

Why Index Calculation Differences Matter

Case Study of JNK and HYG

While investors cannot invest directly in an index, they can invest in products, such as ETFs, that seek to track the performance of an index. However, an index is a theoretical construct created to measure the performance of a group of assets, whether they are US equities or high yield bonds. Indices are often rules-based and aim to provide a standard for which investments can be measured and tracked.

While active managers are evaluated based on the magnitude of outperformance relative to a benchmark, passive managers are judged by how closely they match the investment results of theirs. The most common measurement of index management efficiency is tracking difference. Definitions around tracking difference are sometimes confused, but for simplicity purposes the market identifies tracking difference as the difference between the return of a fund and its index. Using this simpler definition, tracking difference can be positive when a fund outperforms its index, or negative when it underperforms.

ETFs, Indices and Costs

Most index returns are calculated excluding any transaction costs that may be associated with the rebalance or reconstitution of the index, as these costs will vary. However, for funds that are designed to track an index, the portfolio managers will incur these transaction costs as they seek to replicate the benchmark and its changes. In highly efficient markets, such as US equities, transaction costs are lower due to price transparency and orderly exchange closing mechanisms. However, in less efficient markets, such as high yield bonds, transaction costs can be sizable, leading to differences between the index and a fund seeking to track it. Therefore, understanding the construction methodology of an index or a group of like indices is paramount to evaluating the performance of passive indexed products.

Case in point, Figure 1 shows the reported performance figures for the SPDR Bloomberg Barclays High Yield Bond ETF (JNK) and the iShares iBoxx \$ High Yield Corporate Bond ETF (HYG) and their respective indices from 2010 to 2020. On the surface, HYG appears to approximate the performance of its benchmark with greater precision. In order to assess if this is the case, however, there must be a clear understanding of how HYG's index accounts for transaction costs. HYG is benchmarked to the Markit iBoxx USD Liquid High Yield Index. This index's performance includes transaction costs in two ways.

First, bonds entering the index (in an index reconstitution, for example) enter on the offer side of the market, which is higher than the bid price and is the traditional quoted price for buyers of a bond. But each night, the bonds within an index are priced at the bid. Thus, the Markit iBoxx index performance reflects the natural drop in prices from the offer to the bid side on rebalance date. A phenomenon that an ETF may also experience, as they will typically transact at the offer, but will use bid prices for NAV calculation purposes.

Second, and more importantly, the index includes a Rebalancing Cost Factor, which further affects the index performance, as it will now reflect the costs associated in rebalancing the index — which can be considerable.

As for JNK, it seeks to track the Bloomberg Barclays High Yield Very Liquid Index. This index, like most others from Bloomberg, follows a common convention and has all bonds enter the index on the bid side (while as stated, ETFs typically buy at the higher offer price) and does not include any adjustment for the monthly rebalance costs that the fund incurs.

Effective June 1, 2017, the Bloomberg Barclays High Yield Indices have changed the pricing calculation for new issue bonds entering the index to be priced at the offer, and no longer the bid price. These changes were not implemented retroactively. Therefore, performance prior to the effective date will remain impacted by the aforementioned calculation difference.

In order to make it an apples-to-apples comparison between the two indices, Bloomberg estimates the transaction costs associated rebalancing the index using their proprietary Liquidity Analysis function. On average, the transaction costs explained 52 of the 100 basis points in tracking difference for JNK or approximately 51% (average tracking difference drops from 1.01% to -0.49%). Now, after accounting for transaction costs, the average difference in tracking difference between the two funds drops from 52 basis points to 0 basis points.

Figure 1

Does HYG Really Track High Yield Bonds Better than JNK?

	JNK NAV Return (%)	Bloomberg Barclays High Yield Very Liquid Index (%)	JNK Reported Tracking Difference (%)	HYG NAV Return (%)	Markit iBOXx Liquid High Yield Index (%)	HYG Reported Tracking Difference
2010	13.97	15.08	-1.11	12.08	12.58	-0.50
2011	4.69	6.06	-1.37	5.89	5.94	-0.05
2012	14.34	15.37	-1.03	13.83	14.15	-0.32
2013	5.91	6.60	-0.69	5.90	5.93	-0.03
2014	1.14	2.10	-0.96	2.00	2.13	-0.13
2015	-7.21	-5.26	-1.95	-5.55	-5.03	-0.52
2016	14.75	16.65	-1.90	13.92	15.31	-1.39
2017	6.49	6.81	-0.32	6.09	6.32	-0.23
2018	-3.17	-2.57	-0.60	-1.93	-1.48	-0.45
2019	14.97	15.28	-0.31	14.23	14.65	-0.42
2020	4.95	5.78	-0.82	4.48	5.78	-1.30
Average	6.44	7.45	-1.01	6.45	6.93	-0.49

Source: BlackRock, State Street Global Advisors, as of 12/31/2020.

The above net tracking difference figures are inclusive of gross expense ratios; of 0.40% for JNK and 0.49% for HYG.

Performance quoted represents past performance, which is no guarantee of future results. Investment return and principal value will fluctuate, so you may have a gain or loss when shares are sold. Current performance may be higher or lower than that quoted. All results are historical and assume the reinvestment of dividends and capital gains. Visit ssga.com and other fund family website for most recent month-end performance.

The calculation method for value added returns may show rounding differences.

It is not possible to invest directly in an index. Index performance does not reflect charges and expenses associated with the fund or brokerage commissions associated with buying and selling a fund. Index performance is not meant to represent that of any particular fund.

Figure 2

Tracking Difference Drops for JNK When Using the Same Methodology as HYG

	JNK NAV Return (%)	Bloomberg Barclays High Yield Very Liquid Index (%)	JNK Reported Tracking Difference (%)	Barclays Estimate of Transaction Costs (%)	Index Adjusted for Transaction Costs (%)*	JNK Comparable Tracking Difference (%)	HYG Tracking Difference (%)
2010	13.97	15.08	-1.11	1.27	13.81	0.16	-0.50
2011	4.69	6.06	-1.37	0.77	5.29	-0.60	-0.05
2012	14.34	15.37	-1.03	0.97	14.40	-0.06	-0.32
2013	5.91	6.60	-0.69	0.74	5.86	0.05	-0.03
2014	1.14	2.10	-0.96	0.47	1.63	-0.49	-0.13
2015	-7.21	-5.26	-1.95	0.44	-5.70	-1.51	-0.52
2016	14.75	16.65	-1.90	0.51	16.14	-1.39	-1.39
2017	6.49	6.81	-0.32	0.31	6.50	-0.01	-0.23
2018	-3.17	-2.57	-0.60	0.07	-2.64	-0.53	-0.45
2019	14.97	15.28	-0.31	0.05	15.23	-0.26	-0.42
2020	4.95	5.78	-0.82	0.09	5.69	-0.73	-1.30
Average	6.44	7.45	-1.01	0.52	6.93	-0.49	-0.49

Source: Bloomberg Finance, L.P., BlackRock, State Street Global Advisors, as of 12/31/2020.

The above net tracking difference figures are inclusive of gross expense ratios; of 0.40%* for JNK and 0.49% for HYG.

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Beyond Broad High Yield

The index-calculation differences also extend to other areas of the high yield market that ETFs seek to track — specifically in the short-duration segment. The SPDR® Bloomberg Barclays Short Term High Yield Bond ETF (SJNK), seeks to track the Bloomberg Barclays U.S. High Yield 350mn Cash Pay 0–5 Yr 2% Capped Index. SJNK’s benchmark adheres to common index convention methodologies that Barclays uses, as described above.

One of SJNK’s competitors in this space, the iShares 0–5 Year High Yield Corporate Bond ETF (SHYG), tracks the Markit iBoxx USD Liquid High Yield 0–5 Index. As is the case with HYG’s index, SHYG’s index includes the two key factors mentioned above: namely, bonds in the index come in at the offer side and, secondly, the return calculation includes a rebalancing cost factor that accounts for certain transaction costs.

The pricing calculation change effective June 1, 2019 applies to all Bloomberg Barclays High Yield Indices, including the U.S. High Yield 350mn Cash Pay 0–5 Yr 2% Capped Index that underlies SJNK.

Conclusion

Investors need to understand the construction methodology of the benchmarks within an asset class and how slight differences can have a major impact on perceived investment performance. As shown above, in certain asset classes such as US high yield, the treatment of transaction costs can lead to vastly different performance measurements and potentially an incomplete picture of how the fund is managed. Much like evaluating active managers where investors focus on their investment process, index due diligence is critical to deciding the true efficiency of a passive approach.

Figure 3
Standard Performance

Ticker	Name	YTD (%)	1 Year (%)	Annualized				Inception Date	Gross Expense Ratio (%)
				3 Years (%)	5 Years (%)	10 Years (%)	Since Inception (%)		
JNK (NAV)	SPDR® Blmbg Barclays High Yield Bd ETF	3.66	9.84	5.84	5.49	6.09	5.53	11-28-2007	0.40
JNK (MKT)	SPDR Blmbg Barclays High Yield Bd ETF	3.27	9.69	5.76	5.36	6.15	5.53	—	—
HYG (NAV)	iShares iBoxx \$ High Yield Corp Bd ETF	3.48	9.25	5.59	5.33	6.21	5.49	04-04-2007	0.49
HYG (MKT)	iShares iBoxx \$ High Yield Corp Bd ETF	2.95	8.92	5.46	5.16	6.23	5.44	—	—
SJNK (NAV)	SPDR Blmbg BarclaysST HY Bd ETF	4.78	10.89	5.24	5.40	—	4.58	03-14-2012	0.40
SJNK (MKT)	SPDR Blmbg BarclaysST HY Bd ETF	4.41	10.81	5.15	5.31	—	4.57	—	—
SHYG (NAV)	iShares 0-5 Year High Yield Corp Bd ETF	4.36	9.66	4.50	4.88	—	4.11	10-15-2013	0.30
SHYG (MKT)	iShares 0-5 Year High Yield Corp Bd ETF	3.89	9.27	4.38	4.78	—	4.10	—	—

Source: ssga.com/etfs, ishares.com, as of 09/30/2021.

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Glossary

The SPDR Bloomberg Barclays High Yield Bond ETF (JNK) seeks to provide investment results that, before fees and expenses, correspond generally to the price and yield performance of the Bloomberg Barclays High Yield Very Liquid Index.

The iShares iBoxx \$ High Yield Corporate Bond ETF (HYG) seeks to track the investment results of an index composed of US dollar-denominated, high yield corporate bonds. The benchmark of the fund is Markit iBoxx USD Liquid High Yield Index.

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in terms of key risk factors and other characteristics. This may cause the fund to experience tracking differences relative to performance of the index.

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ID789754-2003077191.AM.INST 1021
Exp. Date: 01/31/2022