

The Gauge of the U.S. Large-Cap Market

S&P Dow Jones Indices

A Division of S&P Global

Indexed Assets

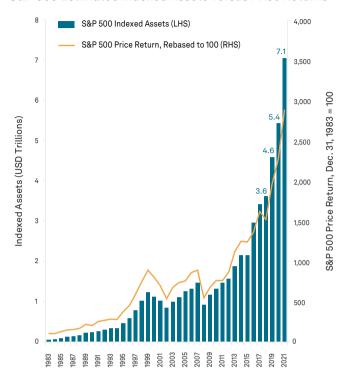
Index-based funds offer a range of benefits relative to active management, including **transparency**, **simplicity and low cost**. As indexing has grown, investors have benefited substantially by saving on fees and avoiding underperformance.

At the end of 2021, S&P DJI estimates that USD 15.6 trillion was indexed or benchmarked to the S&P 500, with indexed (or passively managed) assets making up USD 7.1 trillion of this total.

Highlights from the 2021 Annual Survey of Indexed Assets:

- Since 1995, the growth in indexed assets (CAGR of 11.1%) has outpaced the price return of the S&P 500 (CAGR of 8.2%), indicating a substantial increase in flows.
- Since 2008, assets tracking the S&P 500 have grown substantially, when they represented approximately USD 1 trillion.
- In 2021 alone, assets tracking the S&P 500 grew by 30%.

S&P 500 Estimated Indexed Assets versus Price Returns

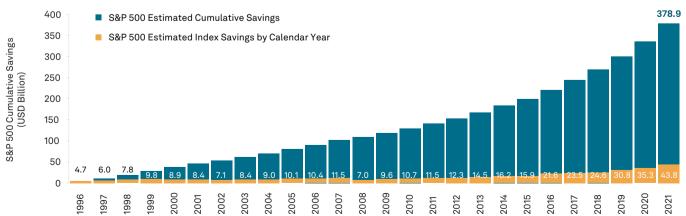


Source: S&P Dow Jones Indices LLC. Data as of Dec. 31, 2021. Chart is provided for illustrative purposes. Past performance is no guarantee of future results. Please see Indexology® Blog "The Importance of Being Indexed" for further details.

S&P 500-Linked Savings

Passively managed assets have grown dramatically since the inception of indexing in the 1970s. Index funds now play a prominent role in global financial markets. The growth of indexing was driven by the failure of active managers, in aggregate, to outperform passive benchmarks. We can estimate the fee savings each year by taking the difference in expense ratios between active and index equity mutual funds and multiplying this difference by the total value of indexed assets for the S&P 500. When we aggregate the results, we observe that the **cumulative** savings in management fees over the past 26 years is USD 379 billion.

S&P 500 Estimated Cumulative Savings and Annual Contribution (USD Billion)



Source: S&P Dow Jones Indices LLC client reported data, eVestment, Morningstar and 2022 Investment Company Institute (ICI) Investor Factbooks. Data as of Dec. 31, 2021. Chart is provided for illustrative purposes. Past performance is no guarantee of future results. Please see the "S&P Dow Jones Indices Annual Survey of Assets" for details on how the survey is calculated and note that the methodology has changed over time.

Hard to Beat

Most Active U.S. Large-Cap Equity Funds Underperform the S&P 500

Since the first publication of the S&P Indices Versus Active Funds (SPIVA®) U.S. Scorecard in 2002, S&P Dow Jones Indices has been the de facto scorekeeper of the ongoing active versus passive debate, reporting on the results semiannually.

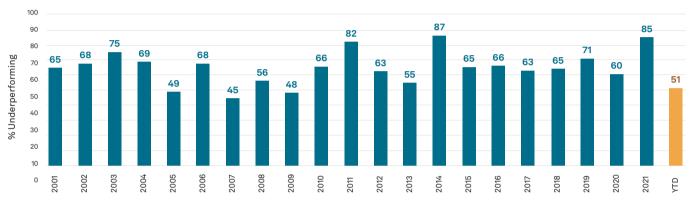
The chart below shows that over **50% of U.S.**Large-Cap active managers underperformed the S&P 500 in 18 of the past 21 years.

Active equity funds performance versus the benchmark has historically worsened over longer time horizons, highlighting the difficulty of outperforming consistently.

Over a 20-year period ending on June 30, 2022, **95% of U.S.** Large-Cap funds underperformed the S&P 500.

Percentage of U.S. Active Large-Cap Domestic Equity Funds Underperforming the S&P 500

By Calendar Year (Based on Absolute Returns)



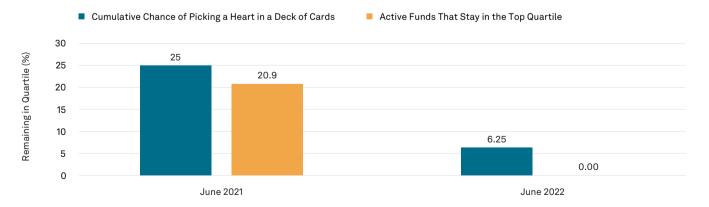
Source: S&P Dow Jones Indices LLC, CRSP. Data as of June 30, 2022. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Past Performance Is No Guarantee of Future Results

As a companion to our SPIVA scorecards, S&P DJI produces the Persistence Scorecard, which looks at whether top active managers can retain their position relative to their peers.

The chart below investigates the track record of 163 top quartile, actively managed large-cap funds as of June 2020. The persistence of these funds was much worse than random. Two years later, not a single fund managed to remain in the top quartile consecutively.

Manager Outperformance is Fleeting



Source: S&P Dow Jones Indices LLC, CRSP. Data as of Jun. 30, 2022. From "U.S. Persistence Scorecard", Figures are taken from Report 1. Performance Persistence of Top-Quartile Domestic Equity Funds over Three Consecutive 12-Month Periods. Past performance is no guarantee of future results. Chart is provided for illustrative purposes. For the blue bar illustration, in a full deck of 52 cards, there are typically four suits, hearts, clubs, diamonds and spades. Any suit has a 13/52 or 1/4 probability of being picked. The odds of a top-quartile fund randomly staying in the top quartile over the next two years are 25% * 25% = 6.25%, or 1/16.

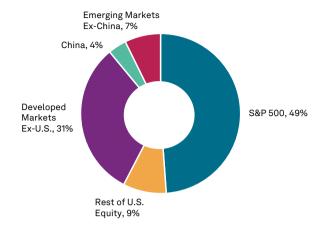
Relevance of the S&P 500

The S&P 500 represents approximately **50% of the global equity market capitalization**.

Many of the largest exchange-traded funds (ETFs) and mutual funds in the world track the S&P 500. The index supports a large and robust trading ecosystem that includes index futures and options.

With more than **65 years of live index history**, the S&P 500 has a long and proud history. Investors analyze the S&P 500's returns and constituents to understand how the U.S. equity market has evolved and reacted to a wide range of historical events.

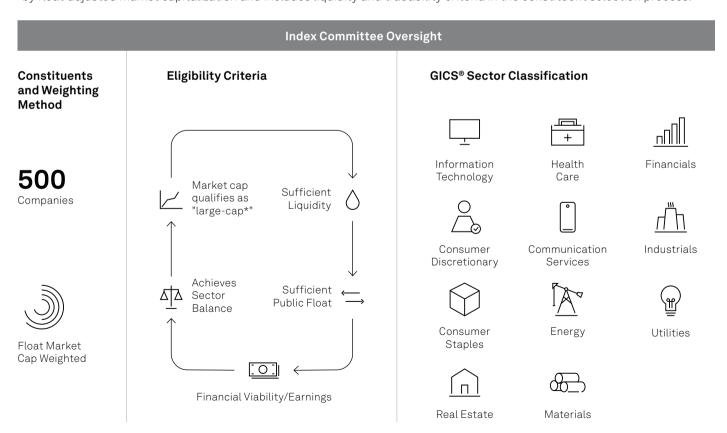
Global Equity Market Capitalization



Source: S&P Dow Jones Indices LLC. Data as of Dec. 30, 2022. Chart is based on index market capitalization of the S&P 500, S&P Global BMI and its component indices. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Constructing the S&P 500

The S&P 500 is designed to measure the performance of index-eligible stocks listed on the NYSE and Nasdaq. It is weighted by float-adjusted market capitalization and includes liquidity and tradability criteria in the constituent selection process.



^{*}S&P Composite 1500 market-cap guidelines are reviewed by the Index Committee on an as needed based. For further information and the complete details on the eligibility criteria please see the U.S. Index Methodology and to learn about the governance process of S&P DJI please visit: https://www.spglobal.com/spdji/en/governance/.

S&P 500 Trading Ecosystem

The S&P 500 is at the center of a large trading "ecosystem" spanning different product types and related indices. Trading in the S&P 500 supports a network of different product types (LHS chart; futures, options and ETF options) and exposures (RHS chart; sectors, VIX-based strategies and factors).

The ecosystem of products linked to the S&P 500 generated **USD 197 trillion in index equivalent trading volume in 2021**, which is broken down in the graphic below. Our research shows that users of index-based products may wish to consider the volumes associated to an index as an important factor in choosing a product, due to historically higher liquidity supporting tighter spreads in products and a closer tracking to the benchmark.



Source: S&P Dow Jones Indices LLC, FIA, Bloomberg. Data as of Dec. 31, 2021. Updated from "A Window on Index Liquidity," S&P Dow Jones Indices (2019) Figures in billions of U.S. dollars of index equivalent trading volumes. Chart is provided for illustrative purposes. Past performance is no guarantee of future results. *In 2019, Index Dividends was focused on product linked to our Dividend Points indices, whereas the new Dividends category also includes dividend-themed products for example the S&P 500 dividend families including Dividend Aristocrats, High Dividend, Low Volatility High Dividend and others. Data sources have also changed since the original publication of the paper. For further details see "Mapping the S&P 500 Trading Ecosystem."

Index Series Based on the S&P 500

The S&P 500 Provides a Baseline for Several Flagship Indices



U.S. Core Equity

The S&P 500 Top 50 and S&P 100 are mega-cap indices that are subsets of the S&P 500.

The S&P Composite 1500® combines the S&P 500, S&P MidCap 400® and S&P SmallCap 600®.



Equal Weight

The S&P 500 Equal Weight Index gives each company in the S&P 500 the same weight at each rebalance.



Factors

The S&P 500 single- and multi-factor indices track well-known factors including size, momentum, quality, low volatility and dividends.



Sustainability

The S&P 500 ESG is a broad-based float market-cap weighted index. It measures the performance of securities meeting sustainability criteria, while maintaining similar overall industry group weights as the S&P 500.

S&P DJI provides a range of indices for a breadth of ESG preferences.



Sectors & Industries

The S&P 500 sector indices follow the Global Industry Classification Standard (GICS®) which is a four-tiered industry classification where companies are classified by their principal business activity.

The S&P 500 serves as the basis for the Select Sector™ and Select Industry indices.



Style

Our style series includes broad, exhaustive style indices, as well as narrower, pure style indices.

Style: S&P 500 Growth and S&P 500 Value

Pure Style: S&P 500 Pure Growth and S&P 500 Pure Value



Volatility

The Cboe Volatility Index (VIX®) gives market participants real-time insight into investor sentiment and expected levels of market volatility.



S&P PACT™ Indices (S&P Paris-Aligned & Climate Transition Indices)

These innovative indices track the performance of eligible equity securities, selected and weighted to be collectively compatible with a 1.5°C global warming climate scenario, in addition to several other climate-themed objectives.

S&P PACT Indices covers a range of flagship indices such as the S&P 500 Paris-Aligned & Climate Transition Indices.

A Brief History of the S&P 500

65+ Years of Market Leadership

1923

Standard Statistics Company (now S&P Global) calculates the S&P Composite Index

Updated Weekly, cap-weighted index of 233 companies, covering 26 industries

1957

S&P 500 replaces 90 stock composite

Trading begins at 44.22

1976

First major retail indexed fund

Based on the S&P 500 Index

1983

Longest running listed index options:

Options listed on Cboe March 11 | S&P 100 July 1 | S&P 500

1993

First U.S.-listed exchange traded fund

S&P 500

2003

World's first equal-weight ETF

Based on the S&P 500 Equal Weight Index

1926

S&P 90: Cap-weighted index of 90 companies

Updated Daily

1973

One of the first institutional indexed funds

Wells Fargo Stagecoach Fund (based on S&P 500)

1982

First listed index future:

S&P 500 index futures on CME

1986

Intraday frequency went from 1m to once every 15s

The current frequency is 1 second

1999

GICS® Introduced

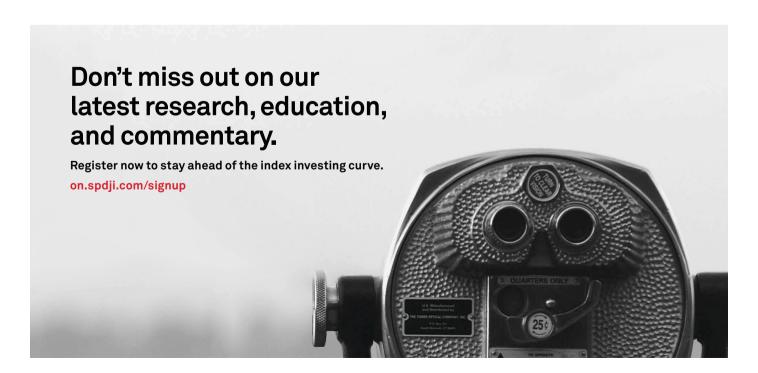
In collaboration with MSCI

2004

First volatility derivatives

VIX futures on Cboe

Source: S&P Dow Jones Indices LLC. Table is provided for illustrative purposes. Please see https://www.spglobal.com/spdji/en/index-linked-products/ for further details. Please note S&P Dow Jones Indices does not sponsor, endorse, sell, or promote any product based on an S&P Dow Jones index nor does it make any representation regarding the advisability of investing in any products.



About S&P Dow Jones Indices

At S&P Dow Jones Indices, we provide iconic and innovative index solutions backed by unparalleled expertise across the asset-class spectrum. By bringing transparency to the global capital markets, we empower investors everywhere to make decisions with conviction. We're the largest global resource for index-based concepts, data and research, and home to iconic financial market indicators, such as the S&P 500® and the Dow Jones Industrial Average®. More assets are invested in products based upon our indices than any other index provider in the world. With over USD 7.4 trillion in passively managed assets linked to our indices and over USD 11.3 trillion benchmarked to our indices, our solutions are widely considered indispensable in tracking market performance, evaluating portfolios and developing investment strategies.

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