

TrackInsight ETF Ratings

Call for comments

January 2020

This document highlights the changes to TrackInsight ETF ratings that will be implemented in 2020. These ratings, formerly based solely on replication accuracy, will now consider ETF liquidity as well. Updates aiming at improving the methodology of the replication accuracy rating are also presented herein.

This call for comments is open to any professional involved in the ETF ecosystem (buy-side and sell-side). Comments can be sent in free form to Pierre Laget (pierre.laget@trackinsight.com) before March 31st, 2020. Comments might be made public unless respondent explicitly request full confidentiality.

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I. Introduction

Since 2015 TrackInsight has been providing investors with a comprehensive framework for selecting best-in-class ETF based on an audited analysis of their relative performance in relation to their official benchmarks (i.e. “replication accuracy”).

This initiative includes the production of free and unsolicited ETF ratings in a systematic and transparent manner, as well as their publication on a semiannual basis (in January and June).

TrackInsight has always undertaken all possible efforts to ensure the investment universe is complete and to guarantee the quality of the data and the transparency of the rating process. The ratings are solely based on historical data, so TrackInsight recommends investors complement the information gained using the ratings with in-depth qualitative due diligence.

The aim of this document is to present the updates to the TrackInsight ETF rating methodology before the next implementation in June 2020. As an independent platform and with the objective to provide with a fair and unbiased methodology TrackInsight is open for feedback and comments on this proposal until end of March 2020.

II. Suggested overall rating process

Four years since its implementation and after considering comments and remarks from the industry, TrackInsight has decided to propose an update of the current methodology¹.

The underlying principle of the original methodology was based on the main investment objective of ETF, that is, to track an index. Therefore, ETF should be rated on their replication accuracy.

However, ETF are also distinguishing themselves from other investment vehicles by their high liquidity promise to investors. This other important characteristic must also be considered when selecting ETF.

To better represent the unique features of ETF and their usage, TrackInsight will introduce liquidity analysis to its ratings. Moving away from ratings based solely on replication accuracy to ratings based on both replication accuracy and liquidity equally weighted.

While doing so, TrackInsight is seizing the opportunity to improve the methodology used to assess replication accuracy and adjust it where required.

¹ <https://www.trackinsight.com/news/wp-content/uploads/Trackinsight-ETF-Rating-Methodology.pdf>

III. Revised replication accuracy ratings

A. Rationale for adapting the replication accuracy ratings methodology

Comments from investors highlighted two relevant flaws in the original ratings methodology: (1) the non-linearity of the ratings (the rating scheme can result in jumps from an all-stars rating to two stars or vice versa, following only a tiny change in one of the metrics) and (2) over-reliance on the Hurst exponent in the final score (it should only be an additional reward for ETF with best-in-class tracking difference).

1. Non-linearity of the ratings

The current methodology allows an ETF to switch from 5 to 2 stars if tracking difference or tracking error falls below median of peer-group. It implies that one basis point change in one of these metrics can be enough to generate a swing from an all-star rating to 2 stars or vice versa. This lack of flexibility might not adequately represent the degree of change in the replication accuracy of the ETF.

2. Adjustment to Hurst exponent

The current methodology rewards ETF with a Hurst exponent strictly greater than 0.5, this is the threshold for identifying funds with persistent excess performance versus their benchmark. However, the current methodology does not consider the magnitude of this excess performance.

Also, it has been suggested that the non-linear contribution of this metric was not optimal.

B. Proposal for an update of the replication accuracy ratings methodology

The new ratings are based on a sorting of tracking error and tracking difference within the same peer-groups, using the two additional metrics (excess kurtosis and Hurst exponent) to tilt the scores.

Tracking difference and extreme tracking deviations (measured by excess kurtosis) will now represent half of the grade for replication accuracy. The base line is tracking difference quartiles (1st being the worst and 4th the best) with 1 point attributed per quartile.

Then, if the excess kurtosis metric is in the best quartile, 1 point is added to the total grade for replication accuracy. On the contrary, if this metric is in the worst quartile, 1 point is removed.

Tracking error and persistence (measured by the Hurst exponent) make up for the other half of the revised rating for replication accuracy. The base line is tracking error quartiles (1st being the worst and 4th the best) with 1 point attributed per quartile.

Then, the Hurst exponent is considered. If greater than 0.5, it shows a persistence in the daily return difference between the ETF and its index. If this return difference (as measured by tracking difference) is above the peer-group median, 1 point is added to the overall rating.

This approach rewards a persistence of a good peers-wise tracking difference. In contrast if this return difference (as measure by tracking difference) is below the peer-group median, 1 point is removed from the overall rating.

Finally, if the Hurst exponent is equal to or below 0.5, it shows no persistence in the daily return difference between the ETF and its index. As a result, the Hurst exponent is not considered into the overall rating. Both dimensions (tracking difference with excess kurtosis and tracking error with Hurst exponent) are then summed up, resulting in a grade for replication accuracy between 0 and 10 as showed in the table below.

Table 1: Breakdown of updated methodology for rating replication accuracy

Metrics	Grade	Condition	Total Grade
Tracking difference	1-4	Depending on quartile	2-8
Tracking error	1-4	Depending on quartile	
Kurtosis	+1	If top quartile	1-9
	-1	If bottom quartile	
Hurst	+1	If Hurst > 0.5 <u>AND</u> TD above peers' median	0-10
	-1	If Hurst > 0.5 <u>AND</u> TD below peers' median	

IV. Introducing TrackInsight liquidity ratings

As mentioned earlier, one of the main benefits of ETF is the added liquidity compared with mutual funds.

Their unique structure, which allows for liquidity on both the primary and the secondary markets, makes ETF liquidity analysis a complex issue. Indeed, a fund with low AUM might be thinly traded, but the underlying assets might very well be highly liquid, thus limiting the liquidity analysis to the secondary market which will provide an incomplete and biased estimate.

In order to have a complete view on ETF liquidity, TrackInsight proposes an innovative methodology encompassing both primary and secondary markets analysis.

A. Metrics used to assess ETF liquidity

In order to have a complete view on ETF liquidity, TrackInsight will rely on the following four metrics:

1. Volume on trading venues (order book based)
2. Volume on trading platforms (non-order book based)
3. Spreads on trading venues
4. Underlying implicit liquidity (i.e. liquidity of the securities the ETF is exposed to).

We distinguish trading venues from trading platforms in that trading venues (Regulated Exchanges and Multilateral Trading Facilities) are based on transparent traditional order books with a transparent bid-ask spread, while platforms encompass alternative trading mechanisms such as, but not limited to, dark pools, RFQs (Request for Quotes) or voice dealing.

1. Volume on trading venues (order book based)

Volume on trading venues will be analyzed using peer-group analysis (see appendix 1) to reflect the unique market characteristics where the product is being traded and the liquidity features of its underlying investment universe. TrackInsight computes and aggregates data covering over 80 trading venues globally. All daily trading volume is converted into USD amount using the relevant FX rate. The first metric used to assess liquidity is the past 6 months daily average volume in dollar amount.

2. Volume on trading platforms (non-order book based)

Consistent with the arguments exposed in (1), this metric will be analyzed on a peer-group basis. It represents the volume traded on all trading platforms that do not operate with an order book system. All daily trading volume is converted into USD amount using the relevant FX rate. The second metric used to assess liquidity is the past 6 months daily average volume in dollar amount.

3. Spreads on trading venues

Consistent with the arguments exposed in (1), this metric will be analyzed on a peer-group basis. TrackInsight will use daily time-weighted percentage spreads, calculated as the difference in the bid and ask over the midpoint price. Each spread value is time-weighted based on how long it stands before a new order arrives. The third metric used to assess liquidity is the average daily spreads over the last 6 months.

4. Underlying implicit liquidity

In order to account for the primary market liquidity, TrackInsight will determine a value for the fund's underlying liquidity. The underlying liquidity analysis will be based on an absolute comparison across all TrackInsight segments, according to the underlying's asset class and thus will not rely on peer-groups.

Each underlying of the ETF will be analyzed individually allowing to rate all type of ETF (single and multi assets). For each asset class a list of specific criteria will be used to determine the liquidity of the underlying securities (see table 2).

Cash

All cash holdings (does not include money market instruments) will receive the highest liquidity rating regardless of the currency.

Equities

TrackInsight recommends assessing the liquidity of equities using the free float. Indeed, it has been showed across the academic literature that stock liquidity is positively impacted by supply².

This metric will be computed by taking the free-float value in nominal terms of all the equities found in the underlying baskets of all ETF available on TrackInsight. Each stock will be ranked on the same scale and a grade from 1 (lowest liquidity) to 5 (highest liquidity) will be ascribed depending on which quintile the security falls into. Aggregation at ETF level will be based on the weight of individual holdings in the exposure portfolio.

Fixed Income

Academic research has examined fixed income liquidity using both direct measures (based on transaction data) and indirect measures (based on bond characteristics)³. Direct measures include bid–ask spreads, trade sizes, trade frequencies and trading volume.

However, since most fixed income transactions occur on the over-the-counter market, these direct measures do not provide the complete picture on liquidity and could be misleading. Thus, we suggest using indirect proxies to assess liquidity. After considering the academic literature and data sourcing, TrackInsight recommends using issue amount (or issue size) to analyze fixed-income underlying securities. This metric represents the outstanding face value amount for outstanding bonds and is available consistently throughout financial research since 1959 when Fisher first argued larger issues should trade more frequently⁴.

The same process outlined for equities will be used for fixed income securities, using the issue amount as the ranking metric. Aggregation at ETF level will be based on the weight of individual holdings in the exposure portfolio.

² Lam, D., Lin, B., & Michayluk, D. (2011), El-Nader, G. (2018)

³ Houweling, P., Mentink, A. and Vorst, T., (2005)

⁴ Fisher, L., (1959), Fleming, M.J., (2002), Mullineaux, D.J., Roten, I.C., (2002)

Commodities

After carefully reviewing of the existing research on the topic, TrackInsight suggests ranking the liquidity of commodity and commodity-related products based solely on the commodity class. The principle underlying this approach is that the liquidity characteristics of each commodity class are expected to be constant over time. Indeed, academic literature has already ranked commodities liquidity using various high-frequency and low-frequency proxies as well as price-impact analysis⁵ and identified 5 groups:

1. Brent Crude Oil, West Texas Crude Oil, Gold
2. Other precious metals and industrial metals
3. Other oil and energy related (Heating Oil, Natural gas, RBOB Gasoline, Gasoil...)
4. Agricultural (Cocoa, Coffee, Cotton, Sugar, Wheat...)
5. Livestock

Derivatives

Derivatives other than commodities futures will be excluded from the underlying liquidity analysis.

Table 2: Rating process for ETF underlying implicit liquidity

Underlying Liquidity score	Equities	Fixed Income	Commodities	Other
Metric	Free float amount	Issue amount	Commodity class	
5 (highest)	Top 1 st quintile	Top 1 st quintile	Brent Crude Oil West Texas Crude Oil Gold	Cash
4	2 nd quintile	2 nd quintile	Other precious metal Industrial metals	
3	3 rd quintile	3 rd quintile	Other oil and energy related	
2	4 th quintile	4 th quintile	Agricultural	
1	Bottom 5 th quintile	Bottom 5 th quintile	Livestock	

Specific cases:

- Long/short position: whether the position is long or short, the underlying liquidity is the same and should be considered in a similar fashion.
- Synthetic fund: for synthetic ETF the implicit liquidity will be computed using the fund's exposure basket of securities.

⁵ Marshall, B., Nguyen, N. and Visaltanachoti, N., 2012.

V. Liquidity rating process

The liquidity rating relies on a multiple stage process with the emphasis being put on volume rather than spread to account for the correlation between volume and spread, as competition for volume reduces spread.

The priority is given to trading venues (order book based) as they represent the immediate, on-screen liquidity available to investors. Then, the volume on platforms is analyzed and the underlying implicit liquidity is considered last.

If the ETF is on the 1st quintile when it comes to trading venues, it is assigned the highest possible rating and does not consider any other liquidity metrics. Otherwise, trading platforms volume is considered.

If the ETF is in the 2nd or 3rd quintile on trading venues and on the 1st quintile for trading platforms it will receive the second highest possible rating (9/10) and implicit liquidity is not taken into consideration. However, if it isn't on the 1st quintile for trading platforms volume, the rating will include implicit liquidity.

The same process is applied to the worst performing ETF on trading venues volume (bottom 4th and 5th quintile). Implicit liquidity impacts the rating only when the ETF's volume on trading platform is not in the top performing quintile.

Finally, for ETFs with poor overall liquidity score, spreads on trading venues are also considered, rewarding funds with an efficient market-makers community.

The complete liquidity rating process is summarized in the table 3 below.

Table 3: Liquidity rating process

Trading venues quintile volume	Trading platforms quintile volume	Implicit liquidity metrics	Score
1	-	-	10
2-3	1	-	9
2-3	2-3	1-2	8
2-3	2-3	3-4-5	6
2-3	4-5	1-2	4
2-3	4-5	3-4-5	2*
4-5	1	-	8
4-5	2-3	1-2	6
4-5	2-3	3-4-5	4
4-5	4-5	1-2	2*
4-5	4-5	3-4-5	0

*: +2 on final score if spread within the first top quintile

VI. Final score

Scores between 0 and 10 for each of the two dimensions are added, resulting in a total score comprised between 0 and 20. Replication accuracy and liquidity thus account for the same weight in the final score. Ultimately, the total score is divided by 4 and rounded to integers, so that the new TrackInsight ratings are still graded on a scale of 0 to 5 stars as showed in the figure and table below.

Figure 1: Final score computation

		Liquidity Score										
		0	1	2	3	4	5	6	7	8	9	10
Replication Accuracy	0	0	0	1	1	1	1	2	2	2	2	3
	1	0	1	1	1	1	2	2	2	2	3	3
	2	1	1	1	1	2	2	2	2	3	3	3
	3	1	1	1	2	2	2	2	3	3	3	3
	4	1	1	2	2	2	2	3	3	3	3	4
	5	1	2	2	2	2	3	3	3	3	4	4
	6	2	2	2	2	3	3	3	3	4	4	4
	7	2	2	2	3	3	3	3	4	4	4	4
	8	2	2	3	3	3	3	4	4	4	4	5
	9	2	3	3	3	3	4	4	4	4	5	5
	10	3	3	3	3	4	4	4	4	5	5	5

Table 4: Breakdown of the scoring for the new TrackInsight Ratings

Total score	TrackInsight Rating Stars
0 - 1	
2 - 5	
6 - 9	
10 - 13	
14 - 17	
18 - 20	

With Total Score = Replication Accuracy Score + Liquidity Score

VII. Next steps

January 15 th 2020	Publication of the proposed rating methodology changes TrackInsight remains open for comments and suggestions until March 2020
March 31 st 2020	Review of comments and impact analysis with the TrackInsight International Advisory Board
May 2020	Rollout of the new Liquidity Analytics
July 2020	Implementation of the new rating methodology and inclusion of Asian ETFs
2021	TrackInsight to propose a methodology for rating active ETF

Appendix

A. Eligible Funds criteria

For the replication accuracy rating:

- All passive ETF domiciled in Europe or North America with at least three years of track record were deemed eligible for ratings.
- Starting in June 2020, ETF domiciled in Asia will be included as well.
- Leveraged and short ETF are also rated if the relevant benchmarks are available.

For liquidity rating:

- All active and passive ETF with more than three years of track record

B. List of peer-groups used

Equities	<ul style="list-style-type: none"> ▪ Developed Market North America Large Cap Equities ▪ Global Market Large Cap Equities ▪ Emerging Market Equities ▪ Small Cap Equities ▪ Developed Market Europe Large Cap Equities ▪ Developed Market Asia Large Cap Equities
Bonds	<ul style="list-style-type: none"> ▪ Developed Market Government Bonds ▪ Emerging Market Bonds ▪ Developed Market Corporate Investment Grade Bonds ▪ Developed Market Corporate High Yield Bonds
Commodities	<ul style="list-style-type: none"> ▪ Commodities

- Each peer-group is then divided by geographical region (Europe, North America, Asia)
- A minimum of 5 ETF within a peer-group is required

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