is provided for illustrative purposes.

Risk/Return Profile

Assessing performance from the start of 2015 to March 31, 2022, the IBOXIG BBB 0+ Index has exhibited superior risk-adjusted performance versus the IBOXIG Index, as well as the IBOXIG BBB subindex. However, the absolute total return for the index was slightly lower than either the IBOXIG BBB or IBOXIG Indices. The Sharpe ratio for the IBOXIG BBB 0+ Index was 0.62 for the roughly seven-year period, 0.05 and 0.07 greater than the ratio for the IBOXIG BBB and IBOXIG Indices, respectively. With an annualized volatility of 5.3%, the inclusion of 0-3 year bonds within the IBOXIG BBB 0+ Index reduced annualized volatility by more than 100 bps against the IBOXIG BBB and IBOXIG Indices.

Exhibit 5: Historical Performance of the IBOXIG BBB 0+, IBOXIG BBB and IBOXIG Indices



Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Index performance based on total return in USD. The iBoxx USD Liquid Investment Grade BBB 0+ Index was launched Feb. 22, 2022. All data prior to index launch date is back-tested hypothetical data. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Of note, the -17.58% maximum drawdown for the IBOXIG BBB 0+ Index over the period was considerably less than those of the IBOXIG BBB Index (-21.28%) or IBOXIG Index (-18.88%), with the maximum drawdown date occurring on March 20, 2020, across the board.

Exhibit 6: Risk/Return Profiles of the IBOXIG BBB 0+, IBOXIG BBB and IBOXIG Indices

Category	IBOXIG BBB 0+ Index	IBOXIG BBB Index	IBOXIG Index
Annualized Return (%)	3.30	3.84	3.49
Volatility (%)	5.33	6.76	6.35
Sharpe Ratio (0 rates)	0.620	0.568	0.550
Maximum Drawdown (%)	-17.58	-21.28	-18.88
Maximum Drawdown Date	March 20, 2020	March 20, 2020	March 20, 2020

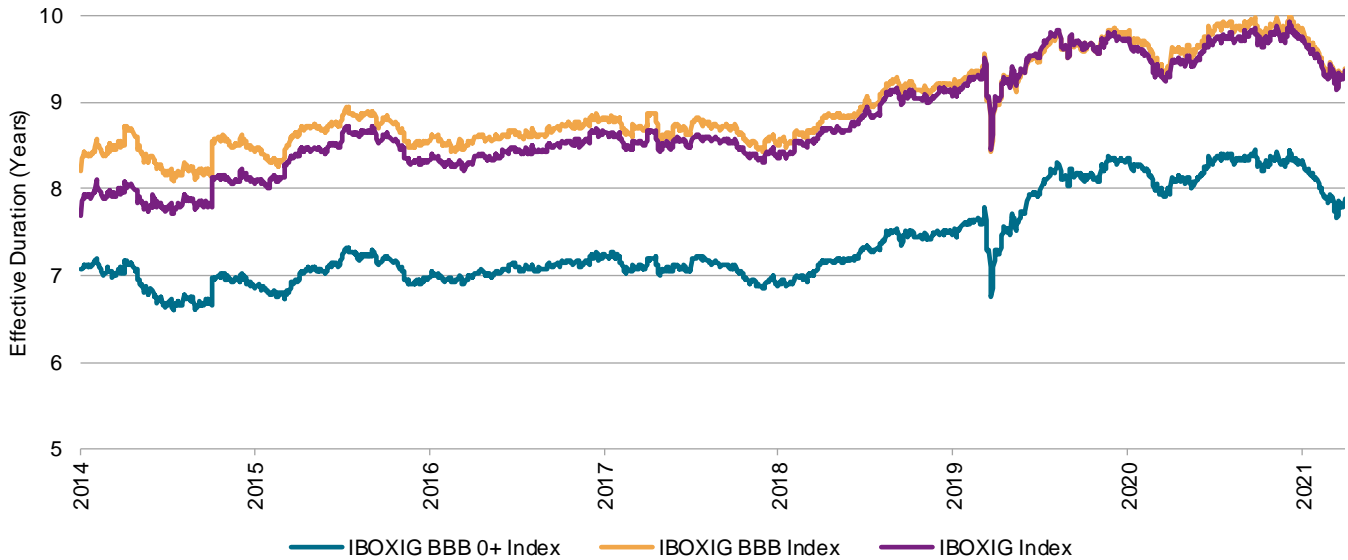
Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. The iBoxx USD Liquid Investment Grade BBB 0+ Index was launched Feb. 22, 2022. All data prior to index launch date is back-tested hypothetical data. Past performance is no guarantee of future results. Table is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Duration and Maturity

The duration of the IBOXIG BBB 0+ Index was lower than the IBOXIG BBB and IBOXIG Indices due to the inclusion of bonds maturing between 0-3 years. This design feature also resulted in lower return volatility, higher risk-adjusted performance and decreased exposure to interest rate risk over the period studied.

The effective duration of the IBOXIG BBB 0+ Index was 7.88 years as of March 31, 2022, which was 1.49 years less than the IBOXIG Index and 1.52 less than the IBOXIG BBB Index (see Exhibit 7).

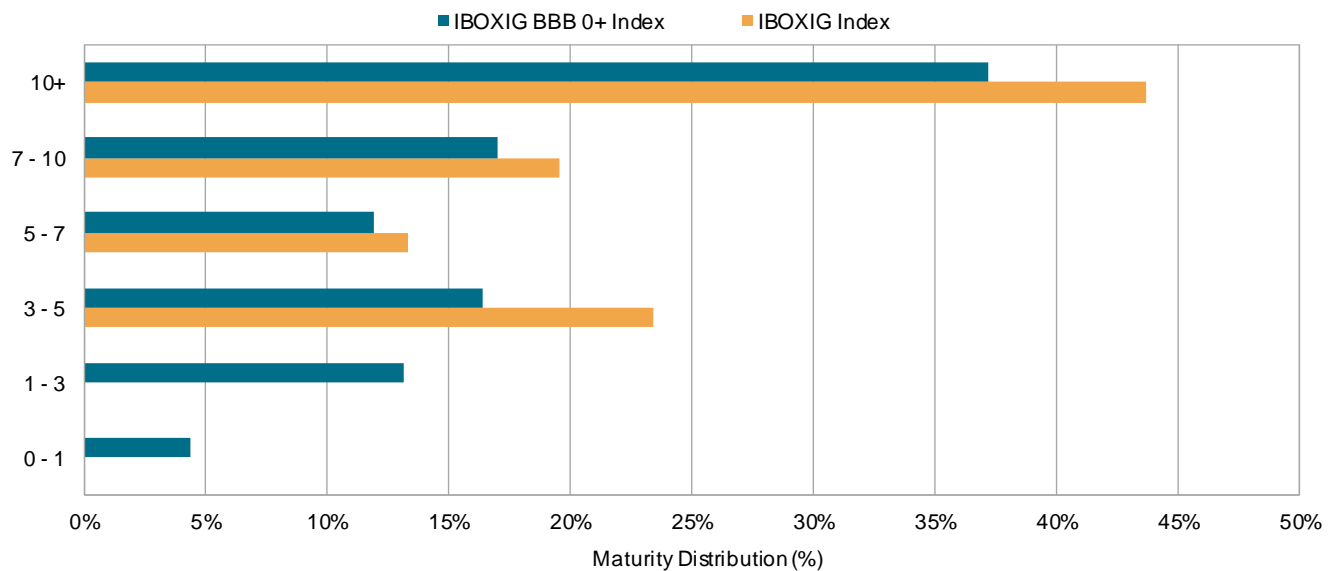
Exhibit 7: Effective Duration of the IBOXIG BBB 0+, IBOXIG BBB and IBOXIG Indices



Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Chart is provided for illustrative purposes.

Bonds maturing within 0-3 years accounted for 17.5% of the IBOXIG BBB 0+ Index as of March 31, 2022, with 4.4% of that belonging to the 0-1 year bucket. The largest maturity bucket in the IBOXIG Index was the 3-5 year range, which accounted for 23.4% of the IBOXIG Index, versus 16.4% in the IBOXIG BBB 0+ Index (see Exhibit 8).

Exhibit 8: Maturity Distribution of the IBOXIG BBB 0+ and IBOXIG Indices



Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Chart is provided for illustrative purposes.

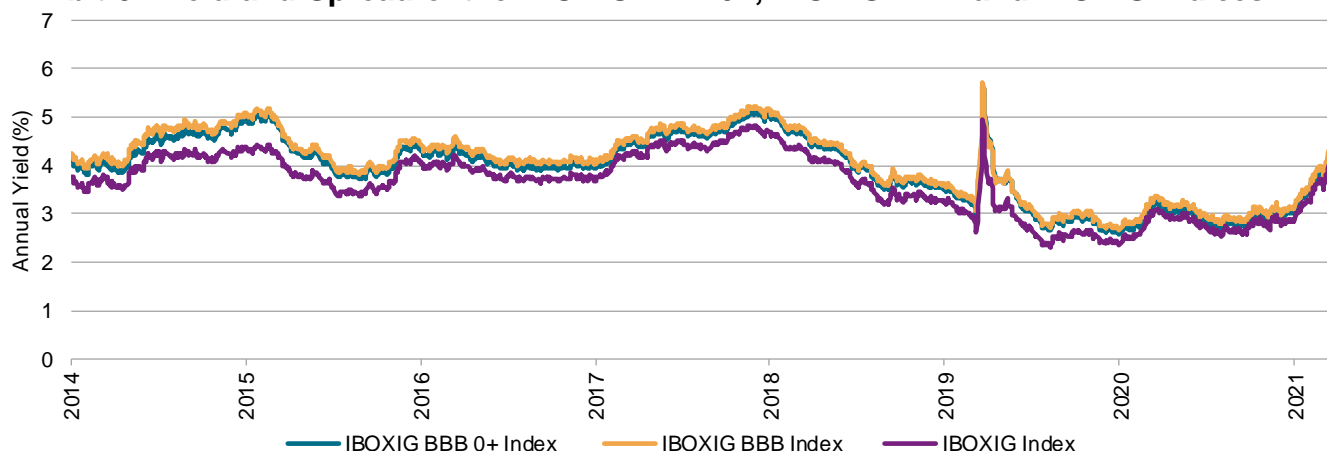
Index Education

For use with institutions only, not for use with retail investors.

Yield and Spread

The yield of the IBOXIG BBB 0+ Index was 4.11% as of March 31, 2022, which was a 25 bp yield pickup versus the IBOXIG Index and 4 bps lower than the IBOXIG BBB Index (see Exhibit 9).

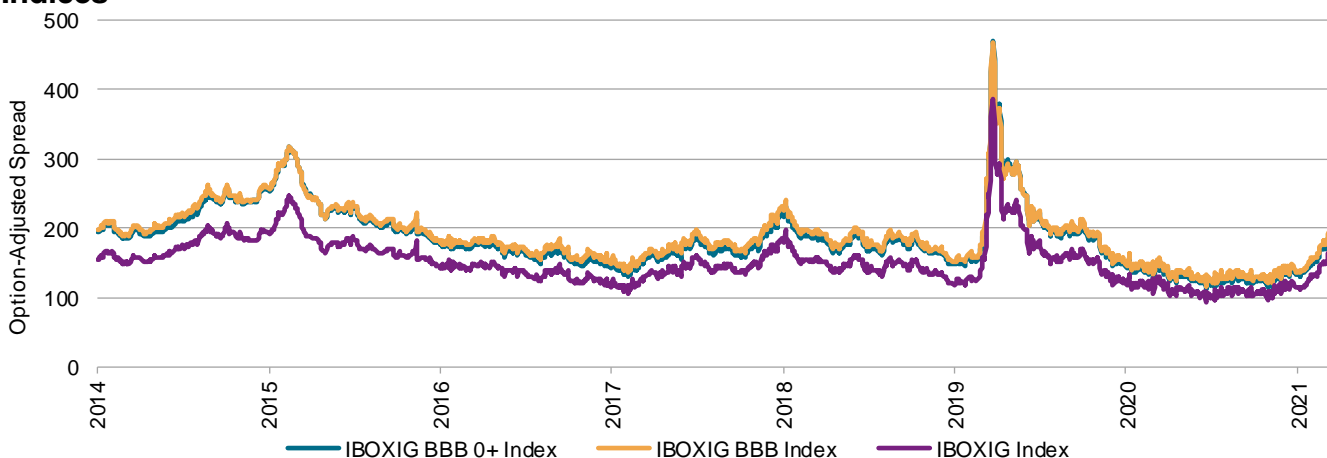
Exhibit 9: Yield and Spread of the IBOXIG BBB 0+, IBOXIG BBB and IBOXIG Indices



Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. The iBoxx USD Liquid Investment Grade BBB 0+ Index was launched Feb. 22, 2022. All data prior to index launch date is back-tested hypothetical data. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

The same relationship held when we compared spreads. The IBOXIG BBB 0+ Index had an option-adjusted spread of 162 bps as of March 31, 2022, 25 bps greater than the IBOXIG Index and 4 bps lower than the IBOXIG BBB Index.

Exhibit 10: Option-Adjusted Spread of the IBOXIG BBB 0+, IBOXIG BBB and IBOXIG Indices

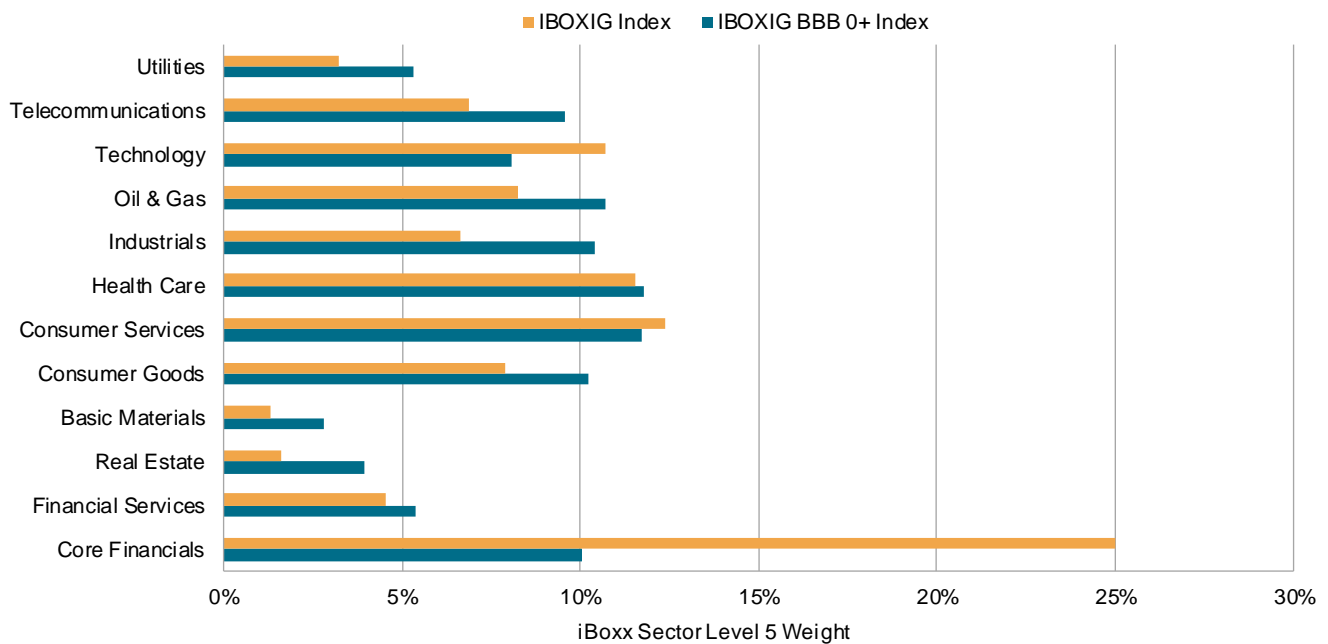


Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. The iBoxx USD Liquid Investment Grade BBB 0+ Index was launched Feb. 22, 2022. All data prior to index launch date is back-tested hypothetical data. Past performance is no guarantee of future results. Chart is provided for illustrative purposes and reflects hypothetical historical performance. Please see the Performance Disclosure at the end of this document for more information regarding the inherent limitations associated with back-tested performance.

Sector Distribution

The most significant sector difference between the IBOXIG BBB 0+ and IBOXIG Indices is the lower exposure to Core Financials in the IBOXIG BBB 0+ Index. The IBOXIG BBB 0+ Index Financials weight as of March 31, 2022, was 19.4%, versus 31.2% in the IBOXIG Index.

Exhibit 11: IBoxx Sector Distribution



Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Chart is provided for illustrative purposes.

Top Issuers

The Core Financials sector difference stems from the largest Core Financials in the IBOXIG Index having a credit rating of A, which accounted for 6 of the top 10 issuers in the IBOXIG Index as of March 31, 2022. Only 2 of the IBOXIG Index top 10 issuers had BBB ratings: AT&T Inc. and Verizon Communications Inc (see Exhibit 11).

Exhibit 11: The IBOXIG Index Top 10 Issuers by Weight

Ticker	Issuer	Weight (%)	Rank	iBoxx Sector Level 5	iBoxx Rating
JPM	JPMorgan Chase & Co	3.00	1	Core Financials	A
BAC	Bank of America Corp	3.00	2	Core Financials	A
GS	The Goldman Sachs Group Inc	2.50	3	Core Financials	A
C	Citigroup Inc	2.35	4	Core Financials	A
T	AT&T Inc	2.32	5	Telecommunications	BBB
MS	Morgan Stanley	2.17	6	Core Financials	A
WFC	Wells Fargo & Co	2.08	7	Core Financials	A
VZ	Verizon Communications Inc	2.08	8	Telecommunications	BBB
AAPL	Apple Inc	1.90	9	Technology	AA
CMCSA	Comcast Corp	1.88	10	Consumer Services	A

Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Table is provided for illustrative purposes.

AT&T and Verizon were also the largest issuers in the IBOXIG BBB 0+ Index, with AT&T pressing right up on the 3% issuer weighting cap, and they were the only two issuers that ranked in the top 10 by size in both indices.

Exhibit 12: The IBOXIG BBB 0+ Index Top 10 Issuers by Weight

Ticker	Issuer	iBoxx Sector Level 5	Weight in IBOXIG BBB 0+ Index (%)	Weight in IBOXIG Index (%)	Rank in IBOXIG Index
T	AT&T Inc	Telecommunications	3.00	2.32	5
VZ	Verizon Communications Inc	Telecommunications	2.88	2.08	8
ORCL	Oracle Corp	Technology	2.60	1.65	12
ABBV	AbbVie Inc	Health Care	2.24	1.25	14
ABIBB	Anheuser-Busch InBev Worldwide Inc	Consumer Goods	2.14	1.67	11
BA	The Boeing Co	Industrials	1.79	1.13	17
GM	General Motors Co	Consumer Goods	1.79	0.85	24
CVS	CVS Health Corp	Consumer Services	1.70	1.17	15
CHTR	Charter Communications Operating LLC	Consumer Services	1.64	1.16	16
AVGO	Broadcom Inc	Technology	1.36	1.03	20

Source: IHS Markit, part of S&P Global. Data as of March 31, 2022. Table is provided for illustrative purposes.

Conclusion

The iBoxx USD Liquid Investment Grade BBB 0+ Index seeks to provide market participants with a measure of the most liquid segment of the USD BBB rated corporate bond market, which is the largest credit band in the IG space. By including bonds maturing within 0-3 years and slightly easing the issuer and issue amount outstanding criteria of the iBoxx \$ Liquid Investment Grade Index, the index focuses on the most liquid segment of the BBB rated market while historically delivering a broad, diversified investment set within the BBB rated bucket. This unique structure has outperformed the broader IG market on a risk-adjusted basis, while also experiencing more tempered drawdowns in times of stress. The BBB rated segment of the market has given greater main street exposure than the broader IG market, which has a heavy tilt toward Financials, given the exclusion of Core Financials that tend to be rated higher than BBB.

Performance Disclosure/Back-Tested Data

The iBoxx USD Liquid Investment Grade BBB 0+ Index was launched February 22, 2022. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance, and is based on the index methodology 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. In addition, forks have not been factored into the back-test data with respect to the S&P Cryptocurrency Indices. For the S&P Cryptocurrency Top 5 & 10 Equal Weight Indices, the custody element of the methodology was not considered; the back-test history is based on the index constituents that meet the custody elements of the Launch Date. Complete index methodology details are available at www.spglobal.com/spdji. 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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