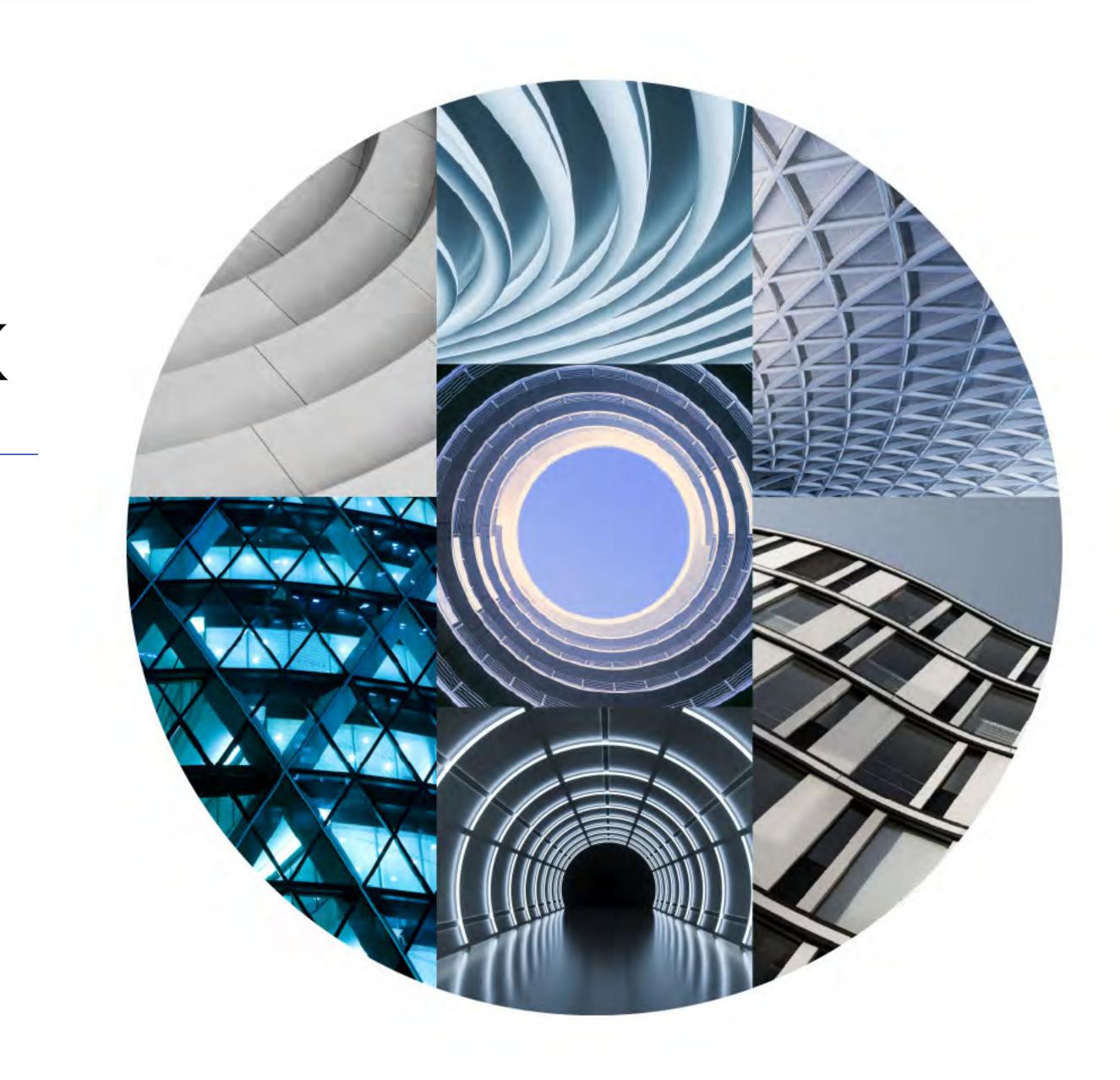
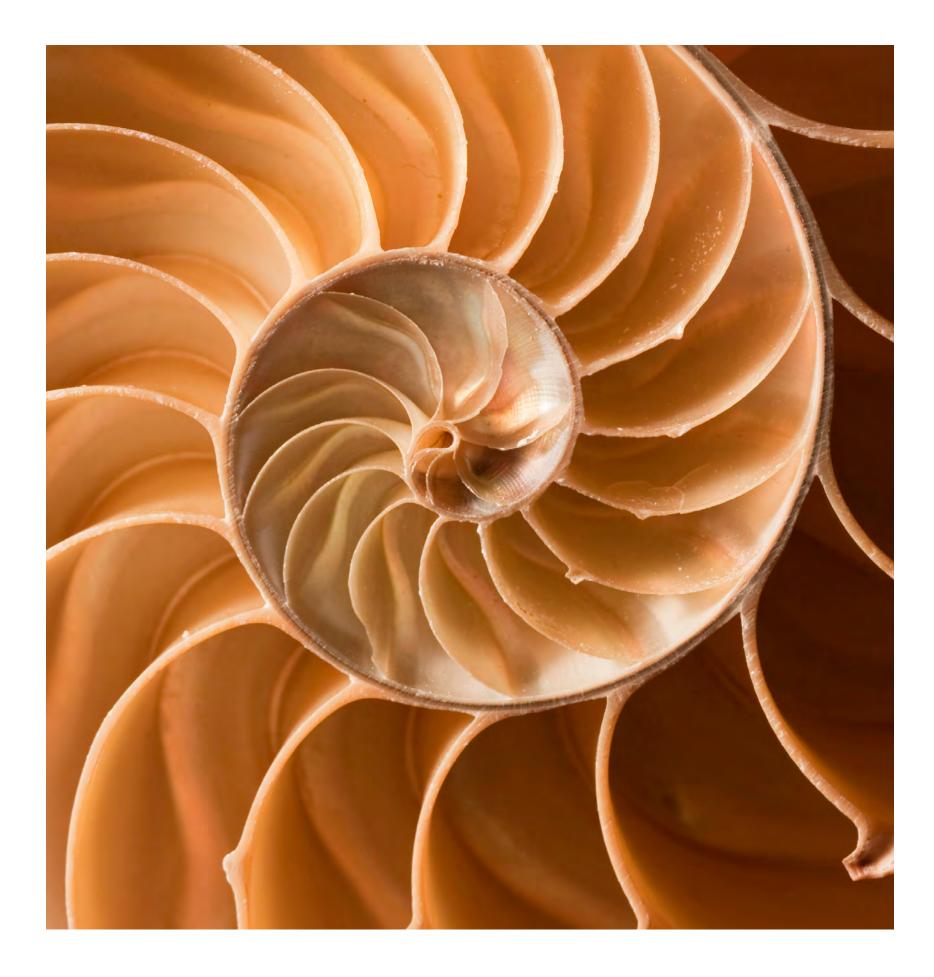
The right ETF starts with the right index

Deeper knowledge about how indices work can drive better portfolio outcomes for wealth advisors







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All of your clients want positive outcomes.

can help.

The right ETF starts with the right index

But each client has unique objectives—no two investors share the same goals, time horizon, and risk profile.

How can you improve outcomes for a wide segment of clients and gain a competitive advantage?

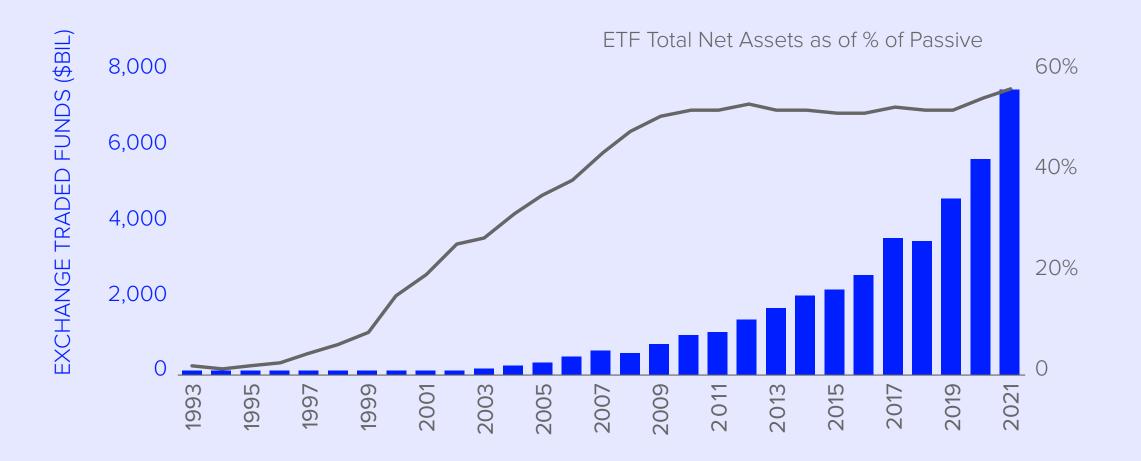
A better understanding of the indices that underlie your passive strategies

Indices are power Exchange Traded Funds (ETFs), and all indices are not created equally.

ETFs' steady growth

When constructing portfolios, wealth advisors rely on passive strategies both for their ability to accurately capture targeted exposures and for the cost-efficiency. There are many different passive strategies to choose from, but having so much choice for each situation can be confusing.

Passive market share has grown in large part due to ETFs



Source: Lipper, Date range: 1/1/1993-12/31/2021.

The right ETF starts with the right index

Understanding how indices work reveals the capabilities of ETFs

Helping your clients achieve their goals requires time and research. But that hard work is easier when you understand how indices work—it helps you make smart portfolio choices. And when you know an ETF is based on a FTSE Russell index, that tells you a lot about how accurately that index represents the selected market, as well as the investability features of the index.



First, a quick primer:

What is an index?

An index is a basket of securities that are selected based on specific criteria and aim to track a market or other investment segment—for example, a sector, industry, or characteristic. Indices are designed and maintained to accurately reflect the risk/return profile of their selected criteria, and used as tools for asset allocation decision making, portfolio construction (manager universe), risk analysis, reporting and ongoing review.

KEY TERMS



Basket

The exact compilation of securities in an index



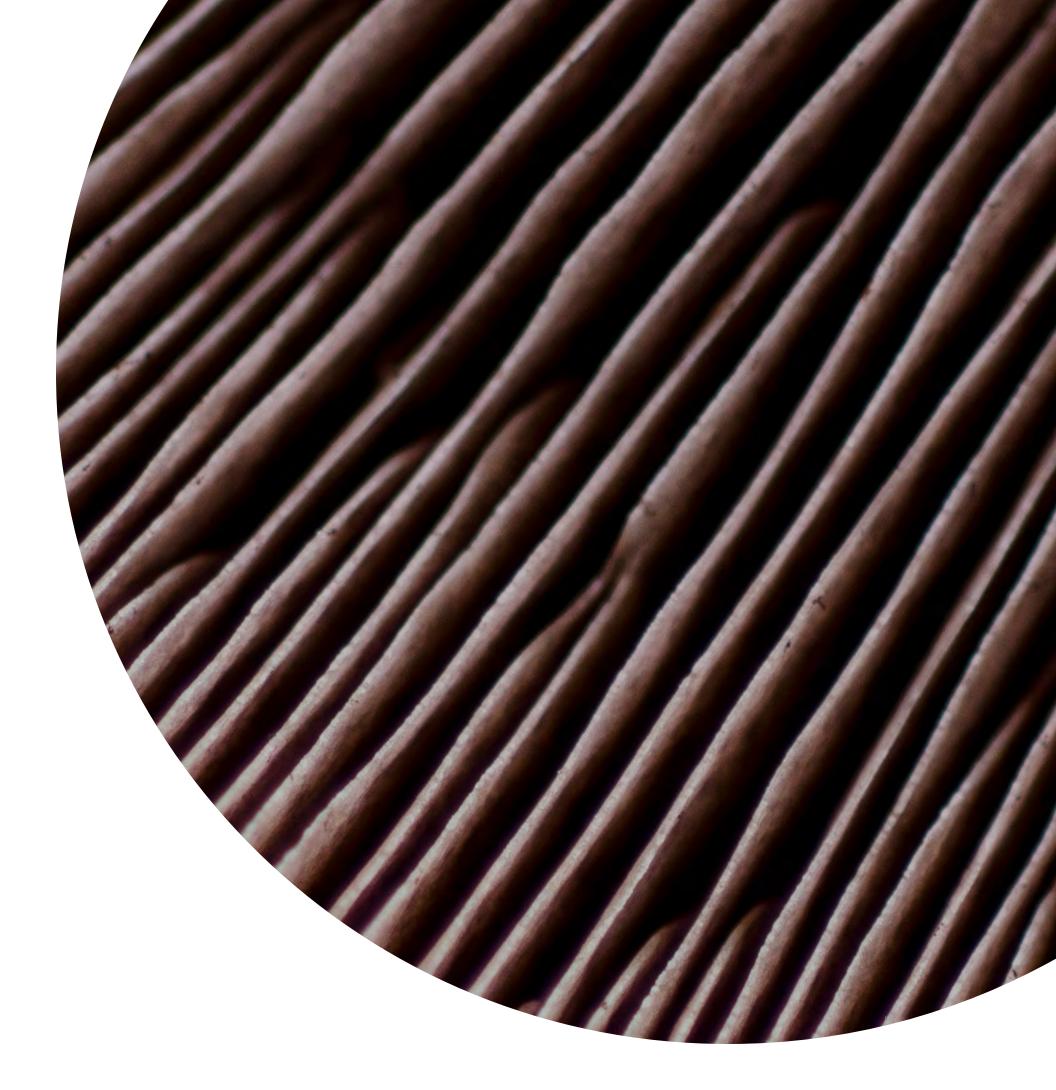
Weighting

The proportion of the index that each individual security comprises



Value

A single number that, when referenced to a starting value (or level), describes how the index has performed over time



Why indices?

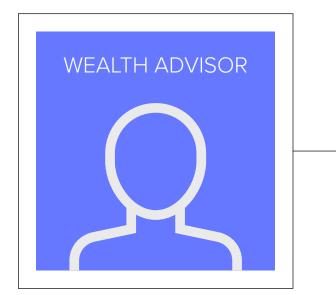
Markets or individual market sectors can be enormous, including hundreds and even thousands of securities.

Buying all these securities just to access one market or trend can be expensive and time-consuming. And it can be ineffective. That approach inevitably would include securities with negligible influence on the portfolio.

Indices are comprised of only the securities most relevant to their investment theme, allowing you to follow market trends without having to track the entire available universe of securities. Essentially, an index acts as a yardstick, capturing representative exposure to a particular market or sector.

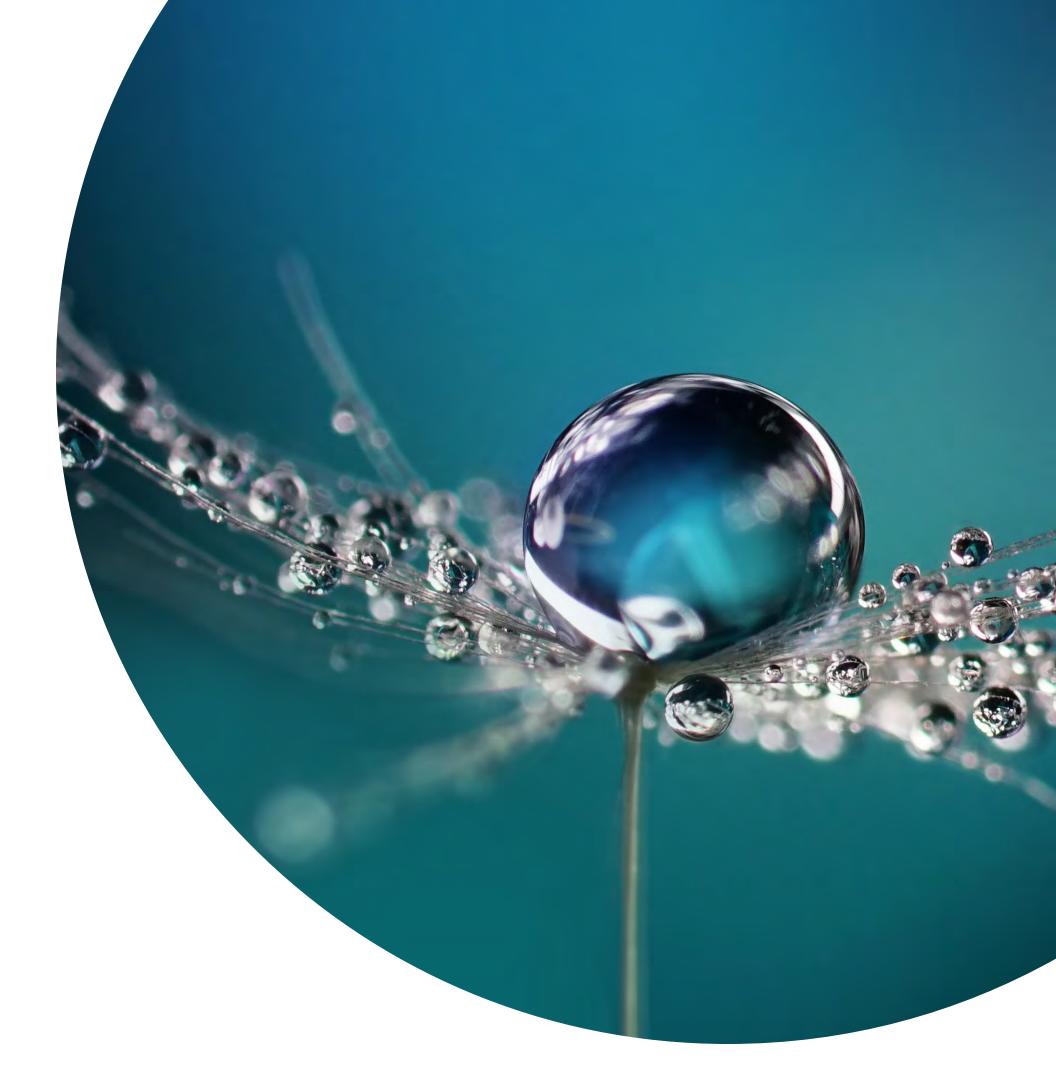
LARGE-CAP GLOBAL STOCKS	NORTH AMERICAN OFFICE REITs
EMERGING MARKETS BONDS/ DEBT	AND MORE

Chances are, if you can imagine it, there's an index for it. And you can use indices in a variety of ways:



Assess a given market's performance Gauge how well an active strategy is working Serve as the foundation for investment products, such as ETFs or mutual funds Evaluate a market's risk profile or its diversification benefits Measure passive risk premia

The right ETF starts with the right index





Indices as the basis for

Investment vehicles

Because an index is a hypothetical basket of securities, it cannot be invested in directly. However, indices are often licensed by fund managers to be used as the basis for passively invested products that track an index, such as:



Let's say you feel strongly that the large-cap US equity market is going to outperform the small-cap US equity market over the long term. In that case, you may seek to have exposure to only the large-cap equities market.

Rather than purchasing each US large-cap stock individually, you adopt a passive strategy. You choose an investment product that tracks an index designed to precisely represent just the US large-cap equities market.





Choosing passive investment products

While some investors prefer actively managed investments, which rely on a manager's stock selection skills, others turn to passively managed investment products for the following reasons:







The right ETF starts with the right index

Since the goal of the investment vehicle is to target a particular market or market segment, the chosen index should be as representative of this market segment as possible.

Objective and transparent



When an investment vehicle is replicating the index, it's important that the index's rules and calculation methodology are published openly. You should be able to understand and anticipate changes to the index.

Passively managed index products are comprised of the same securities and at the same weights as the index on which they are based. That makes it easy to track and measure performance.

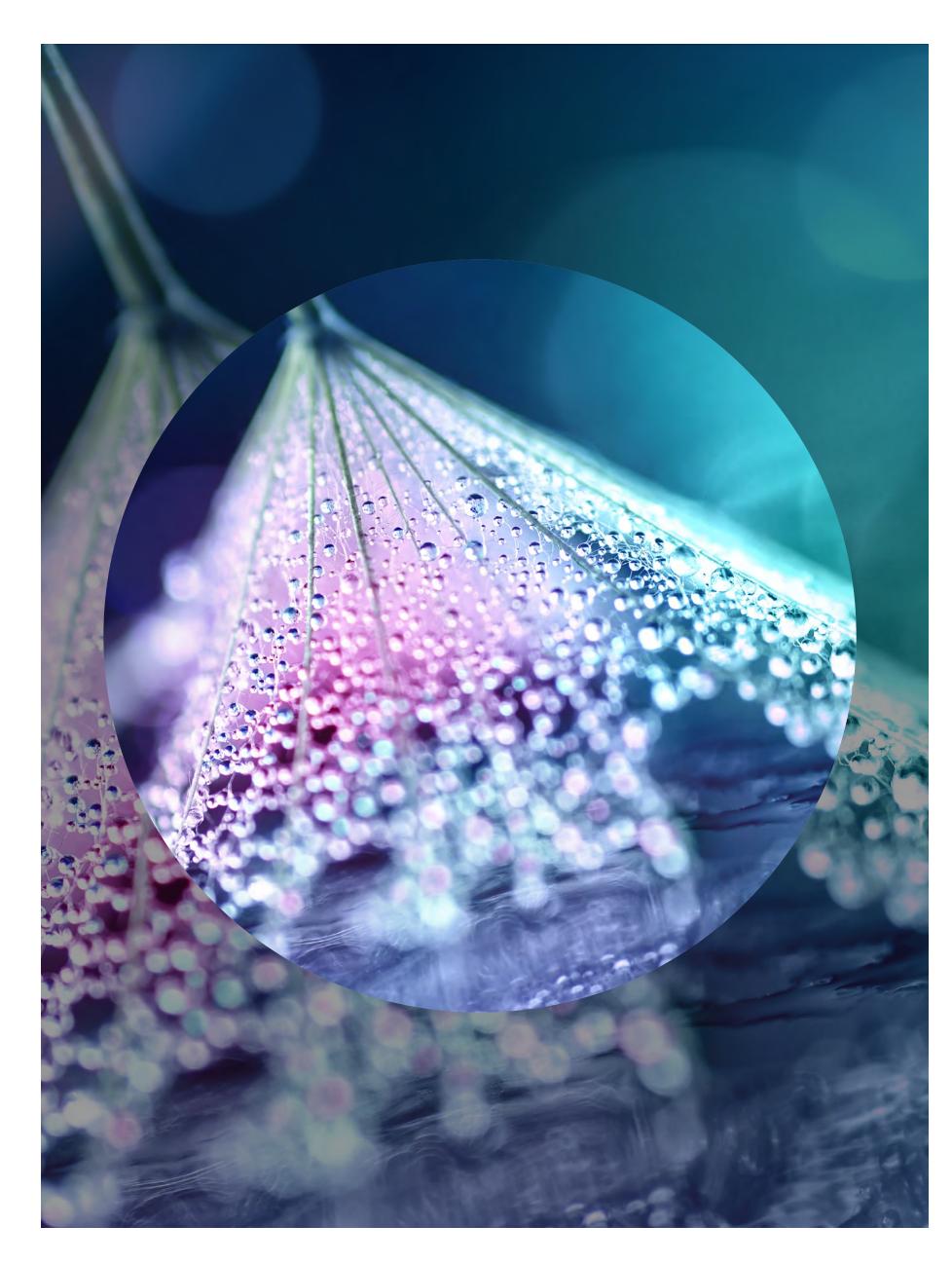
Investable



The index should only include securities that are freely available for purchase by average investors, rather than those held by employees or other investors who are restricted from selling their shares. Otherwise, replicating the index can be difficult, and unnatural stock price spikes can occur.

Passively managed investments that track equity indices typically cost less than their actively-managed counterparts. They have lower (or no) transaction costs or fees because there isn't a manager to make investment decisions based on expertise, opinions and analysis.

As index solutions continue to expand and evolve, you can rely on us to offer tools to help you achieve your investment goals.



It is imperative that ETF product developers as well as fund selectors and analysts in the wealth space grasp how index selection can impact an investment product's ability to meet its objectives.

What makes an index investable?

Before embarking on any journey for an exchange-traded product, providers must consider core index construction tenets that serve as a strong foundation for investability.

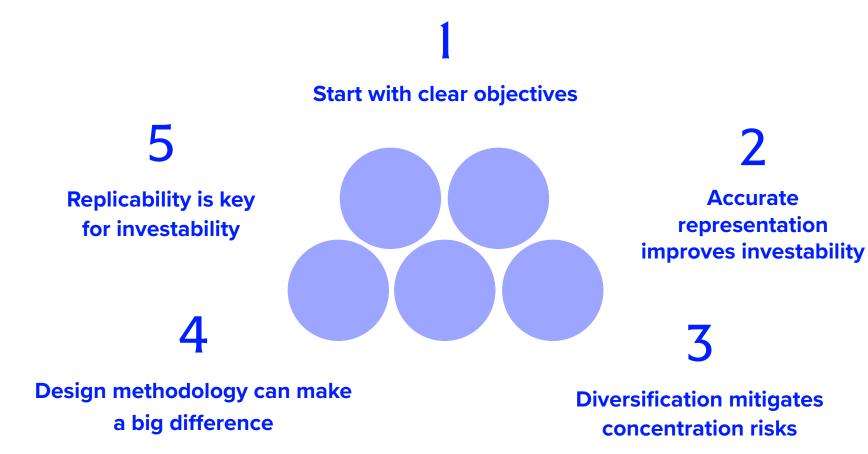
The right ETF starts with the right index

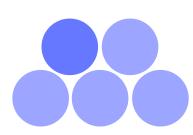
The key to an ETF's power? An "investable" index

UNDER THE HOOD WITH MARK BARNES

HEAD OF INVESTMENT RESEARCH, AMERICAS, GLOBAL INVESTMENT RESEARCH, FTSE RUSSELL







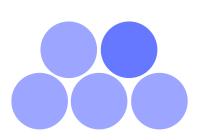
Start with clear objectives

From the outset, ETF providers must define a clear vision of their goals, such as enhancing return, lowering volatility, or achieving targeted factor exposure(s). Then product providers and index engineers work together to map all the requirements and characteristics of an underlying index. Best practice is to design that index with a long view toward investability, ensuring the original objectives can be maintained over time.

EXAMPLE

The Russell 1000 Index has the objective of tracking the top 1,000 US equities by market cap

When designing an index, practical, real-world implementation issues must be considered. It has to be investable, meaning an investment product replicating the index can be traded in the market efficiently, and at a high capacity.



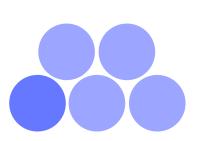
2 Accurate representation improves investability

It is important to assess indices from multiple angles—not just market performance. An index that effectively represents a market does so by delivering an unbiased, complete view of the market or market segment it is designed to measure. This is only accomplished through the application of an objective, transparent construction methodology. Arbitrarily excluding opportunities available to market participants can impact the weights of index members. Differences in weights and returns can impact index performance.

The introduction of constraints can be a useful safeguard against any unwanted extreme positions. In other words, an investable index must be "true-to-label."

EXAMPLE

The Russell 3000 Index represents the top 3,000 investable stocks in the US stock market



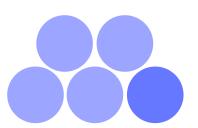
3 Diversification mitigates concentration risks

To achieve a stated objective, any index runs the risk of becoming overly concentrated. Naturally, its design can start to resemble an active approach relative to the market capitalization of the benchmark. Ensuring appropriate levels of diversification within an index can mitigate potential sector, country, or stock-specific concentration risks.

4 Design methodology can make a big difference

Index providers differ in their build methodologies. Each brand brings their own toolkit to design for particular objectives. In the process, trade-offs are made along the way: targeted factor exposure vs diversification, simplicity vs complexity, etc.

Investability relies on the most efficient methodology that most closely meets the stated objectives.



5 Replicability is key for investability

A popular criticism of the latest generation of indices (e.g. smart beta) is they rely on theoretical academic analysis and on back-tested data to simulate attractive performance outcomes. Investability relies on practical, real-world implementation issues; i.e., an investment product replicating the index can be traded in the market efficiently, and at a high capacity. Index design addresses many questions, such as: Can the fund manager trade the number of stocks? Is that market segment liquid enough? What are the turnover and likely trading costs? The most investable indices are tempered by reality.

EXAMPLE

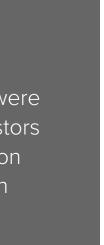
FTSE Global RIC Capped Indices were built to help investors meet concentration and diversification requirements

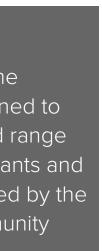
EXAMPLE

FTSE Fixed Income Indices are designed to appeal to a broad range of market participants and are widely followed by the investment community

EXAMPLE

The Russell 2000 Index aims to accurately measure the performance of the small-cap segment of the US equity market









ETF ECOSYSTEM

Three essential groups and roles

Do you have the tools and information you need to consider all of your opportunities across markets, asset classes, styles or strategies? As indices and portfolio strategies continue to evolve, you need an index provider who helps you stay well-informed. FTSE Russell is an integral part of the global ETF industry, providing indexing and data solutions to a wide variety of market participants.

Index providers

Key services: indices, benchmarks, and asset class proxy

Index data is licensed to an ETF sponsor who then replicates the index into an ETF

ETF sponsors

Manage and promote ETFs

ETF administrators

Day-to-day operation of the ETF

SEC and CFTC

Monitor, report, and investigate all aspects of the ETF ecosystem

Distributors

Increase the availability of ETFs to investors

Auditors

Audit for accounting and regulatory requirements

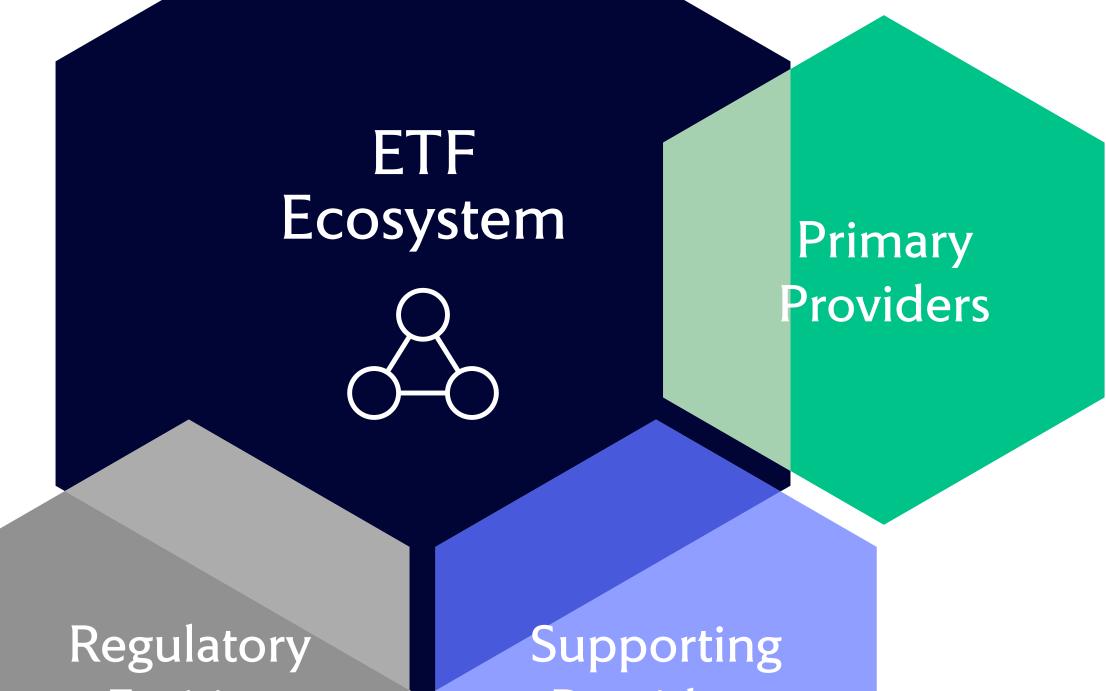
Fund counsel

Legal guidance and opinion

Advisors

Provide ETF investment advice to investors directly

The right ETF starts with the right index



Entities

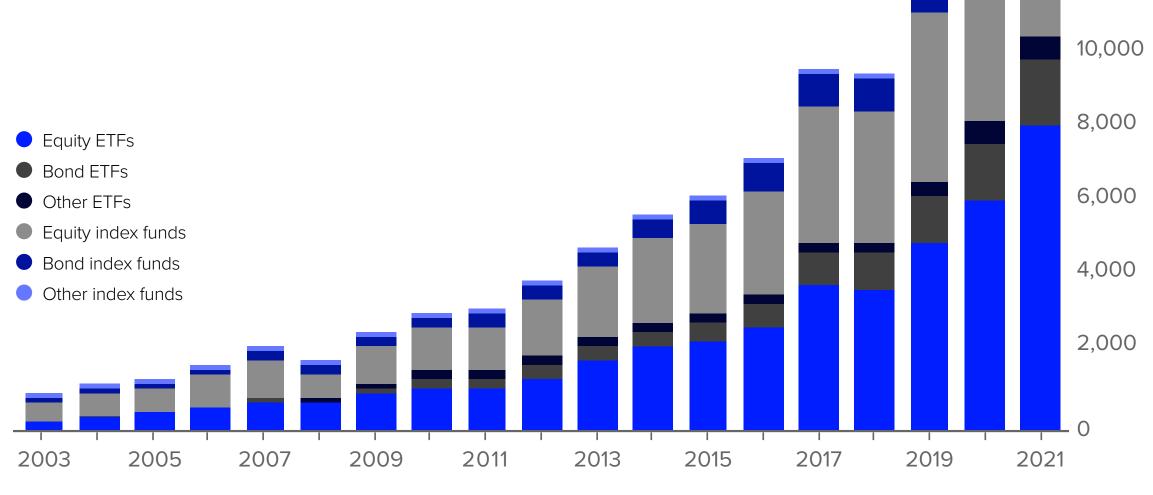
Providers



Common ETF considerations For client portfolios

Up to this point you've been learning about index basics. Now, here is a brief overview of how understanding those basics gets put into action within an investment portfolio.

The growing devotion to ETFs is in large part due to their ability to cater for a wide variety of investment objectives and risk profiles in a cost-effective manner. This flexibility is a key reason why financial advisors and portfolio managers employ ETFs in the construction of portfolios sometimes alongside active strategies.



Source: Lipper, Date range: 1/1/2003 - 12/31/2021.

The right ETF starts with the right index

Unde Assets Global , Manage



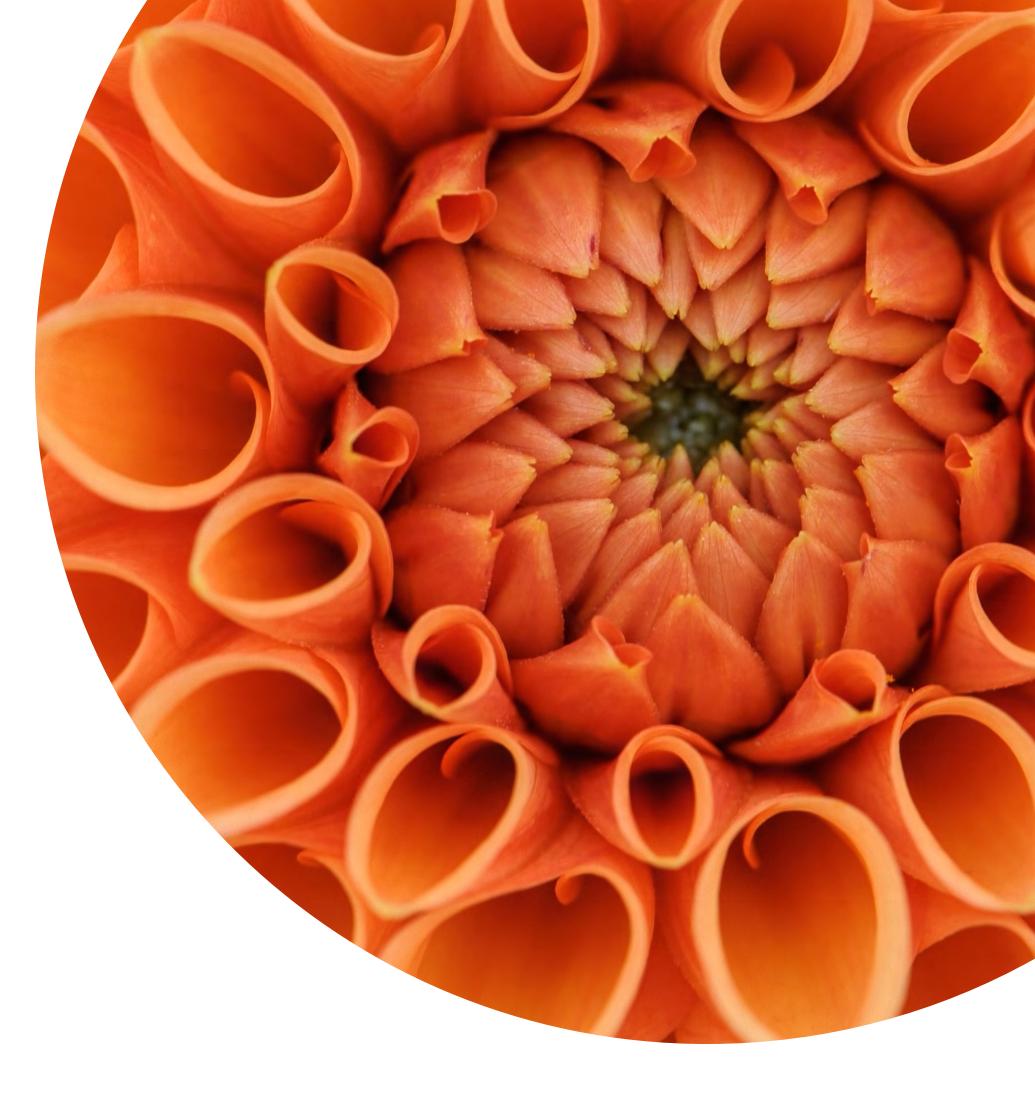
20,000

18,000

16,000

14,000

12,000





Typically, advisors allocate to ETFs in three ways

There are many reasons why wealth advisors use ETFs in portfolio construction. Those reasons dictate the balance of active and passive strategies in that investment approach.

The top three considerations are:

PORTFOLIO ALLOCATION

PASSIVE

PRIMARY VEHICLE FOR MARKET EXPOSURE

A portfolio allocated with a majority of passive investments typically relies on a mix of ETFs and other passive investments to keep costs and taxes low.

UP TO HALF OF A PORTFOLIO'S BETA

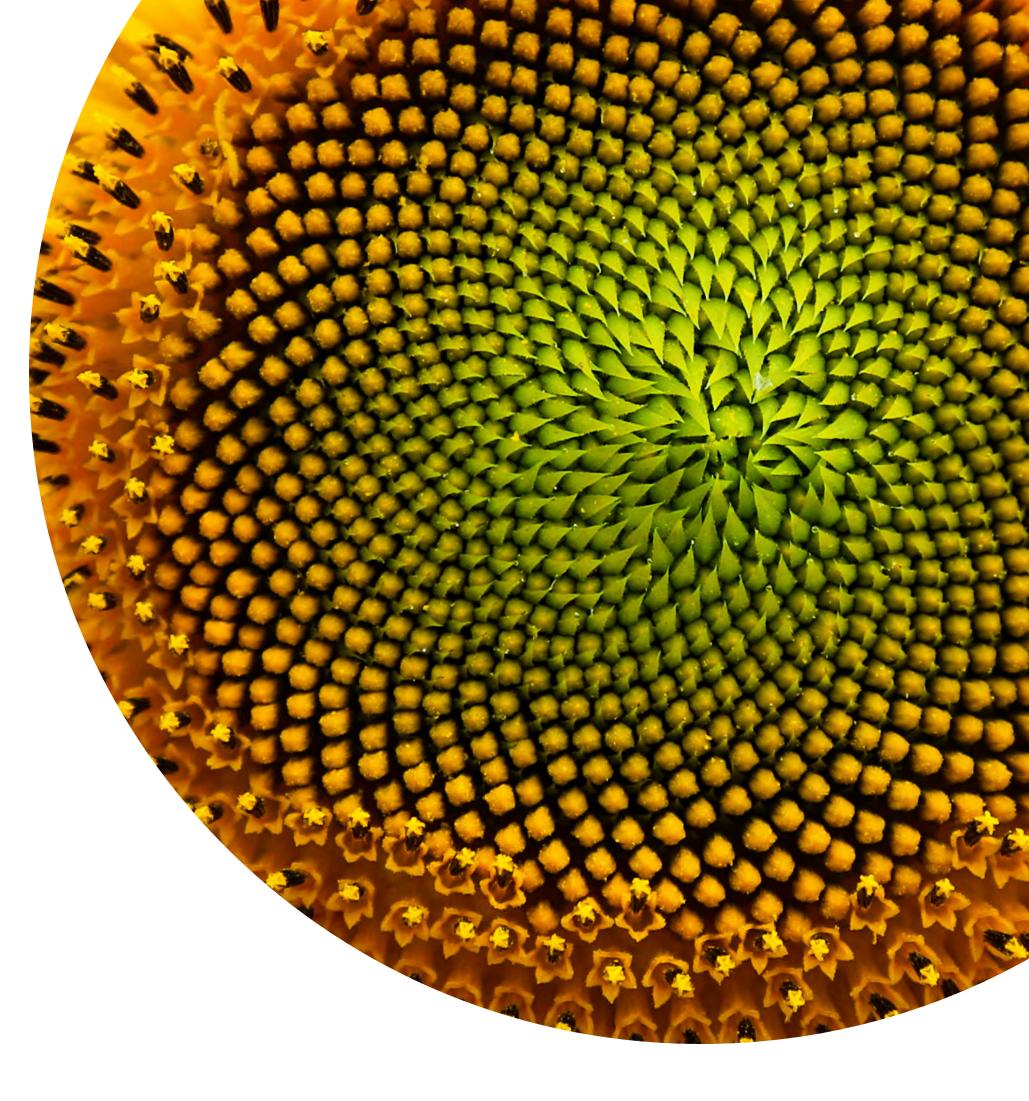
A blend of passive and active investments in a portfolio takes advantage of ETFs' efficient factor exposure and lower costs balanced with expectations for a more active role in risk management and performance beta.

A portfolio consisting mostly of active with a small percentage of passive investments is likely to concentrate on a specific tilt or factor while utilizing ETFs for cost-efficient exposure.

ACTIVE

3

MINORITY POSITION FOR TACTICAL EXPOSURE



13

We build the indices that

Help wealth advisors focus on client goals

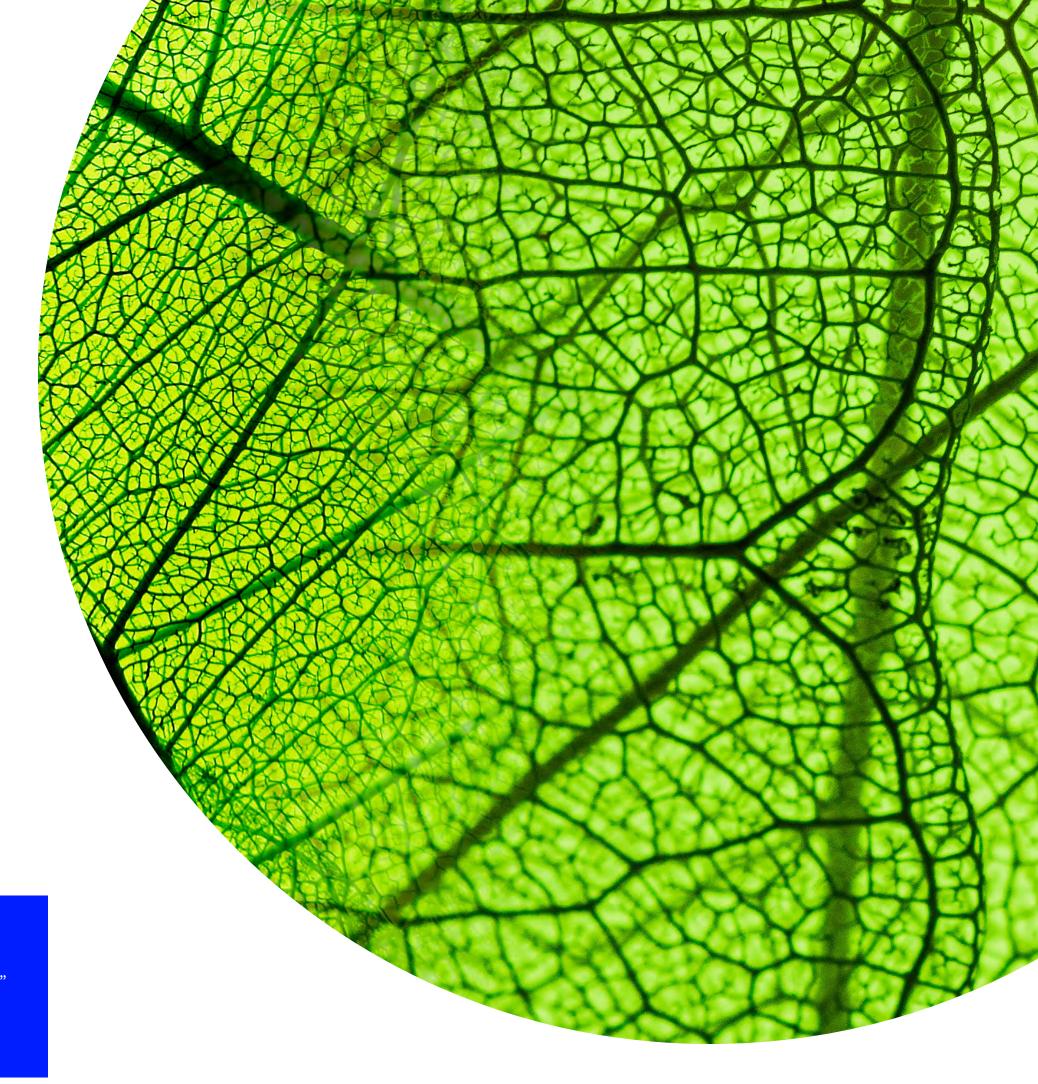
More than \$4.39T of investment product assets passively track FTSE Russell indices. Wealth managers and institutional investors around the world select these investment products to build portfolios that meet their clients' specific investment objectives. Analytics tools designed for financial advisors support proportional allocation to asset classes and potentially improve risk-adjusted returns, along with simple portfolio-level performance reporting and customizable capabilities like ESG ratings.

The process

ETFs aim to replicate an underlying index or benchmark. Index providers license an index to an ETF issuer or asset manager. The ETF issuer or asset management company will replicate the index in an ETF usually by buying the index's constituents. This results in an ETF being "benchmarked" to that index.

*Data as of June 30, 2022, Lipper for retail mutual funds, insurance products, and ETFs, and additional passive assets directly collected by FTSE Russell. AUM data includes blended benchmarks and excludes futures and options. AUM data will not include active and passive assets not reported to a 3rd party source or FTSE Russell. Passive assets directly collected by FTSE Russell have been removed from third party sources to prevent double counting. No assurances are given by FTSE Russell as to the accuracy of the data.

The right ETF starts with the right index





Global provider

to the world's top asset owners, asset managers, and investment banks

The right ETF starts with the right index

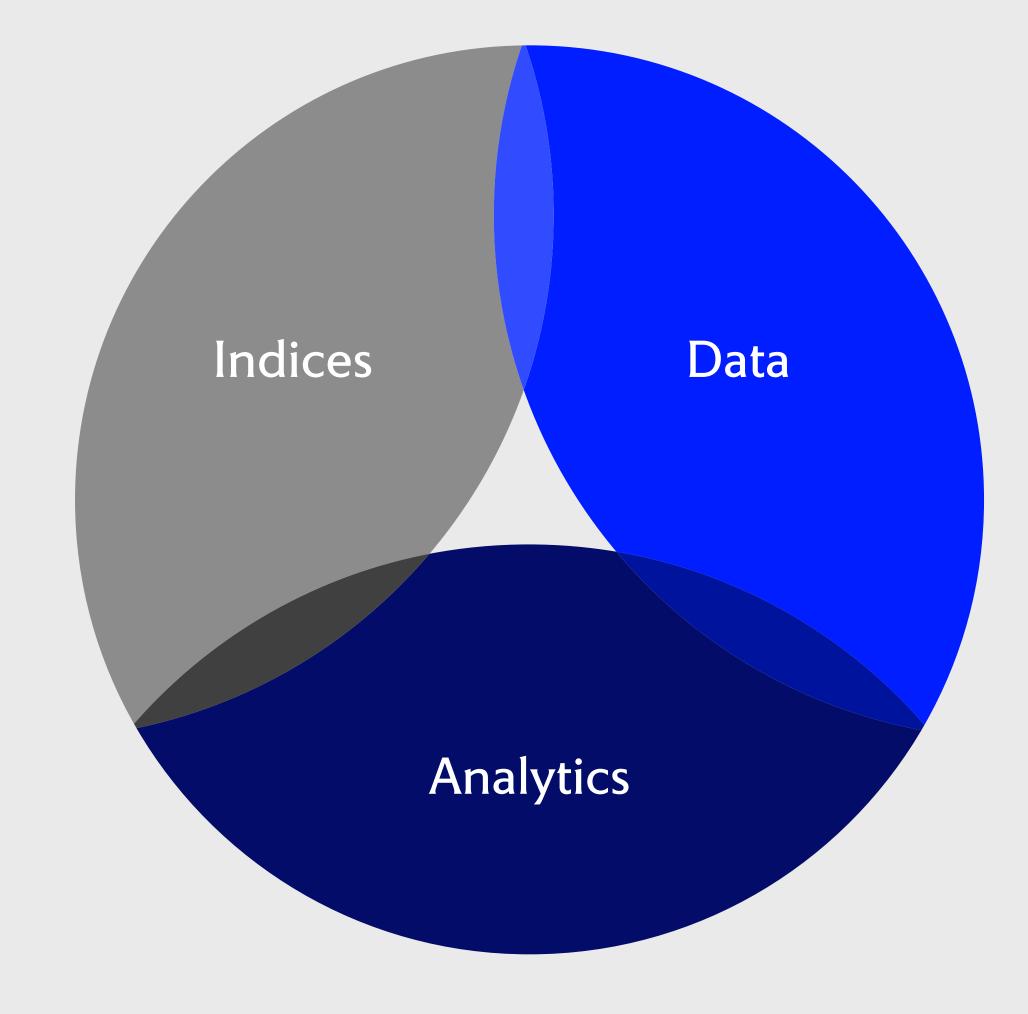
30+ years

multi-asset experience

\$20.1 trillion*

benchmarked to our indices





*Data as of December 31, 2021, as reported on April 1, 2022, by eVestment for active institutional funds, Morningstar for active retail mutual funds, insurance products, and ETFs, and passive assets directly collected by FTSE Russell. AUM includes blended benchmarks and excludes futures and options. AUM data does not include active and passive assets not reported to a 3rd party source or FTSE Russell. For funds where the AUM was not reported as of December 31, 2021, the previous period AUM was used as an estimate. No assurances are given by FTSE Russell as to the accuracy of the data.

The right ETF starts with the right index

- Basis of investable products
- Performance measurement
- Investment analytics
- Risk management
- Asset allocation
- Research
- Insights for better decision making
- Examine global market conditions
- Uncover risks and opportunities
- Identify trend inflection points
- Power investment strategies
- Risk management
- Uncover risks and opportunities
- Inform corporate strategies
- Support trading, tracking and reporting
- Insights for better decision making
- Research

16

We're a different kind of index provider

Global ETF-linked assets

15/15 top global ETF issuers work with FTSE **Russell**¹

~\$1,043B

ETF-linked assets benchmarked²

~\$424B

in ETF-linked assets benchmarked to **FTSE GEIS** (FTSE Global Equity Index Series)²

~\$977B

in equity **ETF** assets benchmarked²

~\$15B

in ETF assets benchmarked to listed real estate²

Top 30

Exchanges list FTSE **Russell-linked ETFs**

~\$54B

in fixed income **ETF** assets benchmarked²

~650

ETFs benchmarked to FTSE Russell indices⁴

All data in the table above are estimated by FTSE Russell.

- 1 Based on FTSE Russell clients as of March 2022 and Pension & Investments list of top 100 worldwide asset managers.
- 2 Based on FTSE Russell clients as of April 2022 and Dealogic list of top 10 investment banks.
- 3 Data as of December 31, 2021, as reported on April 1, 2022, by eVestment for active institutional funds, Morningstar for active retail mutual funds, insurance products, and ETFs, and passive assets directly collected by FTSE Russell. AUM includes blended benchmarks and excludes futures and options. AUM data does not include active and passive assets not reported to a 3rd party source or FTSE Russell. For funds where the AUM was not reported as of December 31, 2021, the previous period AUM was used as an estimate. No assurances are given by FTSE Russell as to the accuracy of the data.
- 4 Morningstar, April 2022.

The right ETF starts with the right index

Global benchmarked assets

\$20.1T

in reported fund AUM for FTSE Russell benchmarks³

94/100

top asset managers use FTSE Russell indices¹



17

FTSE russell index series

We calculate indices across a vast variety of asset classes and markets. Here are some examples:

RUSSELL US INDICES

Since 1984, Russell US Indices are the leading US equity benchmark for institutional investors.

FTSE GLOBAL FACTOR

Single and multi-factor indices. FTSE Russell is renowned for its proprietary tilt-tilt methodology.

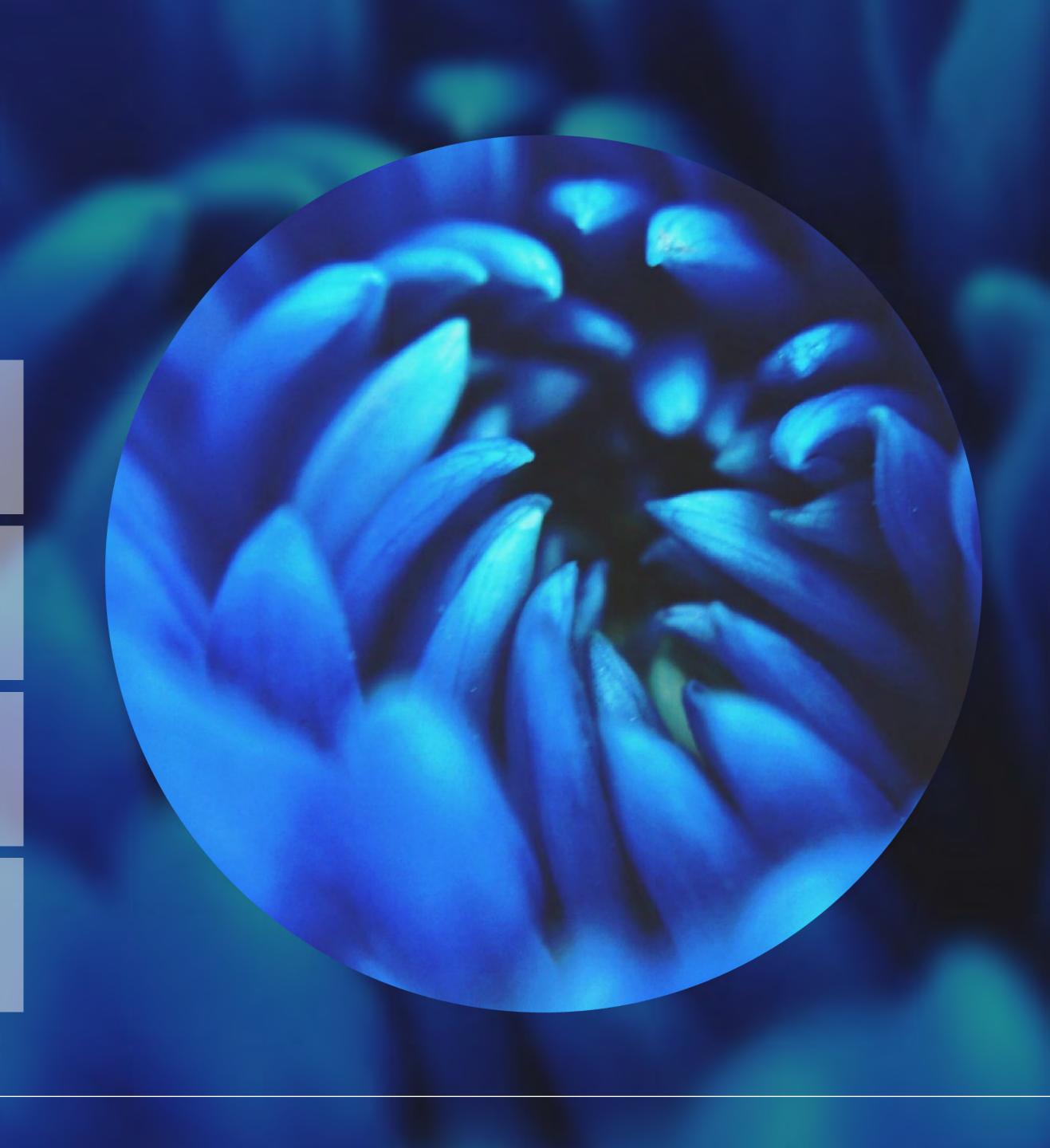
FTSE FIXED INCOME

Having joined the FTSE Russell index family as part of the Citi acquisition in August 2017, this range offers broad coverage in terms of currency, region, asset class, and credit quality.

FTSE GLOBAL RIC CAPPED

Provides the market cap-weighted index base for individual countries and regions by meeting concentration and diversification requirements.

The right ETF starts with the right index



18

Our commitment

To help our clients capture opportunity, manage risk, and find a competitive advantage

Quality

We provide global multi-asset solutions with a focus on quality, timeliness, and precision

Reliability

We deliver resilient solutions underpinned by a robust governance framework that comprises indices, analytics, technology, and operations

Pioneering

We want to help our clients become future-ready, and we continually innovate to grow our industry and shape its future

Responsive

We create agile, client-centric solutions that evolve to meet changing market needs

Transparent

We take pride in fostering transparency throughout the investment process

Partnership

We partner with industry thought leaders and clients to embed innovation and trust

Service

We have a global team of experts dedicated to meeting our clients' needs

Accessible

We partner with distributors around the world to ensure easy access to our data

Global and local

We combine global perspective with local knowledge. We are sensitive to market needs



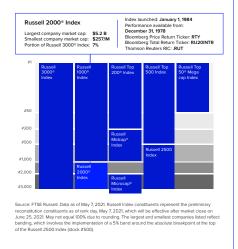
19

Download whitepapers to learn more **Flagship indices underlying ETFs and research reports**



A complete view of the small cap segment of the US equity market.

unbiased barometer of the small cap segment of the US equity market A subset of the Russell 3000 Index, it includes approximately 2,000



FTSE RUSSELL

and you can use them to capture your clients' nvestment requirements with precision Russell Indexes offer rigor, precision and predictable coverage – driven by the market: Objectivity to provide a reliable benchman

Institutional investors rely on Russell Indexe

Your index matters.

Comprehensiveness so you don't miss out on high-growth stocks that may be exclude from other indexes Modularity and Accuracy with no gaps verlaps, so you can capture your strateg igorous Maintenance so your index delivers he predictability you need

Russell 2000 – Product Highlights

The Russell 2000 Index is constructed to provide a comprehensive, unbiased barometer of the small cap segment of the US equity market.

A subset of the Russell 3000 Index, it includes approximately 2,000 of the smallest securities based on a combination of their market cap and current index membership.

SOLUTION OVERVIEW

Russell US Indexes Characteristics FTSE Russell Data Solution

Russell US Indexes characteristics calculated by FTSE Russell Data Solutions provide additional insights into US market segments, at both the aggregate index level and security level. Russell 3000® and Russell 3000E security level files are available*

Index characteristics calculated with and without outlier

historically to exclude outliers Additional insights into market behavior weight indexes.

The FTSE Russell-calculated index and security level characteristics can be used by investment or research managers to study changes in the market. Product and marketing ofessionals may use the same characteristics to highlig differentiating features of their investment products

after month-end

ndex name	Core	Growtn/value
Russell 1000®	•	•
Russell 2000®	•	•
Russell Midcap®	•	•
Russell Top 200®	•	•
Russell 2500	•	•
Russell 3000®	•	•
Russell 3000E	•	•
Russell Microcap®	•	•
Russell Small Cap Completeness®	•	•
Russell Top 50®	•	
Russell Top 500	•	
lease contact your ETSE Dussell representative for special subscription infr	rmation for the Pussell M	crocan and the Pussell



Available indexes

The right ETF starts with the right index



The index level file includes characteristics using both the standard FTSE Russell calculation including outliers, and the method appliein the appreciate calculations based on the interquartile range Practical Includes standard market cap segments. Additional style indexes (growth/value, defensive/dynamic and combine styles) are included for key market segments as well as equa Timely Index and security level cl delivered monthly, with a target delivery of five business day

Defensive/ dynamic	Equal weight
•	•
•	•
•	•
•	•
•	
•	
00E indexes.	

Indices **Characteristics**

Russell US Indices characteristics calculated by FTSE Russell Data Solutions provide additional insights into US market segments, at both the aggregate index level and security level.

SOLUTION OVERVIEW

Executing an Asset Allocation Strategy? Your Index Makes a Difference.

A well-constructed index can enable you to capture your clients' investment requirements with greater precision and get earlier access to fast-growing stocks. It is a commo

segment must be, ess are created equal. interchangeable. But the truth is, not all index

Every index is the product of choices involving market coverage, construction methodology and ongoing maintenance of the member list. As a result, indexes perceived to be comparable can have profound, even surprising, differences. These differences may hamper your ability to capture investment requirements precisely. or example, they may adversely impact your ability to achieve your intended asse allocation. Or cause you to miss growth opportunities in fast-moving stocks In short: Your index matte

stitutional investors rely on Russell Indexes. You and your clients can also reap th benefits of using these powerful, institutional-grade indexe

Among institutional investors, Russell Indexes are the leading US Equity benchmarks.

FTSE RUSSELL



Launched: 1984 Aission: To provide accurat

RUSSELL INDEXES:

FAST FACTS

representation of the investable U equity market Russell 2000 Index (1984): first US small cap index Russell Style Indexes (1987): First growth and value equity market segment indexes Fully float-adjusted methodology: Index

counts only shares available to investors on the open market

$\downarrow \downarrow$ Executing an **Asset Allocation** Strategy? **Your Index** Makes a Difference

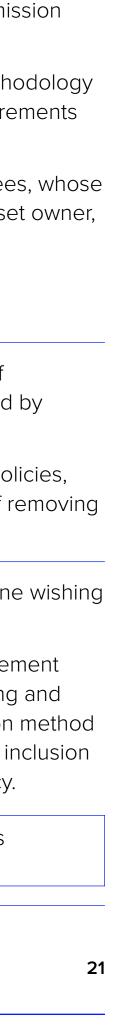
A well-constructed index can enable you to capture your clients' investment requirements with greater precision and get earlier access to fast-growing stocks.



Frequently asked questions

What is an index?	 Hypothetical portfolio of securities designed to represent an asset class, market or market segment.
	 As an index provider, FTSE Russell produces hundreds of indices that investors can replicate.
	 Economists use them to understand and analyze economic trends
	 Investors use indices to conduct risk analysis, develop investment policies and create asset allocation strategies.
	 Most investors use indices to evaluate the performance of their investment portfolios.
	 Indices are also used as a basis for investable products, such as index mutual funds or exchange-traded funds (ETFs) that track or replicate an index as closely as possible.
What are the main benefits	 Passive funds have grown in popularity during the last two decades.
of index inclusion?	 According to the consultancy firm ETFGI, global assets in exchange-traded funds (ETFs) (most of which track indices) have risen from \$0.4 trillion in 2005 to \$10.3 trillion in 2022. These funds are a natural source of demand for the companies included in indices.
	 Indices underlie popular hedging instruments such as equity futures, options, and swaps, creating demand from derivatives users.
	 Admission to an index tracked by an ETF or index fund, or widely used as a performance benchmark means a potential boost in investor interest and company recognition.

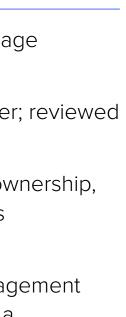
Do companies have any say in their consideration for	 Index admission is determined by the index ground rules and admission policy cannot be influenced by any individual company.
index admission?	 FTSE Russell regularly consults the market on changes to the methor of its indices to ensure that they continue to meet investors' requirer and to define and lead global standards.
	 FTSE Russell's indices are also overseen by 24 advisory committees members are leading representatives from the asset manager, asset custodian, broker, and consultant communities.
	 Engage regularly with other stakeholders, such as central banks and regulators.
Who takes the decision to admit or remove companies?	 There is no person or entity taking this decision—the admission of a company to (or removal from) a FTSE Russell index is determined the ground rules.
	 The index ground rules and other methodology documents and pol which underpin FTSE Russell indices, are written with the intent of re the need for judgement or discretion, in so far as is feasible.
What are the index ground rules?	 An index's ground rules are the key reference document for anyone to understand the methodology of the index.
	 They cover the index's objective and its intended use, the manager responsibilities of the entities responsible for calculating, producing operating the index, relevant index policies (such as the calculation or the management of corporate events and actions), the security in criteria, screens for index inclusion and the index review frequency.
	A glossary of the terms used in FTSE Russell's index ground rules is available here.



Who manages the index	- None of those.	
admission process at IPO time—broker, company or exchange?	 Index admission policy is set by the index's ground rules. 	
	 The admission of a newly listed company will be considered automatically at the next index review date (or, in the case of a large IPO, under the relevant index's fast entry rules). 	
How often are indices reviewed?	 This depends on the index. The index review frequency is stated in the ground rules. 	
	 The FTSE UK Index Series, for example, is reviewed on a quarterly basis in March, June, September, and December. The FTSE Global Equity Index Series (GEIS), FTSE Russell's flagship global equity benchmark4, is reviewed semiannually in March and September. 	
How are indices calculated?	 The calculation methodology for FTSE Russell indices is set out in the relevant index's ground rules and, in certain cases, in a separate document 	
	 These methodology documents set out in detail how an index is assembled and calculated. They make it easier for users to replicate the indices in order to support their investment and trading activities, and they assist users in understanding the component factors which influence the performance of the indices. 	
	 The documents also explain how index variants are calculated. These variants typically include capital and total return indices, net total return indices, based on specified withholding tax rates, indices calculated in currencies other than the base currency, currency-hedged indices, capped indices, and sector indices. 	
	 Some indices within an index series may be calculated in real time, while others are calculated at end of day only. 	

Which regulatory body supervises the index industry (and FTSE Russell indices)?	Index firms are supervised and regulated both directly and indirectly (example, by means of funds regulation). Some of the most relevant gl regional and national regulations and guidelines are:
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	 The International Organization of Securities Commissions (IOSCO) Benchmark Principles
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