The way most investors determine how an asset class is performing is by looking at the performance of a representative index. But the truth is, not all indices are created equal. The underlying methodology of an index has a significant effect on how well that index depicts the overarching characteristics and performance of the asset class it was created to represent. We believe a rules-based index that provides for both a broad and realistic representation of the asset class will provide the most consistent and accurate representation of the market segment it is designed to track.

Looking under the hood

The rapidly evolving and ever-changing landscape of investible assets has created a need for indices to track those assets. Indices attempt to define a specific market and the types of various market segments that can be defined differ greatly. There are indices that track performance of a particular market capitalization (large, mid, small), style (value, growth), asset class (equity, fixed income, commodity) or sector (technology, energy). Some indices track broad U.S. market performance, international markets, or some combination of both. Many times, there are multiple indices that track the same space in very different ways, so it's important to understand how an index is both structured and maintained. The manner in which an index represents its asset class can vary greatly based on its underlying construction.

Universe itself

While an index is generally explicit about exactly what space it is trying to represent, the qualifying names that constitute that universe may be very different from index to index. An index's universe is determined by the constituent criteria outlined in its methodology. This can include criteria such as domicile, market cap, dividend, cash flow or revenue, as well as criteria that help define the sector as a whole, such as corporate structure and assets. Additionally, in applying the methodology's inclusion criteria, some indices may choose not to limit the number of constituents they will allow into the index, while others may choose to cap the number of constituents in the index. We believe the number of underlying constituents in an index can have a material effect on its representative nature. For example, limiting the number of constituents may not be a material issue if the sector is small, but as that asset class grows over time, the index's ability to represent that asset class may become limited by including only the larger names in the sector it looks to represent, magnified even more so if there is no individual constituent weight limit. By allowing the number of constituents to grow with the sector, the index better represents the asset class as a whole.
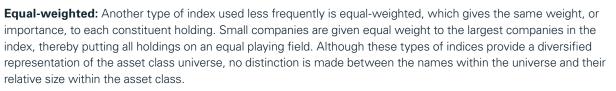
Types of index weightings

Indices can also differ in how they weight the underlying constituents. Some popular methods are:

Market capitalization: Many indices are market capitalization-weighted, meaning they have individual components weighted according to their market capitalization. This type of index is calculated by adding all of the market capitalizations of the components and then dividing by a base number determined when the index is created.

Float-adjusted market capitalization: In addition to straight market-cap weighting, these component weightings are adjusted according to their float, meaning those shares that are available to the public.

Individual name caps: In some sectors, the representative ability of float-adjusted, capitalization-weighted indices can be skewed over time by large companies as the asset class matures. This can lead to heavy concentrations in large names, which can be reduced by including a cap on individual constituent weightings.

Equal-weighted: Another type of index used less frequently is equal-weighted, which gives the same weight, or importance, to each constituent holding. Small companies are given equal weight to the largest companies in the index, thereby putting all holdings on an equal playing field. Although these types of indices provide a diversified representation of the asset class universe, no distinction is made between the names within the universe and their relative size within the asset class.

Price-weighted: Price-weighted indices weight constituents based on price. While they are used much less frequently than the four index types mentioned above, one very popular price-weighted index is the Dow Jones Industrial Average, which also limits the constituents in the index to 30. Price-weighted indices are relatively rare though as using a price-weighting is generally considered a very arbitrary method.

Differences in index weighting

When assessing the investible landscape of any market segment, and choosing a benchmark to represent that segment, the goal is for the weighting scheme to provide a more realistic representation of a specific space and an accurate depiction of how investors are able to best access it. Float-adjusted market capitalization may generate an index that is more representative of the accessibility for investors. This generally provides a better representation of a particular market than straight market cap weightings because it more accurately represents the investible landscape for that market. Equal-weightings might apply well for some asset classes, but in others, smaller names might be so illiquid that investing in the same manner that the index weights them might be impossible. Because replicating that index as an investment would not be feasible, it might not be the most accurate representation of sector performance. When choosing an index as a benchmark, it is important to keep all of these factors in mind.

Methodology matters

To understand the broader characteristics of a given asset class and how a specific index represents that asset class, it is essential to know how an index is structured and how the rules of the index's methodology are applied. Index methodologies can differ greatly, even those that are intending to describe the same or similar asset classes. A well-constructed index methodology leads to transparency, and this transparency (or lack thereof) can affect the user's ability to understand or even replicate that index and subsequently use it as a basis for the construction of a portfolio benchmark. In our view, the simplicity and transparency of an index's rules are paramount to its use by the public.

We believe the indices that are most effective at measuring the attributes of a given asset class are those that:

- consist of constituents that will benefit from the same factors that drive the performance of the asset class (generally companies that derive substantial portions of their revenue from the sector/space it is attempting to represent)

- where practical, look to include all or the vast majority of the constituents of a given asset class that meet the methodology's inclusion criteria

- are truly rules-based in design, meaning that the calculation of that index and the inclusion of its constituents follows its stated methodology rules and inclusion criteria

- are designed to reflect an investible portfolio

This provides true transparency into the index and allows for much easier replication by end users, whether they are individual investors or passive product managers.

Tortoise

Indices become investible – as ETPs

For some, a product might be the ultimate goal in the index construction process and certainly with the proliferation of passive exchange traded products over the last decade, this is many times the case. While accurate representation of an asset class is critical when determining the quality of an index, additional considerations must be taken into account when accessing an index through an ETP.

Diversification: Most investors view diversification as a positive and for the majority of exchange traded products, it is actually a requirement. Registered investment companies (RICs) are required to meet a diversification test to continue to qualify as a RIC (investors want this status maintained). The RIC diversification test requires the sum of all holdings that are greater than 5% to add up to less than 50% of the fund value. With indices being hastily created at times, some index providers apply arbitrary weighting schemes to ensure a product that tracks it would fit within the RIC diversification rule, without paying attention to the potential impact they have on an index's ability to represent an asset class.

Liquidity: It is not possible to invest directly in an index, so liquidity does not practically matter for an index. However, liquidity is important once that index becomes the benchmark for an exchange traded product. Holdings liquidity will impact an investor's ability to maneuver in and out of a product and a market maker's ability to hedge, both of which are extremely important for exchange traded products, particularly ETFs.

Bid/ask spread: The initial bid/ask spread of an ETP is a direct reflection of the bid/ask spread of the holdings in most cases. Assessing an ETP's bid/ask spread should provide a good representation of what bid/ask to expect. Many investors in passive products are sensitive to cost, and paying across a large bid/ask is one element considered by investors.

Turnover: Indices that have high turnover may not provide a good benchmark for an ETP. One very attractive element of ETFs, which make up the majority of the ETP universe, is that they are tax efficient, generally having lower turnover than actively managed strategies and ideally limiting realized capital gains passed through to investors. Indices with high turnover could create issues for investors seeking a tax efficient product.

Index solutions available

Tortoise North American Pipeline Index (TNAP): The Tortoise North American Pipeline Index℠ is a float-adjusted, capitalization weighted index of pipeline companies headquartered in the United States and Canada. A pipeline company is defined as a company that either 1) has been assigned a standard industrial classification ("SIC") system code that indicates the company operates in the energy pipeline industry or 2) has at least 50% of its assets, cash flow or revenue associated with the operation or ownership of energy pipelines. Pipeline companies engage in the business of transporting natural gas, crude oil and refined products, storing, gathering and processing such as gas, crude oil and products and local gas distribution. The index includes pipeline companies structured as corporations, limited liability companies and master limited partnerships (MLPs).

Tortoise Water Index (TBLUE): The Tortoise Water Index℠ is a float-adjusted, modified market capitalization-weighted index comprised of companies that are materially engaged in the water infrastructure or water management industries. Water infrastructure companies' principal business is providing public water distribution or supporting water distribution infrastructure via equipment or engineering and construction. Water management companies' primary business is providing technologies or products that manage or facilitate water distribution and usage, including the fields of water efficiency, water treatment and irrigation.

Tortoise North American Oil and Gas Producers Index (TNEP): The Tortoise North American Oil & Gas Producers Index℠ is a float-adjusted, capitalization-weighted index of North American energy companies primarily engaged in the production of crude oil, condensate, natural gas or natural gas liquids (NGLs). The index includes exploration and production companies structured as corporations, limited liability companies and master limited partnerships but excludes United States royalty trusts.

Tortoise MLP Index (TMLP): The Tortoise MLP Index® is a float-adjusted, capitalization-weighted index of energy master limited partnerships (MLPs). The index is comprised of publicly traded companies organized in the form of limited partnerships or limited liability companies engaged in transportation, production, processing and/or storage of energy commodities.

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Disclosures

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The Dow Jones Industrial Average (DJIA) is a price-weighted average of 30 significant stocks traded on the New York Stock Exchange (NYSE) and the NADSAQ.