



The Challenges of Active Management

S&P Dow Jones Indices

**S&P Dow Jones
Indices**

A Division of **S&P Global**

September 12, 2023

Joseph Nelesen, Ph.D.

Agenda

- 1) S&P Dow Jones Overview
- 2) Active and Index Landscape
- 3) “SPIVA” (S&P Indices Versus Active) Scorecards
- 4) Change of Course in 2022?
- 5) SPIVA: Latest Results
- 6) Measures of Persistence
- 7) Challenges of Active Management
- 8) Appendix

SPDJI - Global Reach. Local Expertise.

S&P Dow Jones Indices

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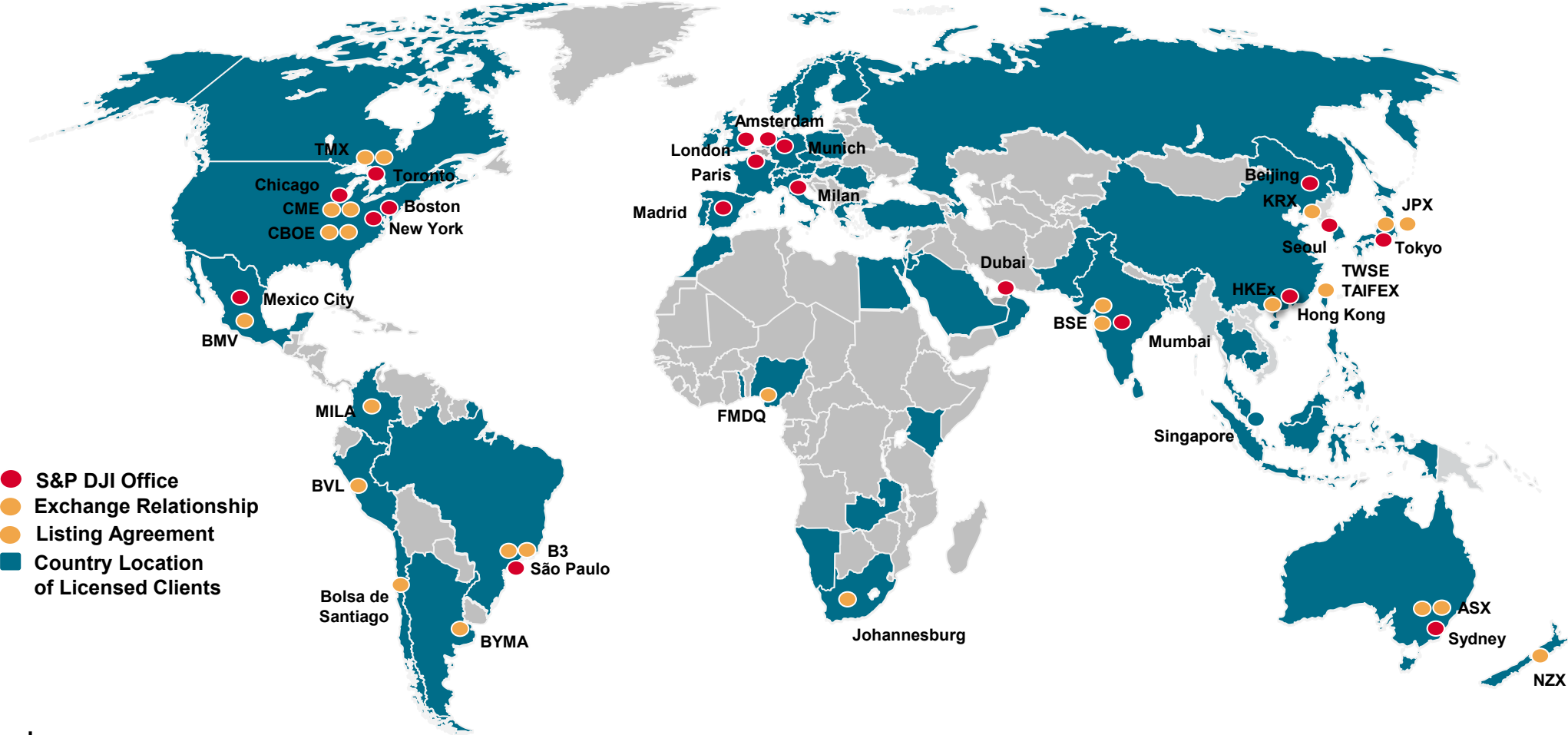
S&P Global Ratings

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S&P Global Mobility

S&P Global Market Intelligence

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- S&P DJI Office
- Exchange Relationship
- Listing Agreement
- Country Location of Licensed Clients

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SPDJI – Industry Leading Thought Leadership

Annually, S&P DJI syndicates **600+ publications of varying types, levels and languages** across print and digital mediums, including video.

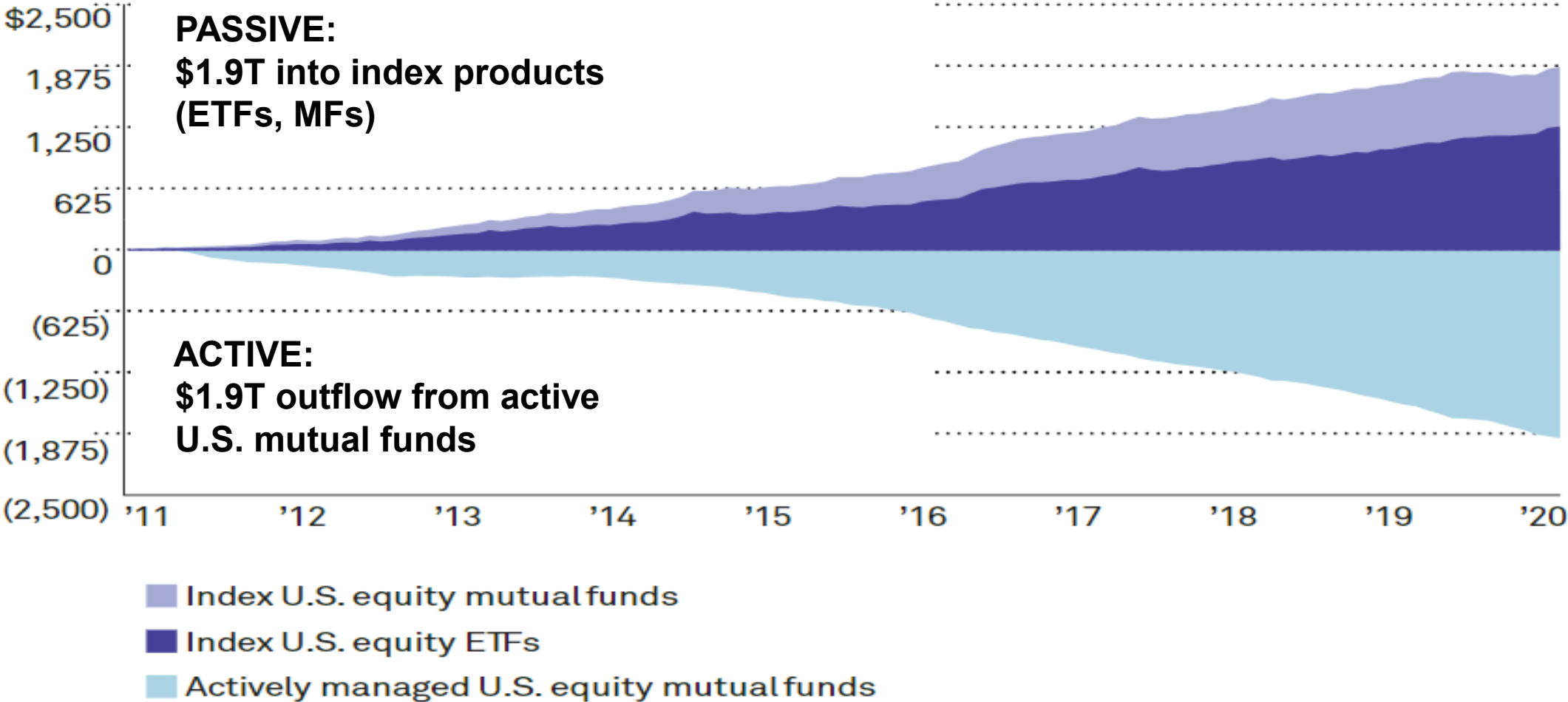
S&P Index Versus Active (SPIVA®)	Our flagship publication measuring actively managed funds against their relevant index benchmarks across the U.S., Europe, Canada, Australia, India, Latin America, Japan and South Africa markets.
Research	Advanced publications pioneering global market trends and index innovations.
Market Performance	Monthly performance-driven pieces that put our index gains and losses in context of market developments.
Index Commentary	Index characteristics, methodology and performance in relation to current market trends.
Indexology® Blog	Posts from thought leaders across S&P DJI, as well as guest posts from renowned subject matter professionals, introducing readers to insightful research and examining market, political and economic events through the lens of our index data.
Talking Points	Interviews with industry thinkers on market trends and themes impacting indexing.
Investor TALKS	Real-world applications of index-based strategies from a practitioner's point of view.

Agenda

The Changing Active and Index Landscape

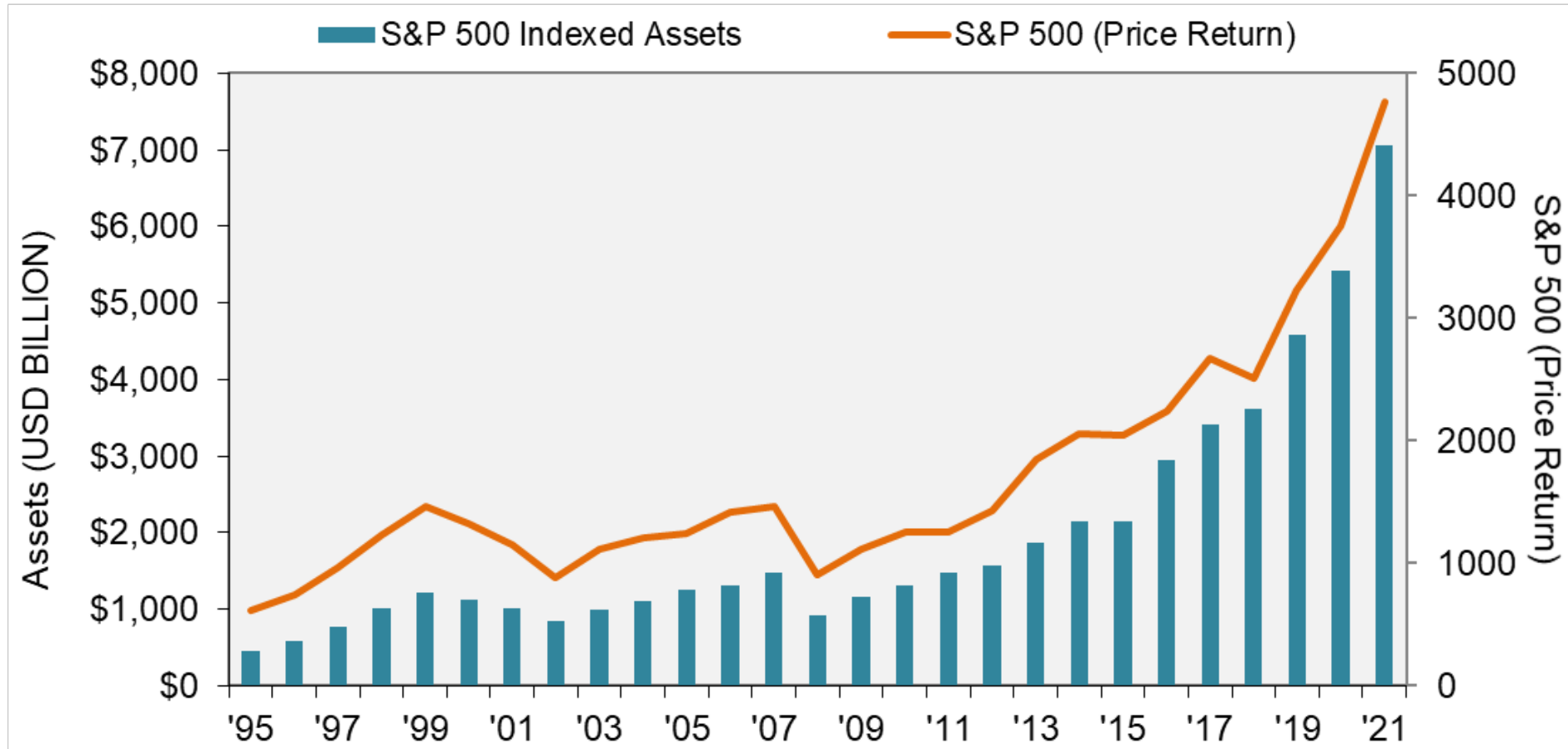
Increasing Asset Flows from Active to Passive

Many Mutual Fund Outflows Have Gone to Index Funds



Assets Tracking the S&P 500

Among Indexed Assets, Approximately \$7.1T Track the S&P 500



Source: S&P Dow Jones Indices. Data as of Dec. 31, 2021. Charts are provided for illustrative purposes. Past performance is no guarantee of future results.

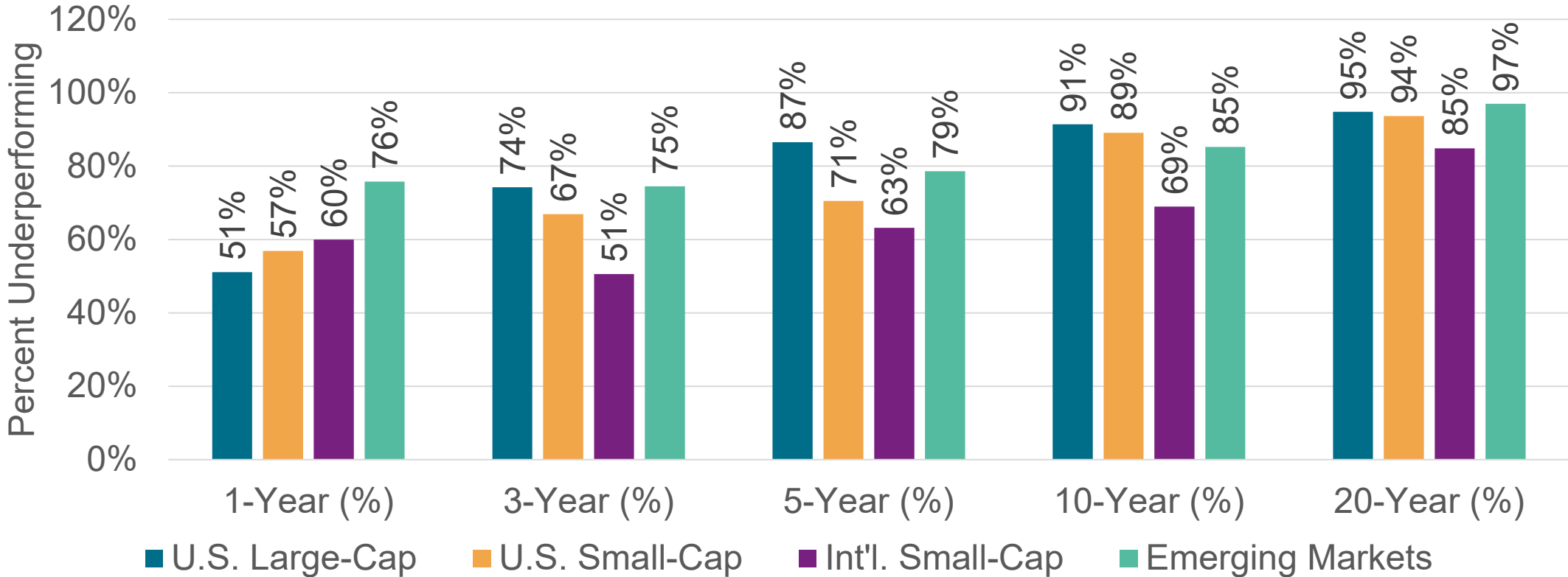
The S&P 500 Ecosystem: Indicator of “Active” Passive Investors



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.”

Over Time More Active Funds Underperform

% of Active Funds Underperforming Benchmarks – Mutual Funds

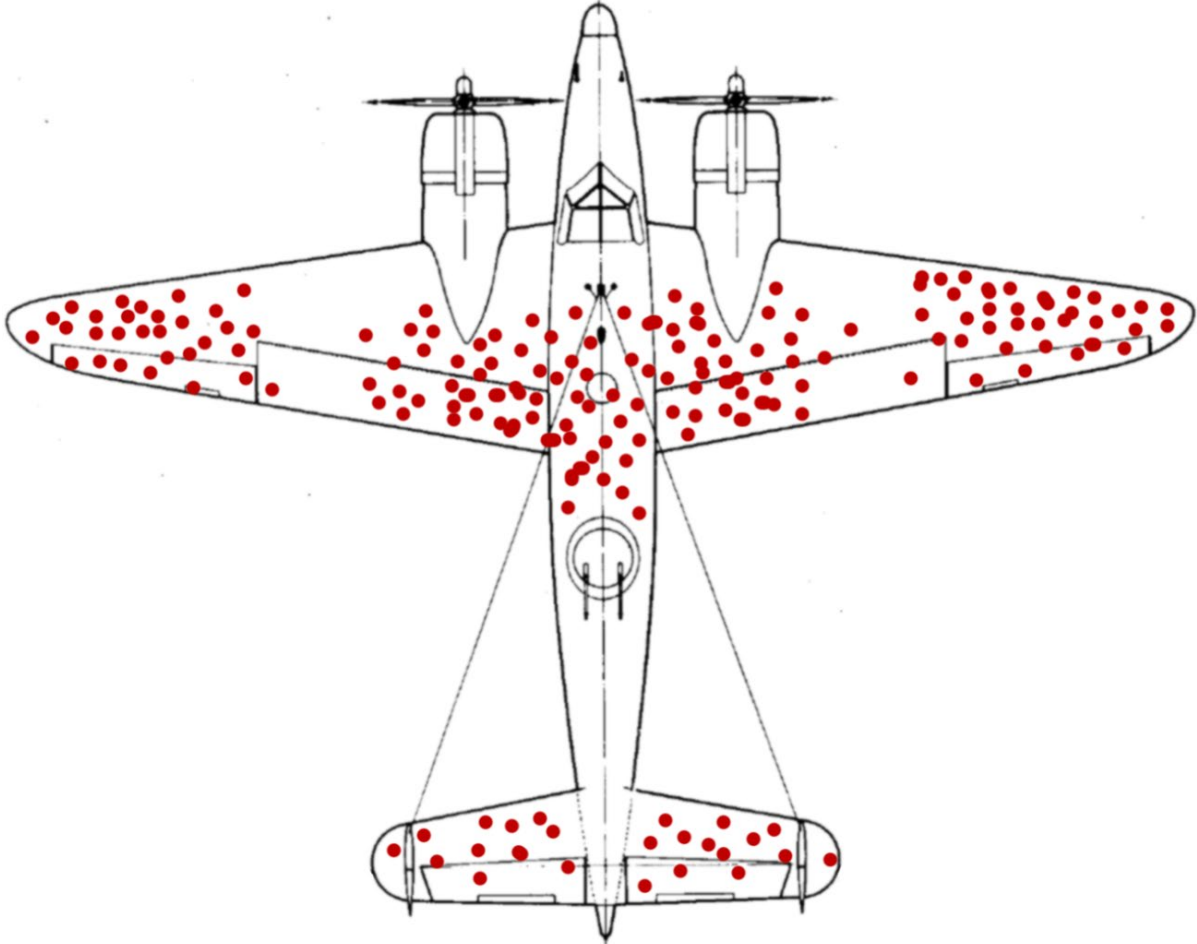


Sources: S&P Dow Jones Indices, CRSP. Data for the period Dec 31, 2002 – Dec 30, 2022 as compared to the S&P 500 total return in U.S. dollars. For details on the methodology applied, see S&P DJI's U.S. SPIVA® Scorecard. Past Performance is no guide to future performance. Provided for illustrative purposes only.

Agenda

“SPIVA” (S&P Indices Versus Active) Scorecards

A Brief Diversion on Survivorship Bias...



S&P Indices Versus Active (SPIVA®)

Performance of actively managed mutual funds versus S&P DJI benchmarks



- **Summary:**

- **Semi-annual** report, launched in 2002
- Analysis over **various time horizons**
- **Global**, separate reports for the fund industries in each of [U.S.](#), [Europe](#), [Australia](#), [Japan](#), [Latin America](#), [Canada](#), [South Africa](#) and [India](#).

- **Key Reports:**

- **Performance:** Percentage of active funds that beat their assigned S&P DJI benchmark
- **Survivorship:** Accounts for entire opportunity set, not just the survivors
- **Weighted Returns:** equal- and asset-weighted averages

- **Extensions:**

- Persistence Scorecard: [U.S.](#), [Canada](#), [Australia](#) and [Latin America](#)
- [Institutional Scorecard](#)

Source: S&P Dow Jones Indices LLC.

SPIVA[®] Around the World

The SPIVA Difference

1. Accounts for the entire on-balance portfolio of active investors—thereby eliminating survivorship bias

2. Applies an apples-to-apples comparison of returns against the returns appropriate for that particular investment category

3. Shows that asset-weighting equal and asset-weighted averages

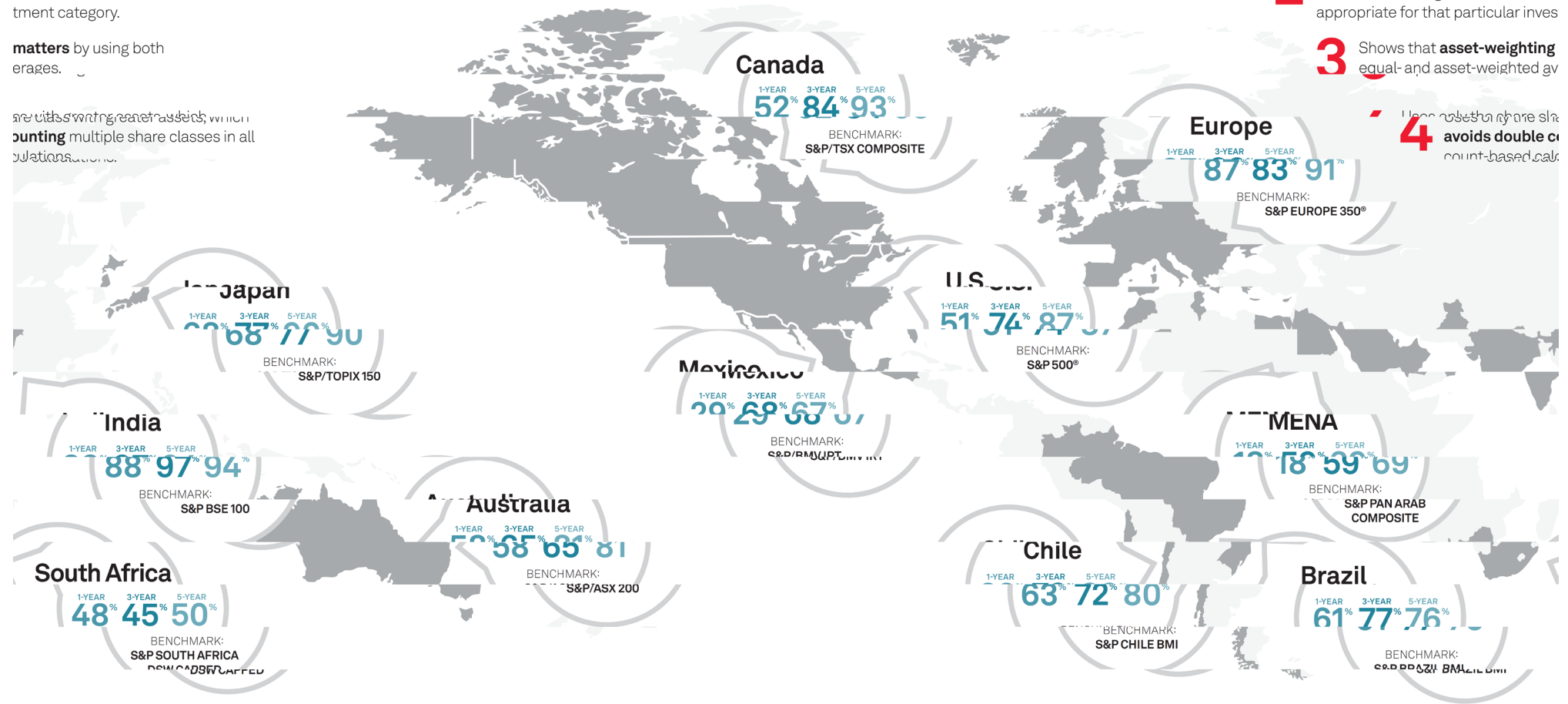
4. Avoids double counting multiple share classes in all calculations

1 Accounts for the entire on-balance portfolio of active investors—thereby eliminating survivorship bias

2 Applies an apples-to-apples comparison of returns against the returns appropriate for that particular investment category

3 Shows that asset-weighting equal and asset-weighted averages

4 Avoids double counting multiple share classes in all calculations



SPIVA: S&P Indices Versus Active

www.spglobal.com/spdji/en/research-insights/spiva

* Regional benchmarks included here are large cap, with the exception of Brazil and Chile, where SPIVA results displayed reflect regional broad-market indices. Multiple benchmarks exist in all regions tracked by SPIVA. For more information on SPIVA methodology, including a full list of regional benchmarks and assets, visit <http://www.spglobal.com/spdji/en/research-insights/spiva>

Source: S&P Dow Jones Indices LLC, Morningstar, Fundata, CRSP. Data as of December 31, 2022. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

S&P Dow Jones Indices

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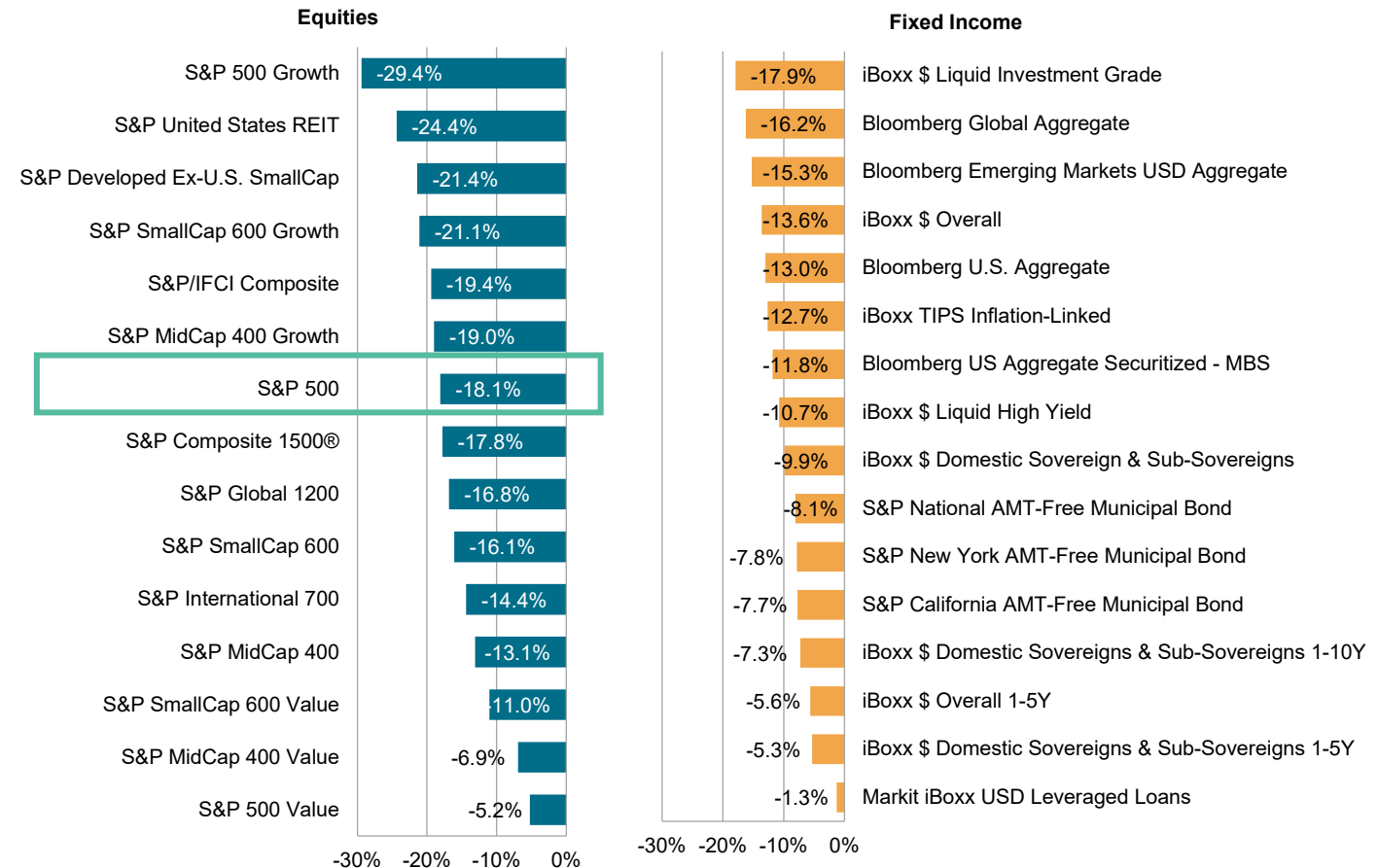
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Change of Course in 2022?

2022: Perfect Storm for Active Management?

Negative returns across asset classes

- **Down Market**
- **Absence of Positive Skew**
- **Dispersion & Correlation**
- **High Vol.**

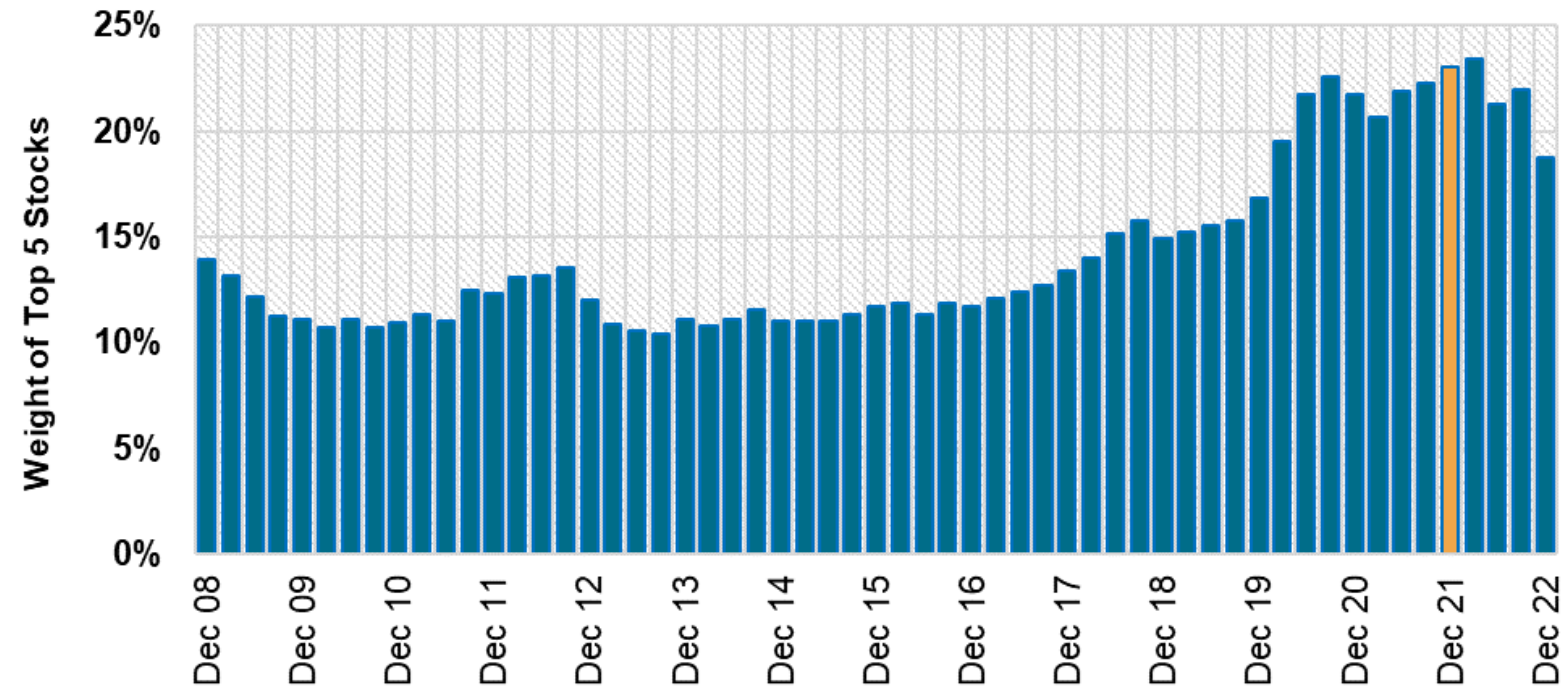


Source: S&P Dow Jones Indices. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes. Past performance is no guarantee of future results

2022: Perfect Storm for Active Management?

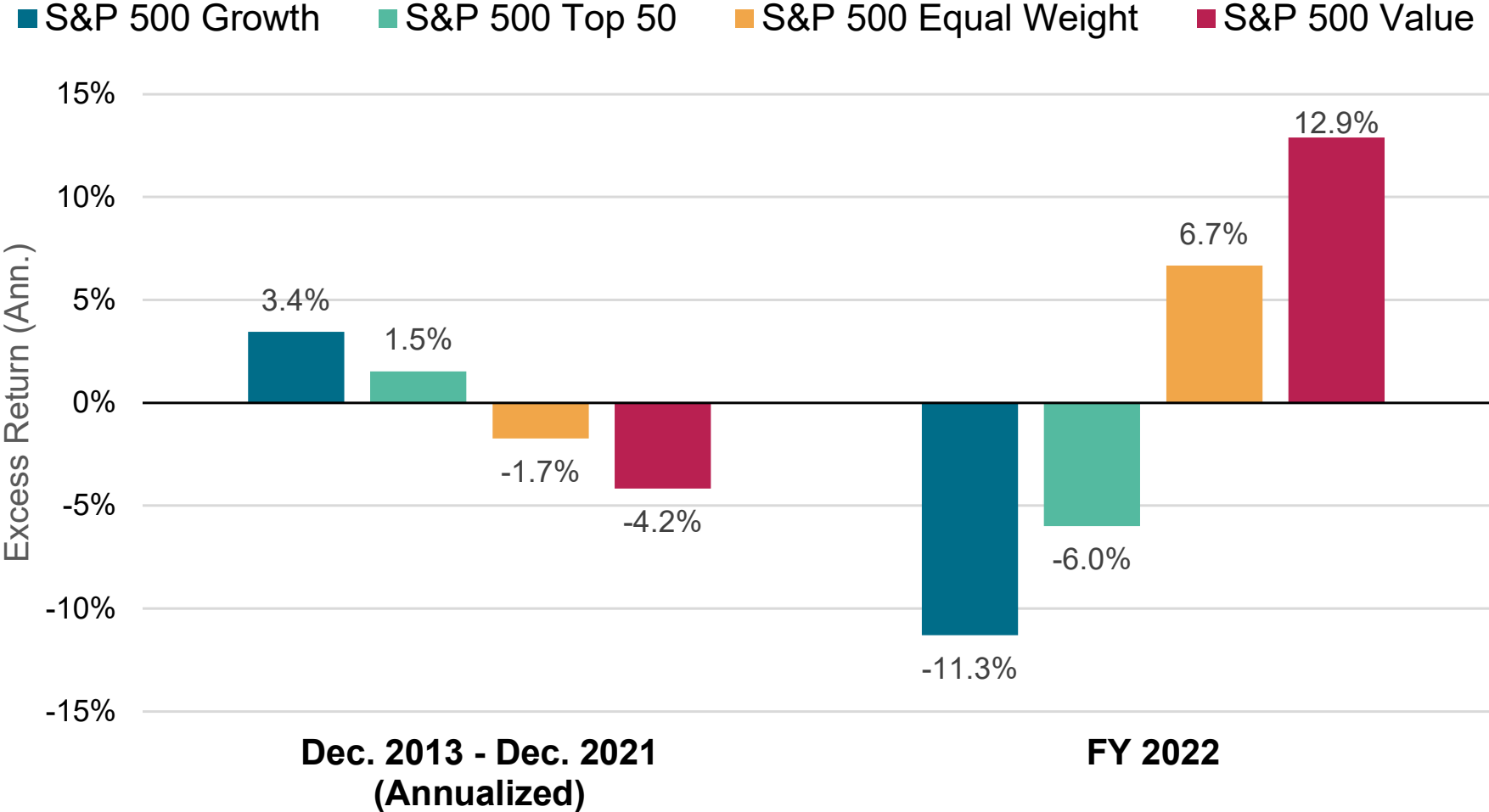
Mega-caps led the -18% S&P 500 decline

- **Down Market**
- **Absence of Positive Skew**
- **Dispersion & Correlation**
- **High Vol.**



Source: S&P Dow Jones Indices. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes. Past performance is no guarantee of future results

From Headwinds to Tailwinds for Active Managers

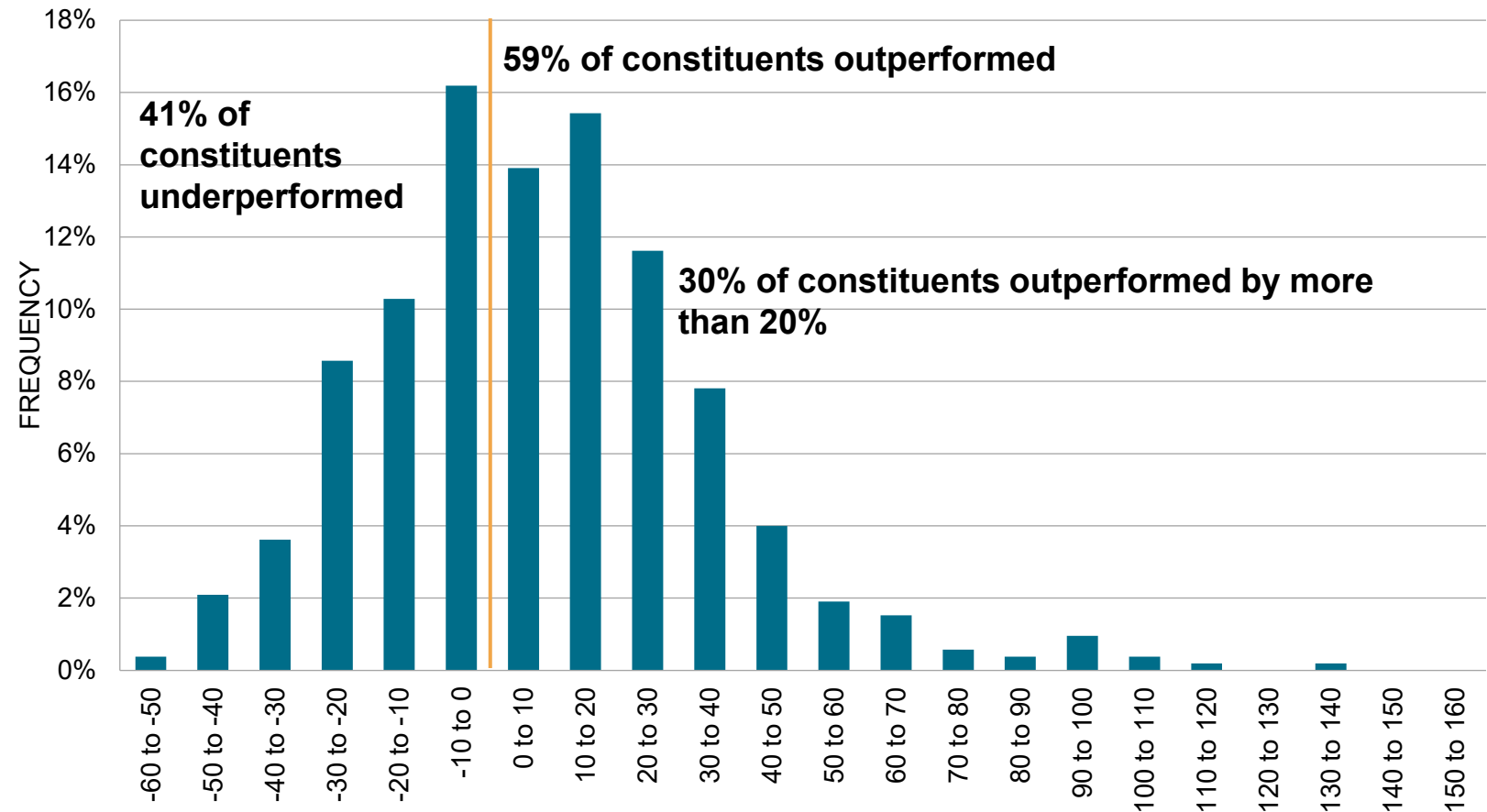


Source: S&P Dow Jones Indices. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes. Past performance is no guarantee of future results

2022: Perfect Storm for Active Management?

- Down Market
- Absence of Positive Skew
- Dispersion & Correlation
- High Vol.

2022 Frequency Distribution of S&P 500 Constituent Excess Returns

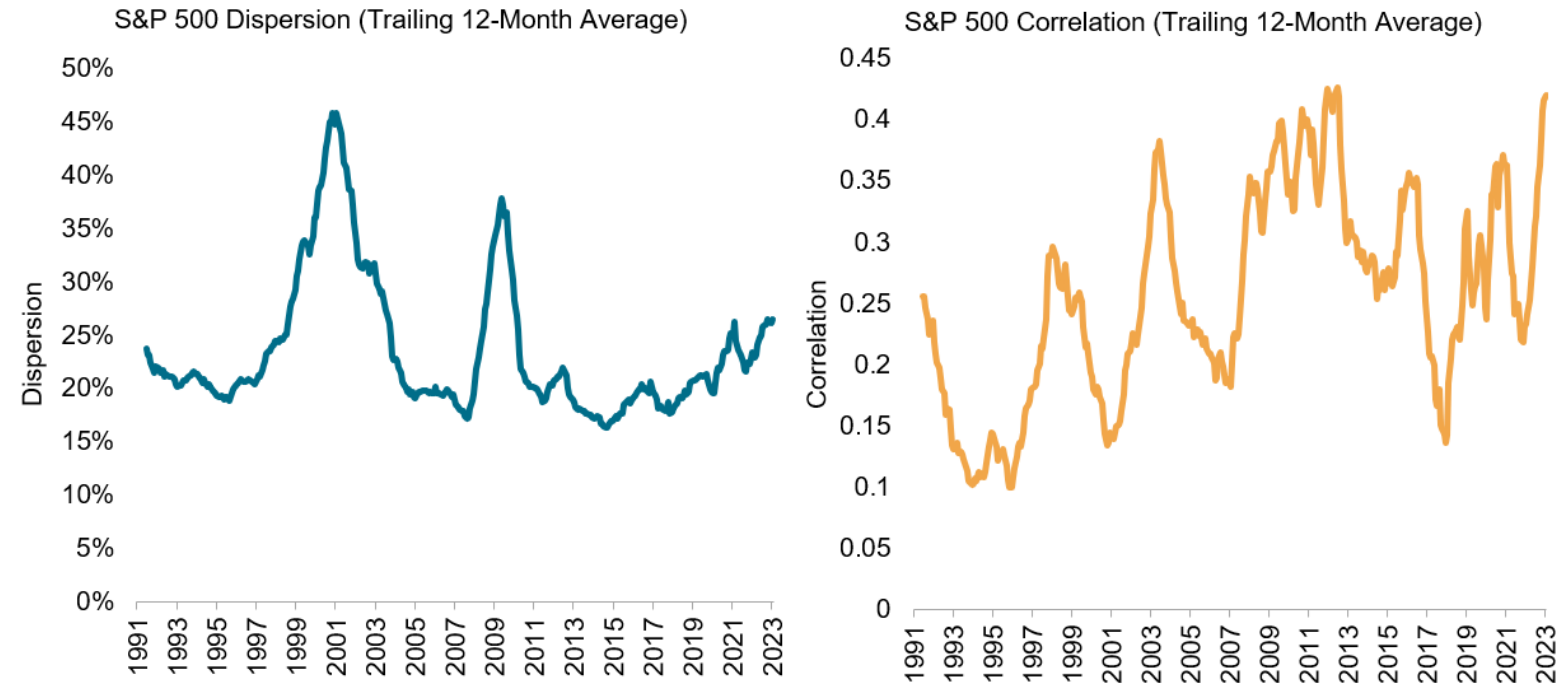


Source: S&P Dow Jones Indices. Data as of Dec. 30, 2022. Chart is provided for illustrative purposes. Past performance is no guarantee of future results

2022: Perfect Storm for Active Management?

- **Down Market**
- **Absence of Positive Skew**
- **Dispersion & Correlation**
- **High Vol**

Exhibit 1: S&P 500 Trailing 12-Month Average Dispersion and Especially Correlations Have Increased



Source: S&P Dow Jones Indices LLC. Data from January 1991 through January 2023. Past performance is no guarantee of future results. Charts are provided for illustrative purposes.

Source: S&P Dow Jones Indices. Data as of Dec. 31, 2022. Chart is provided for illustrative purposes. Past performance is no guarantee of future results

2022: Perfect Storm for Active Management?

- Down Market
- Absence of Positive Skew
- Dispersion & Correlation
- High Vol

1Y VIX – Elevated Since Early 2020



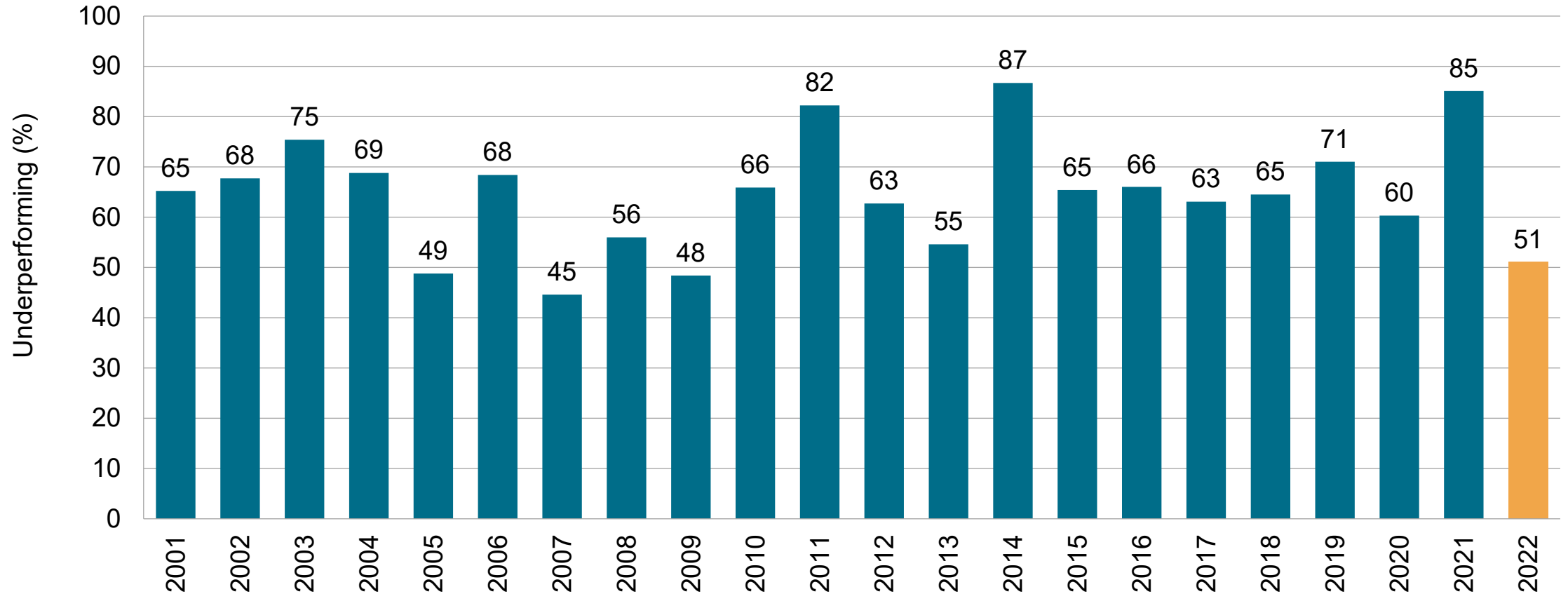
Source: S&P Dow Jones Indices. Data as of Dec. 30, 2022. Chart is provided for illustrative purposes. Past performance is no guarantee of future results

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SPIVA: Latest Results

2022 Results: (Relatively) Better Year for U.S. Active

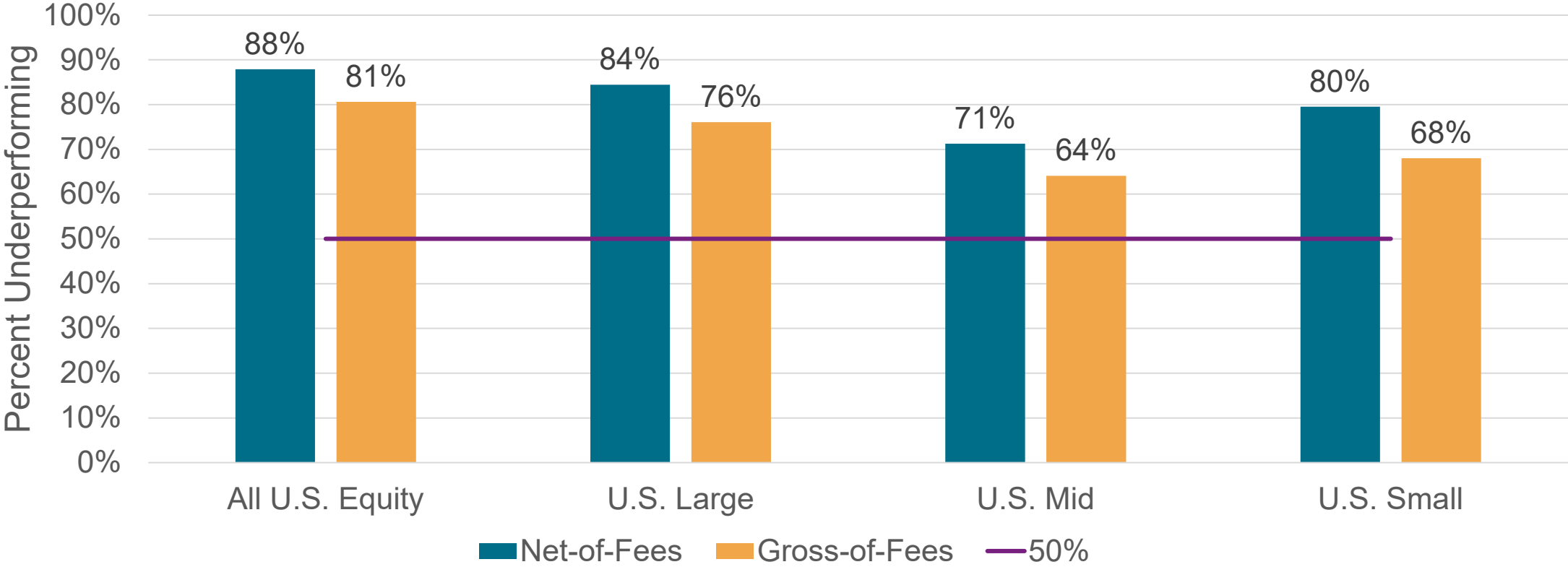
Actively Managed Large Cap U.S. Equity Mutual Funds vs S&P 500



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

U.S. Institutional Equity: Not Just Fees Making the Difference

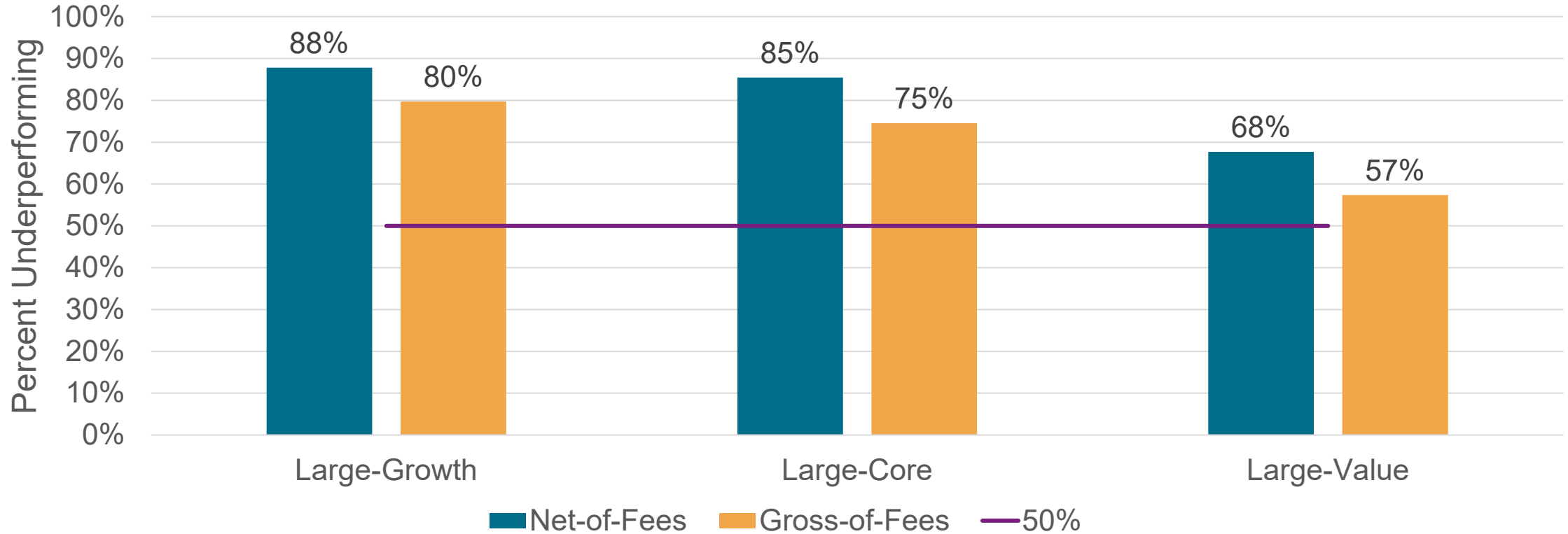
% of Active Institutional SMAs Underperforming (10 Years Ending Dec. 2022)



Sources: S&P Dow Jones Indices, eVestment. Data as of Dec. 30, 2022 as compared to the S&P 500 total return in U.S. dollars. For details on the methodology applied, see S&P DJI's U.S. SPIVA® Scorecard. Past Performance is no guide to future performance. Provided for illustrative purposes only.

Does Style Matter?

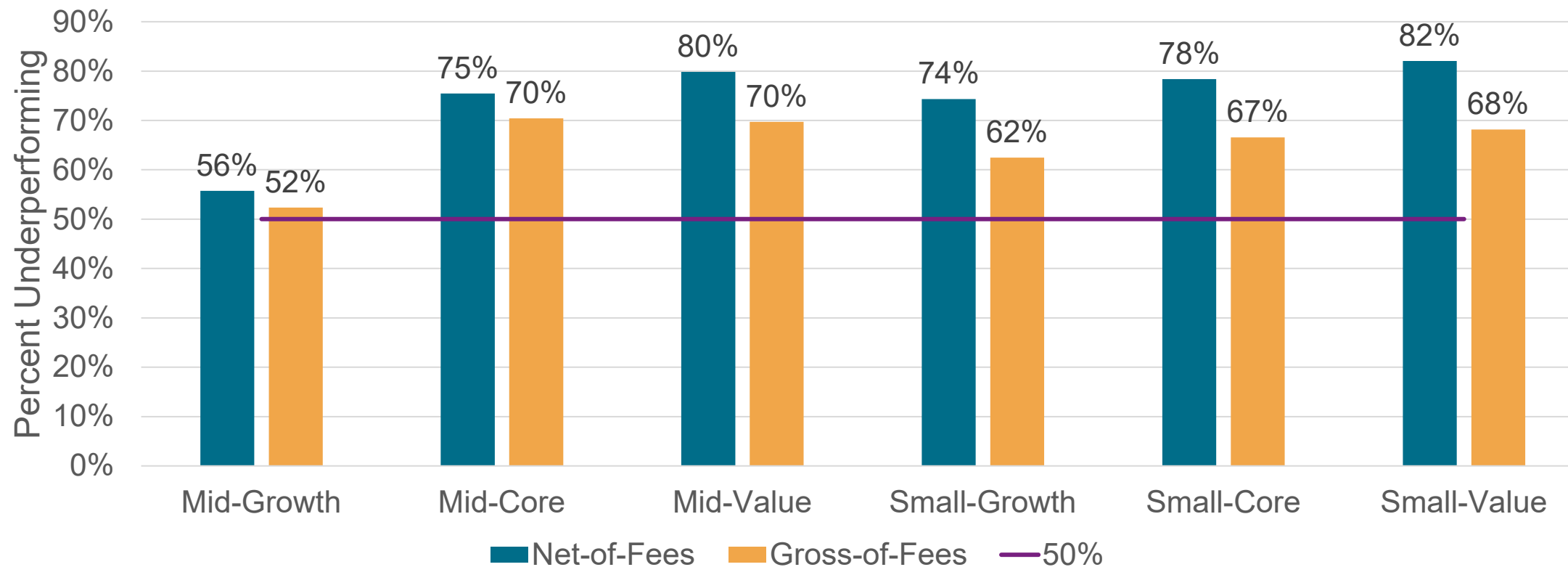
% Large Growth/Value Active Institutional SMAs Underperforming (10 Years Ending Dec. 2022)



SSources: S&P Dow Jones Indices, eVestment. Data as of Dec. 30, 2022 as compared to the S&P 500 total return in U.S. dollars. For details on the methodology applied, see S&P DJI's U.S. SPIVA® Scorecard. Past Performance is no guide to future performance. Provided for illustrative purposes only

Any Edge in U.S. Institutional Mid- and Small-Cap?

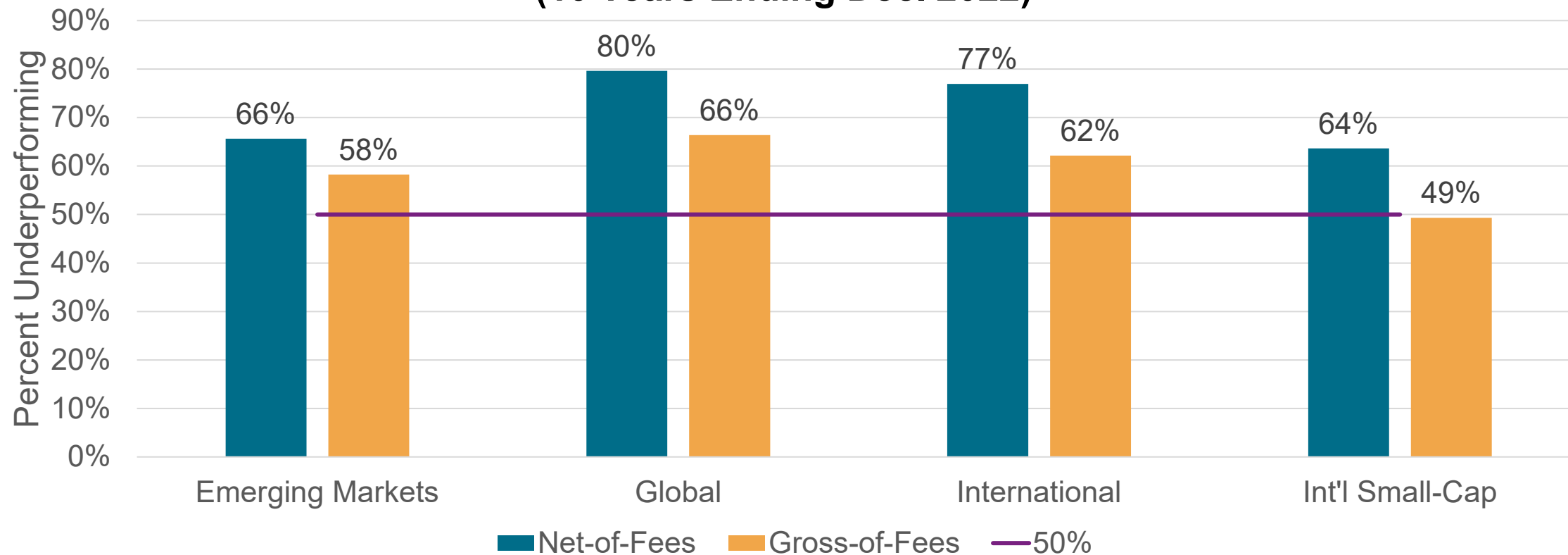
% of Mid & Small-Cap Active Institutional SMAs Underperforming (10 Years Ending Dec. 2022)



Sources: S&P Dow Jones Indices, eVestment. Data as of Dec. 30, 2022 as compared to the S&P 500 total return in U.S. dollars. For details on the methodology applied, see S&P DJI's U.S. SPIVA® Scorecard. Past Performance is no guide to future performance. Provided for illustrative purposes only

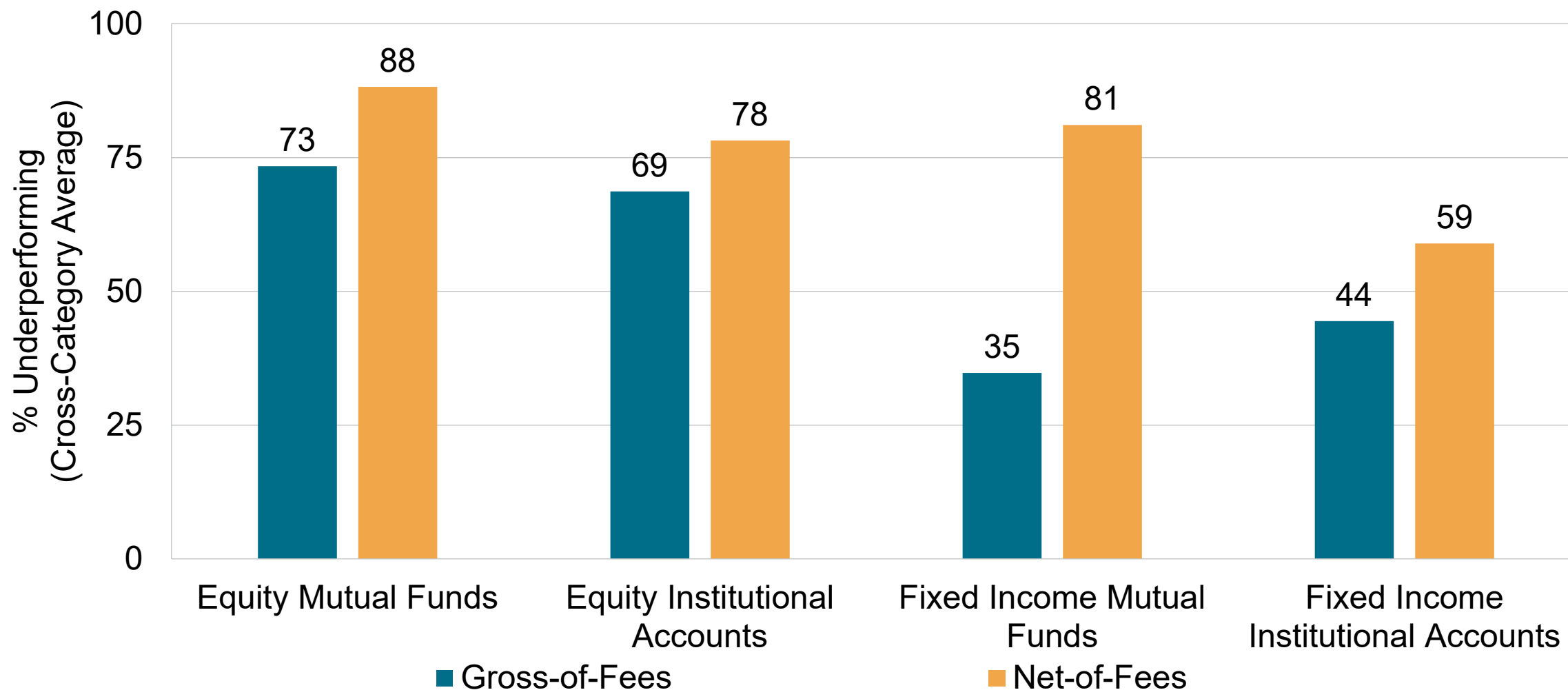
What About International Equities?

% of International Active Institutional SMAs Underperforming (10 Years Ending Dec. 2022)



Sources: S&P Dow Jones Indices, eVestment. Data as of Dec. 30, 2022 as compared to the S&P 500 total return in U.S. dollars. For details on the methodology applied, see S&P DJI's U.S. SPIVA® Scorecard. Past Performance is no guide to future performance. Provided for illustrative purposes only

Summary Results - 10 Years Ending Dec. 2022



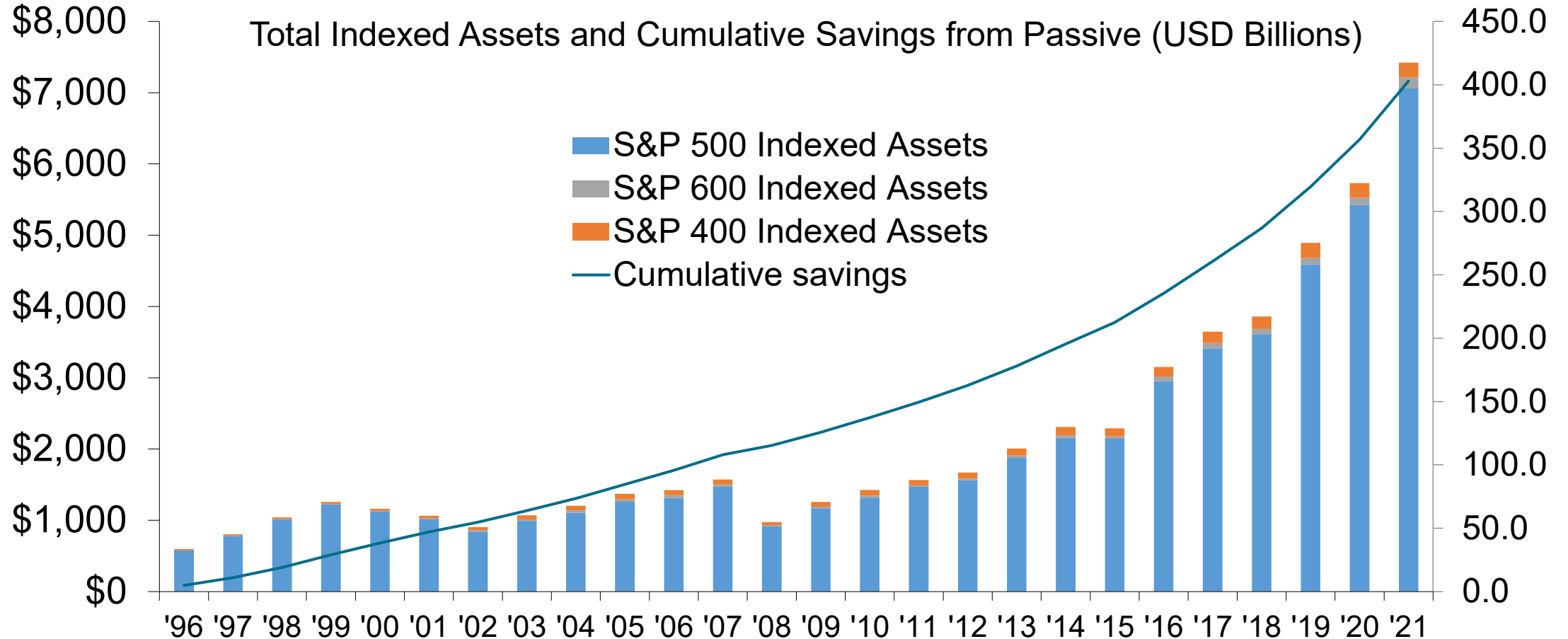
Sources: S&P Dow Jones Indices, eVestment. Data as of Dec. 30, 2022 as compared to the S&P 500 total return in U.S. dollars. For details on the methodology applied, see S&P DJI's U.S. SPIVA® Scorecard. Past Performance is no guide to future performance. Provided for illustrative purposes only

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Challenge 1: Impact of Fees

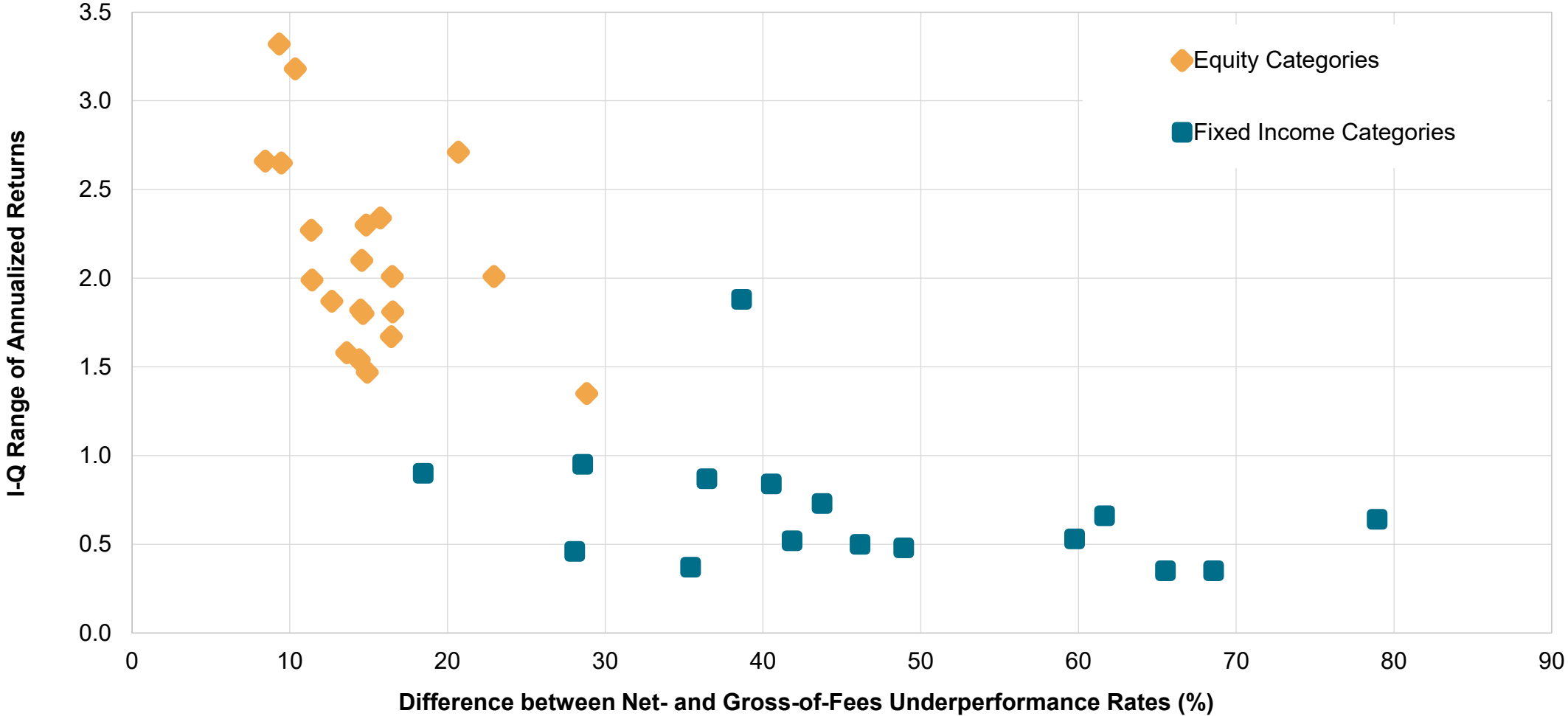
Effects of Fees Over Longer Time Periods

The Significance of Savings - \$403B over the past 26 years



Source: S&P Dow Jones Indices LLC, Investment Company Institute. Data as of Dec. 31, 2021. Provided for illustrative purposes only. Past performance is no guarantee of future results.

Dispersion, Fees and Underperformance



Sources: S&P Dow Jones Indices, eVestment. Data as of Dec. 30, 2022 as compared to the S&P 500 total return in U.S. dollars. For details on the methodology applied, see S&P DJI's U.S. SPIVA® Scorecard. Past Performance is no guide to future performance. Provided for illustrative purposes only

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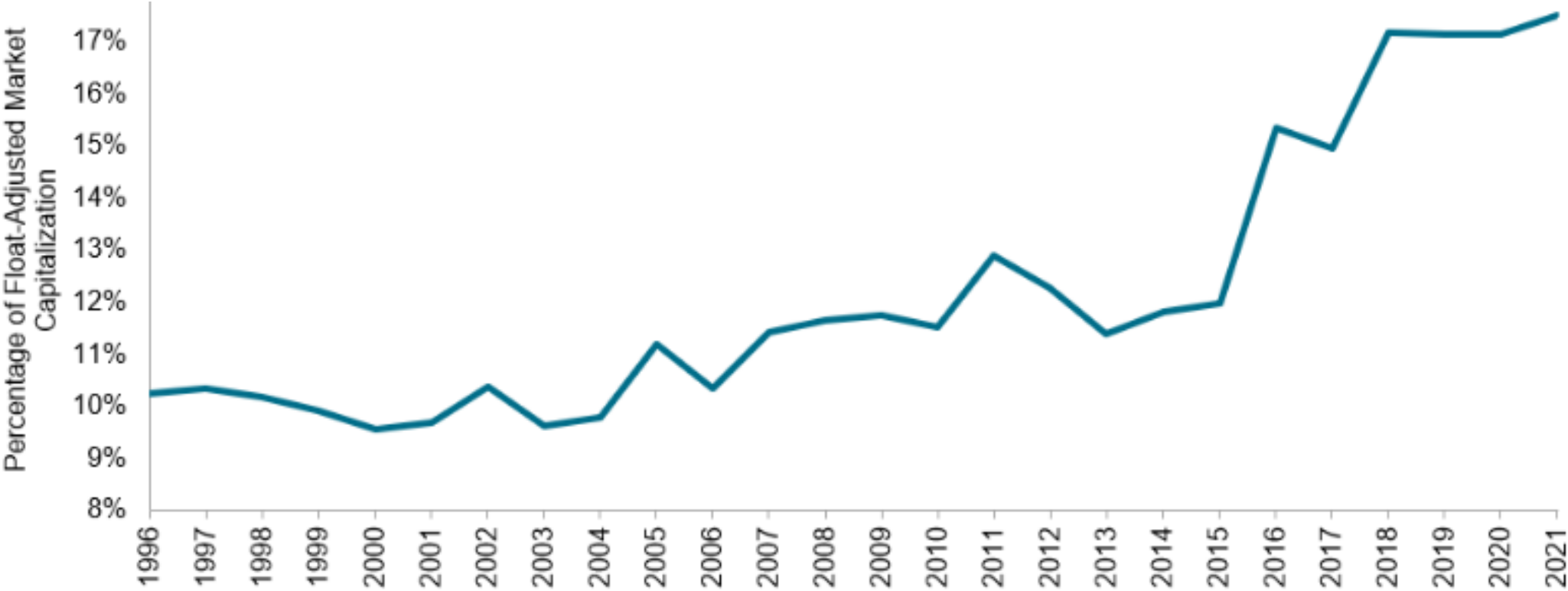
Challenge 2: Professionalization of Asset Management

What's Changed?

	1960s	Today
Trading on NYSE (daily)	Around 3m shares	Around 1.5bn shares
Dedicated Securities Analysts at Investment Banks / Brokers	Few, if any	Up to 300 per broker
CFA Charterholders	0	190,000 chartered 250,000 taking exams
Bloomberg Terminals	0	c. 325,000
Professional Investors	circa 5,000	> 1,000,000
Hedge Funds	~ \$10 million	around \$4 trillion
ETFs	0	around \$5.75 trillion
Institutional share of equity trading	circa 9%	more than 95%

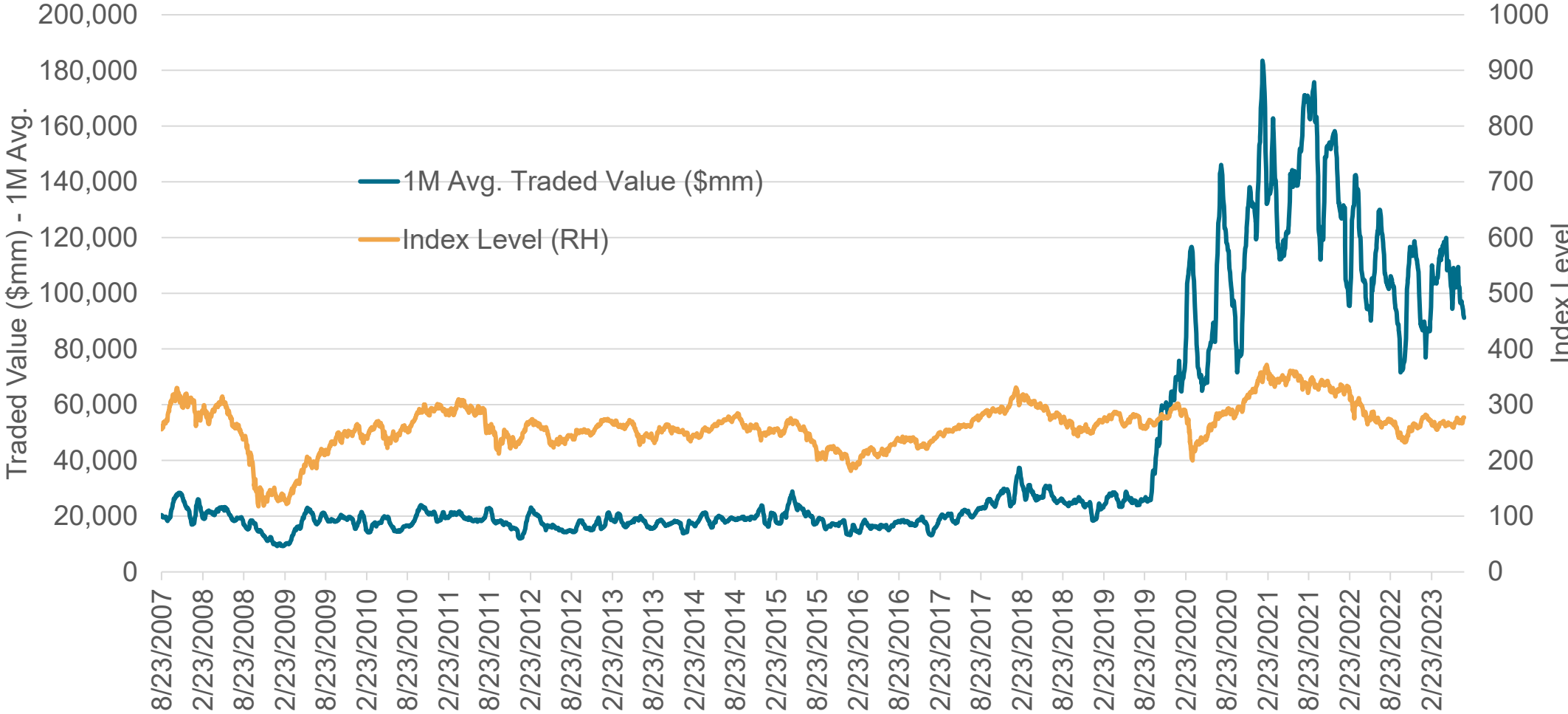
Sources: The Financial Times, Bloomberg, [CFA Society](#), [BlackRock](#), HFR Research, ETFGI, S&P Dow Jones Indices as of December 2018. Illustrative purposes only.

Percentage of S&P 500 Market Cap Indexed to S&P 500



Source: S&P Dow Jones Indices LLC. Data as of December 2021. Chart is provided for illustrative purposes.

EM Traded Value Has Increased



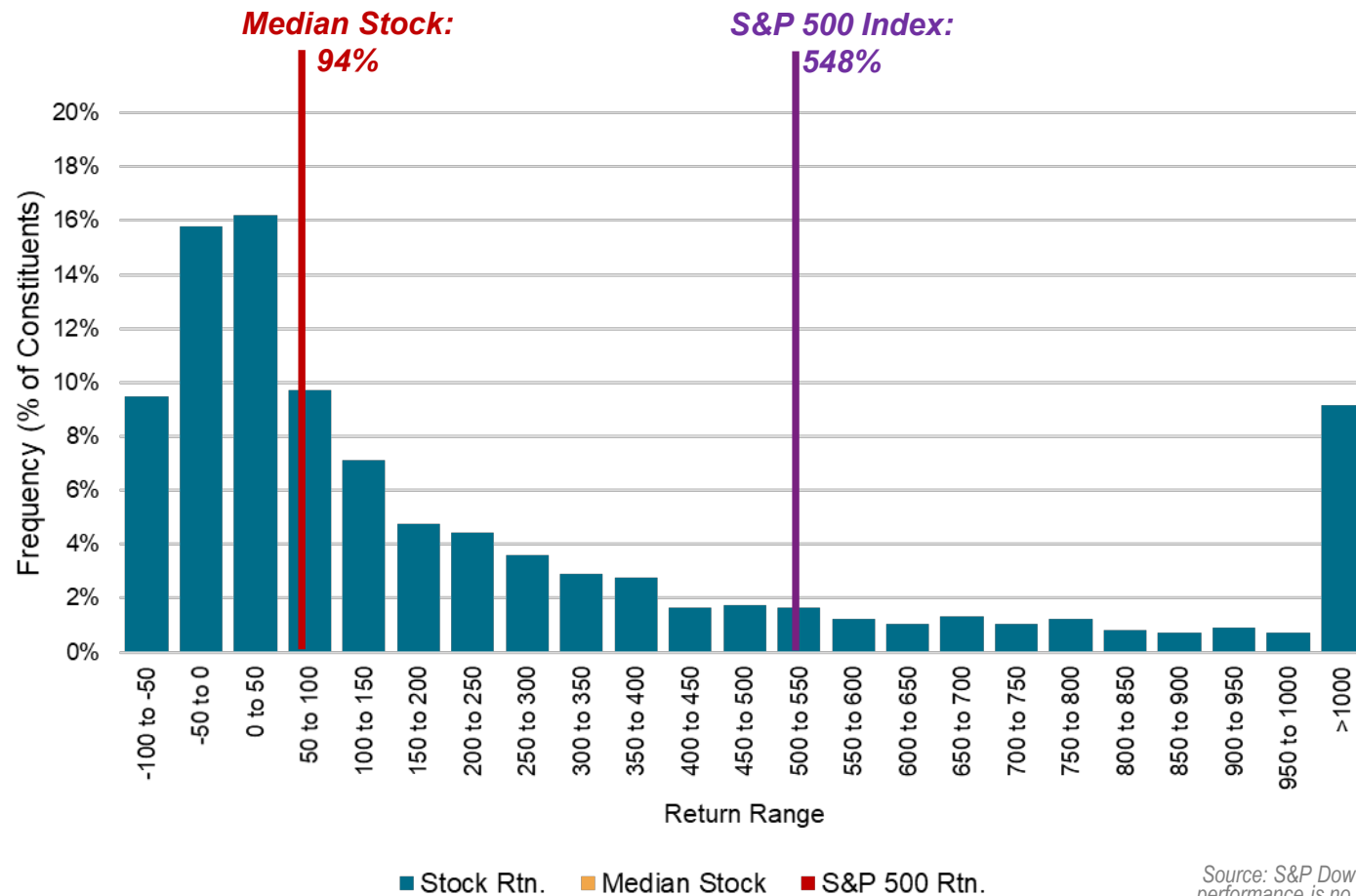
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Challenge 3: Positively Skewed Returns

Positively Skewed Returns Pose Challenges

All else equal, more likely to pick stocks with below average returns

Distribution of S&P 500 Constituent 20Yr Returns



Equity return distributions are positively skewed:

Most stocks are below average.

Because relatively few stocks outperform the average return, concentrated active stock-picking is hard.

This helps explain historical success of equal weighted indices, and the difficulty of “high conviction” stock-picking.

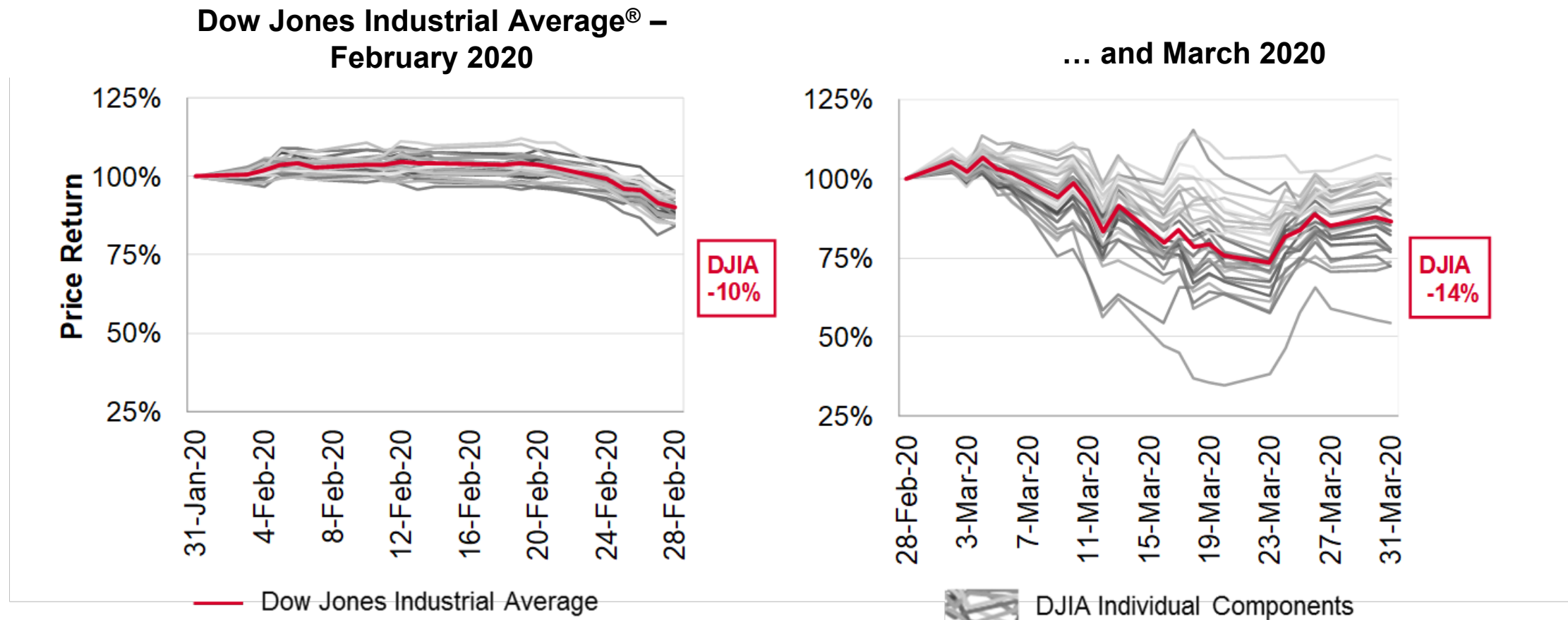
Source: S&P Dow Jones Indices, Factset. Data as of Dec. 30, 2022. Charts are provided for illustrative purposes. Past performance is no guarantee of future results.

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Challenge 4: Varying Dispersion and Opportunity

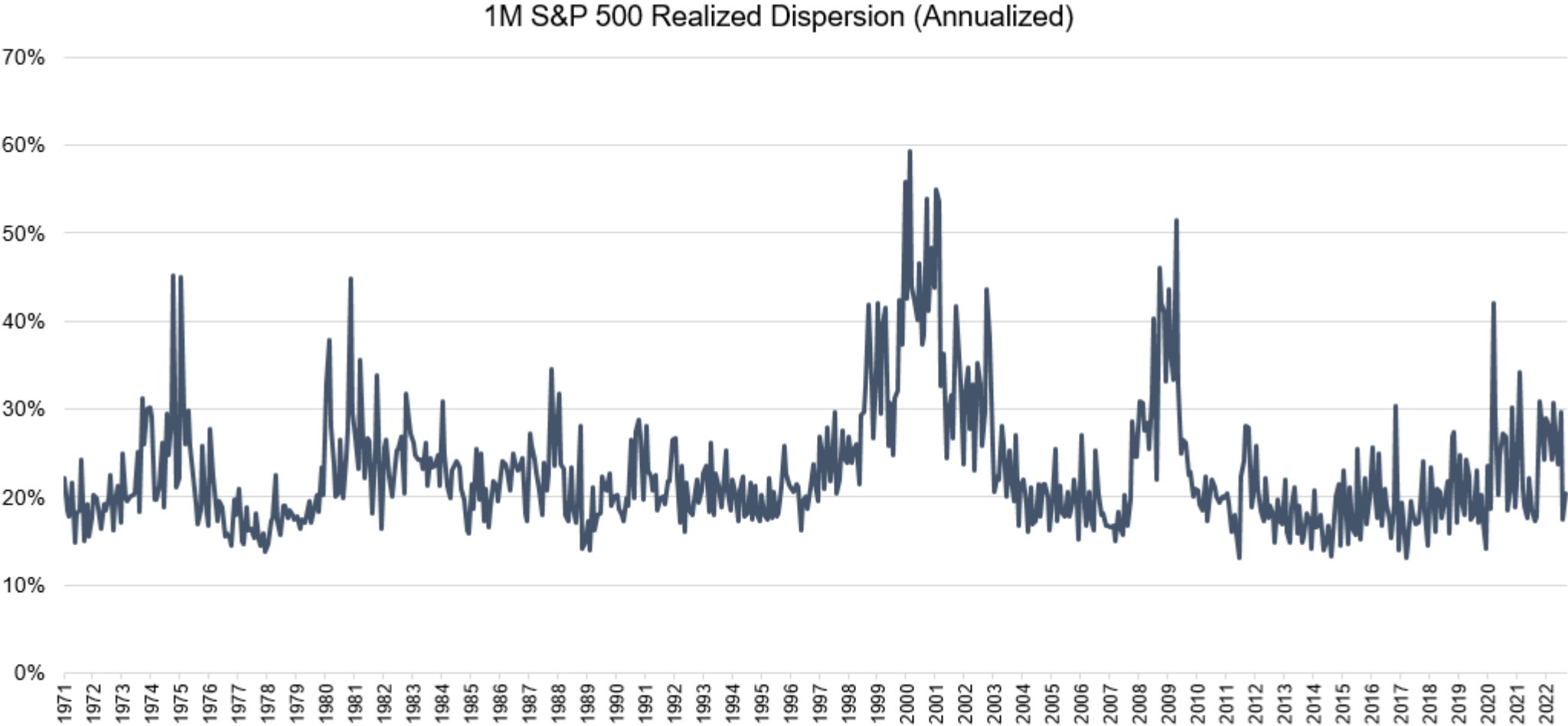
Dispersion – Market Opportunity Varies Over Time

Illustration of Dispersion



* Read more in [Dispersion Whitepaper](#) and check the latest figures in our [Dashboard](#)

S&P 500 Realized Dispersion (Jan 1971 – Sep 2022)



Source: S&P Dow Jones Indices. Data as of October 2022. Provided for illustrative purposes only.

Agenda

Scarcity of Persistence

What Happens to the Winners?

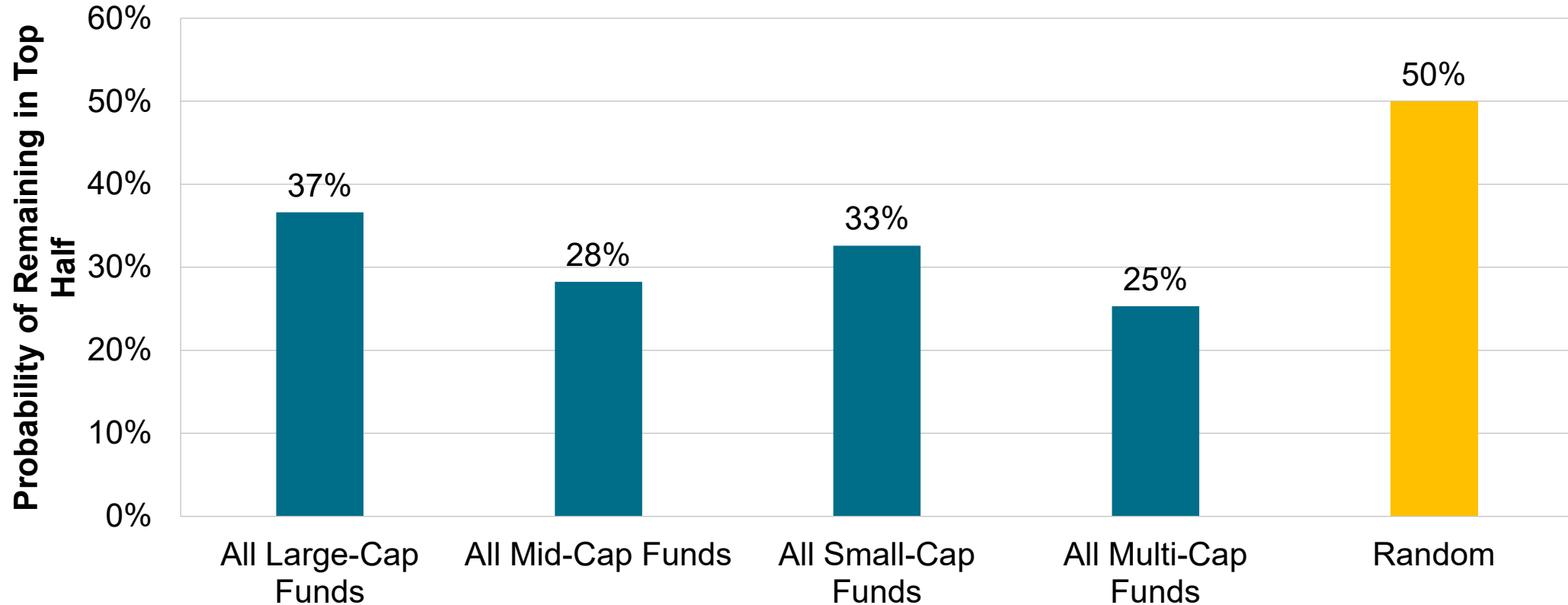
Report 1: Performance Persistence of Domestic Equity Funds over Three Consecutive 12-Month Periods

Fund Category	Fund Count at Start (December 2020)	Percentage Remaining in Top Quartile	
		December 2021	December 2022
Top Quartile			
All Domestic Funds	488	4.10	0.00
All Large-Cap Funds	156	7.05	0.00
All Mid-Cap Funds	63	0.00	0.00
All Small-Cap Funds	123	2.44	0.81
All Multi-Cap Funds	121	9.09	0.00

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

What Happens to the Winners?

Top-Half Funds in Years 1-5 Did Not Repeat in Years 6-10



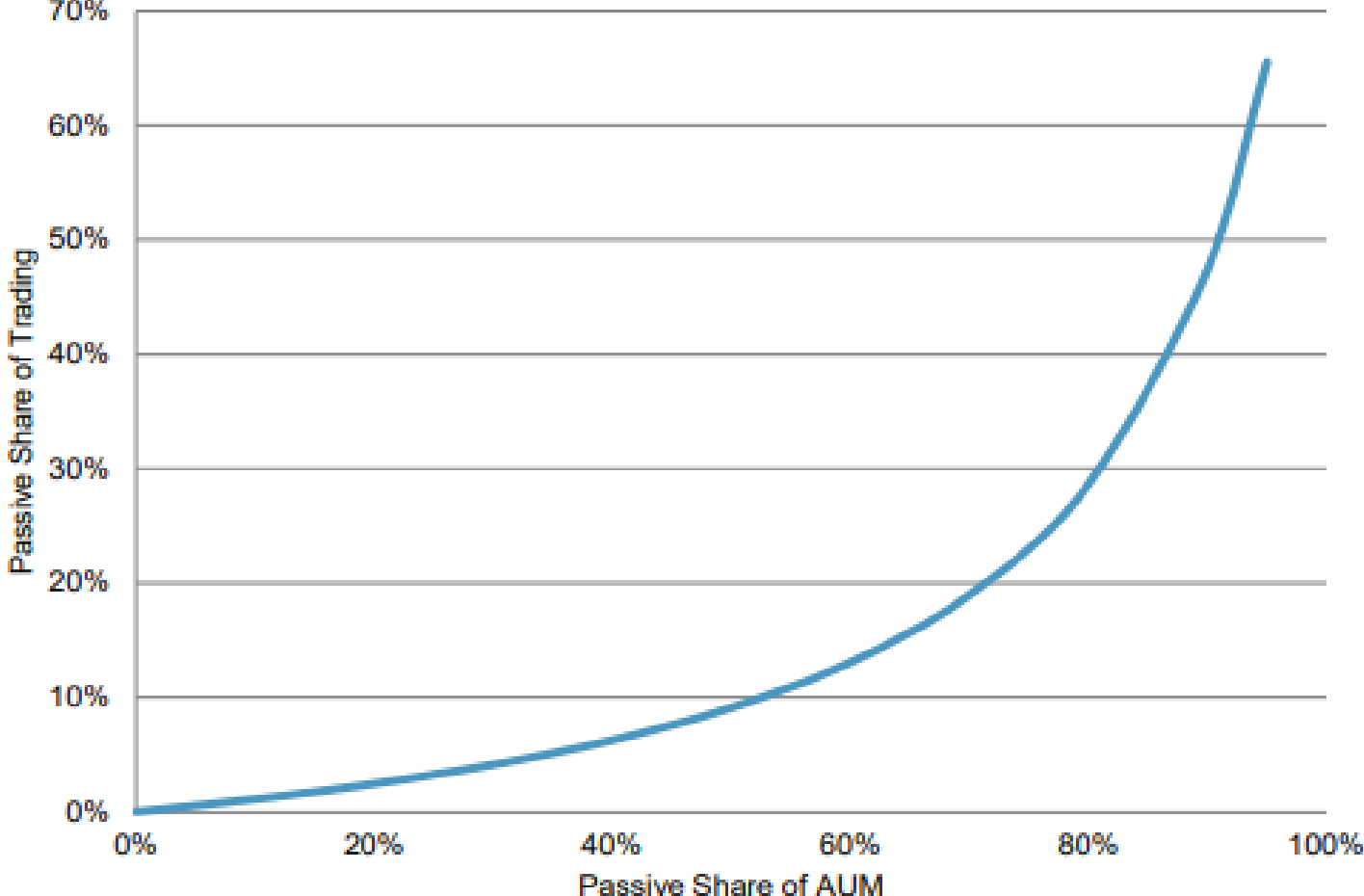
Source: S&P Dow Jones Indices. Data as of Dec. 30, 2022. Chart is provided for illustrative purposes. Past performance is no guarantee of future results

Shifting Focus in Active Management

How much is “too much” passive?

Active managers’ share of trading is much greater than their share of assets managed. Trading sets prices and adjusts valuations.

Exhibit 3: Passive Management’s Share of Trading is Less Than Its Share of Assets



Source: S&P Dow Jones Indices LLC. Chart is provided for illustrative purposes. Assumes that passive turnover is 10% annually and active turnover 50% annually.

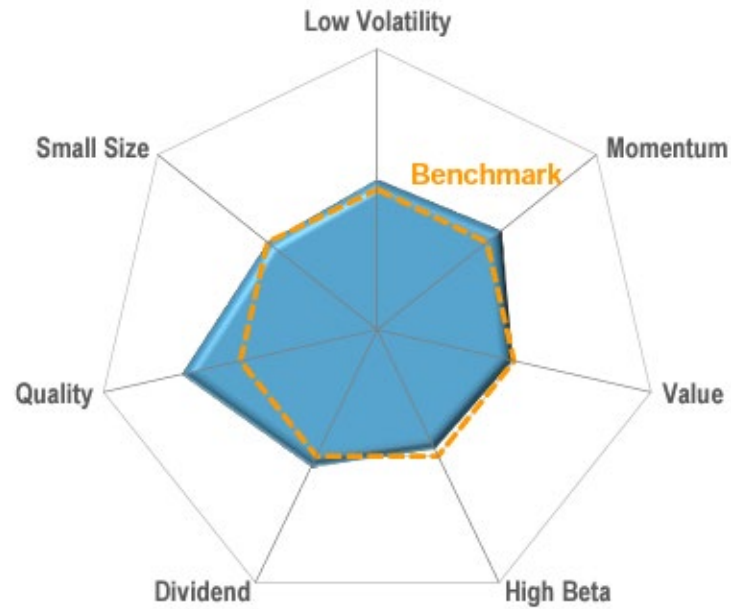
“Passive” No Longer Just Means Cap-Weighted

QVM 90%



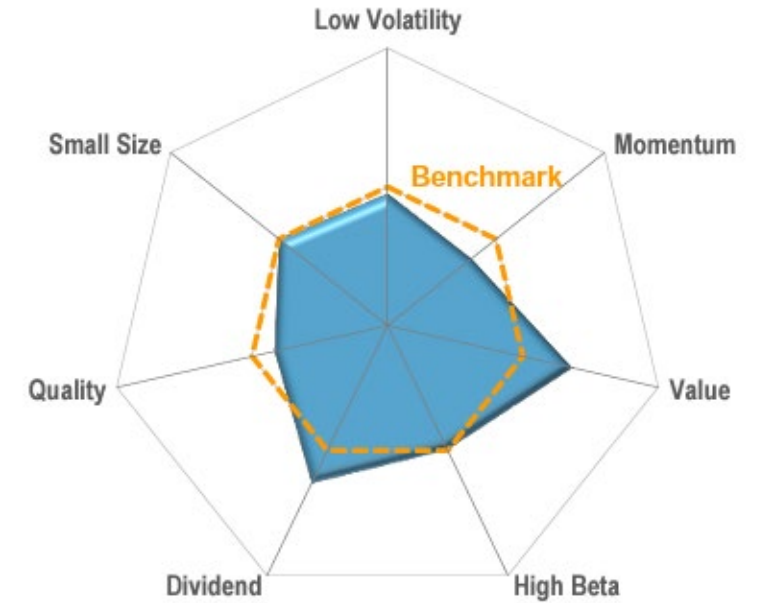
Factor Exposure Chart

S&P 500 Quality



Factor Exposure Chart

S&P 500 Equal Weight



Factor Exposure Chart

Source: S&P Dow Jones Indices LLC. Average holding period is computed by $(\text{assets}/\text{IET}) \times 365$. Data as of June 30, 2019. See “A Window on Index Liquidity” for further details. Chart is provided for illustrative purposes.

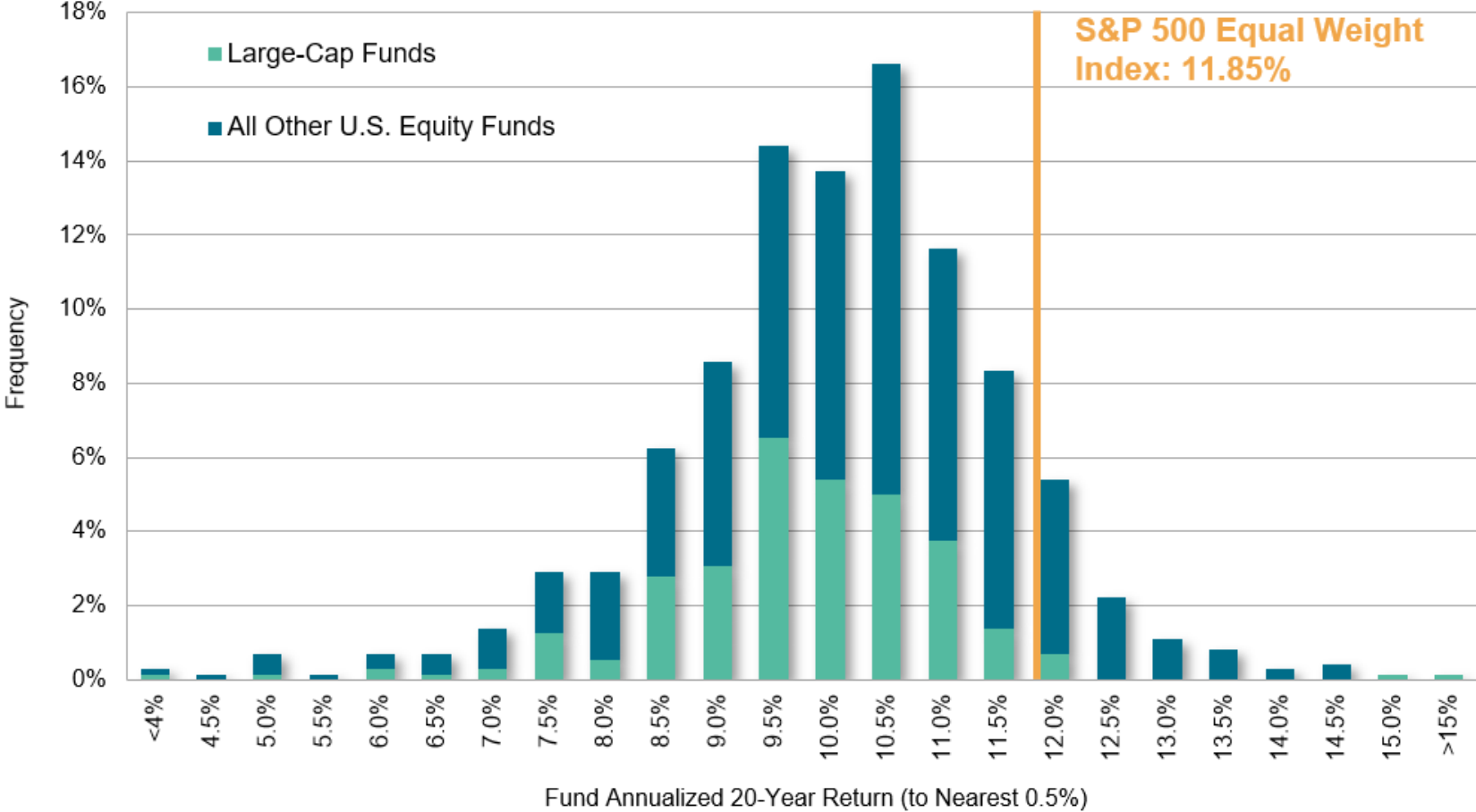
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S&P Dow Jones Indices – For Financial Professionals Only

Equal Weight a Simple “Passive” Evolution

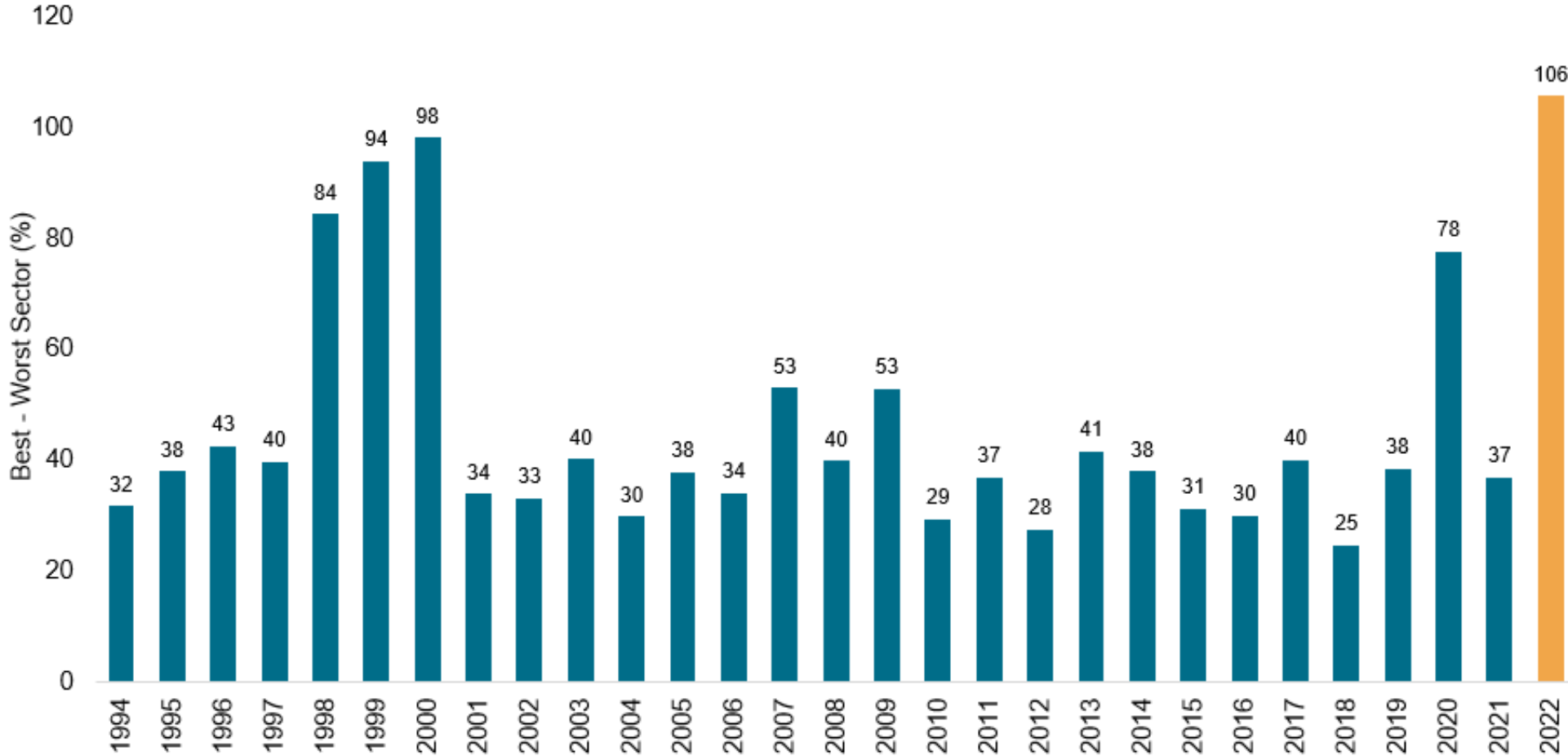
Distribution of Surviving Active Funds’ 20-Year Returns



Sources: S&P Dow Jones Indices LLC, CRSP. Frequency is calculated as the proportion of all surviving domestic equity funds with matching 20-year annualized returns to the nearest 0.5%. Data as of Jan. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes.

Harnessing Sector Dispersion Can Create Opportunity

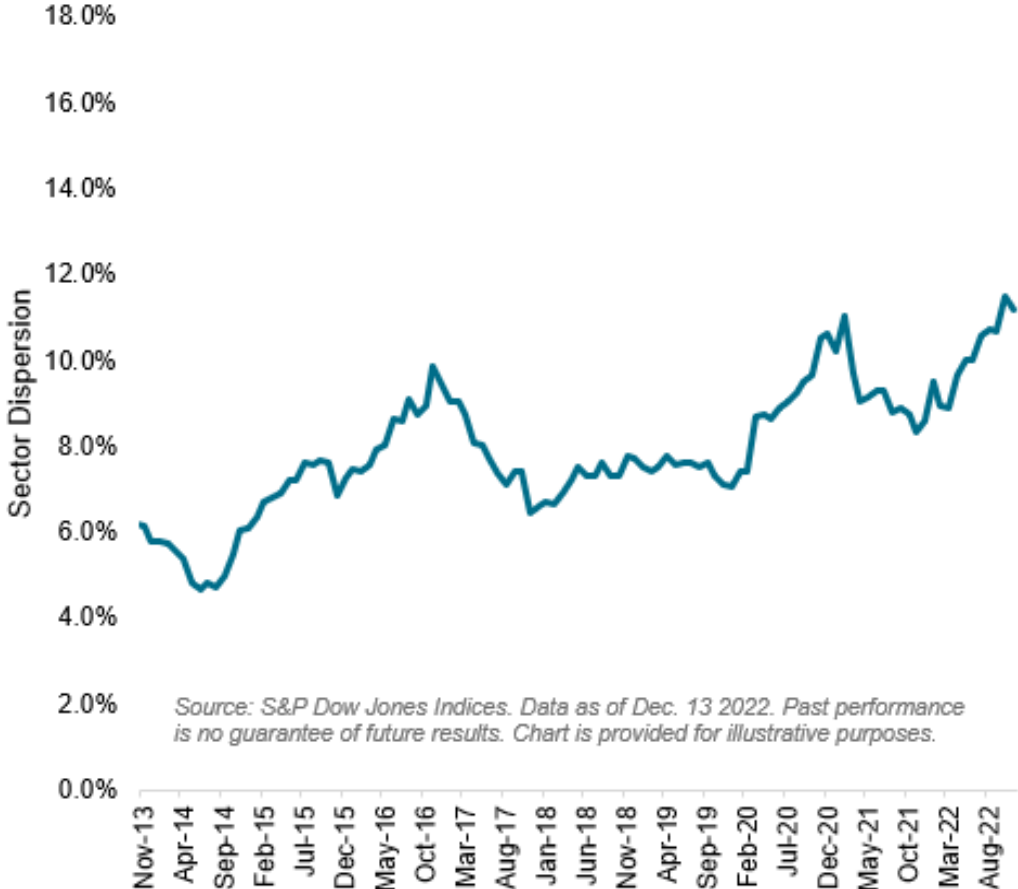
S&P 500 Sector Best-Worst Total Return Spread (Annual)



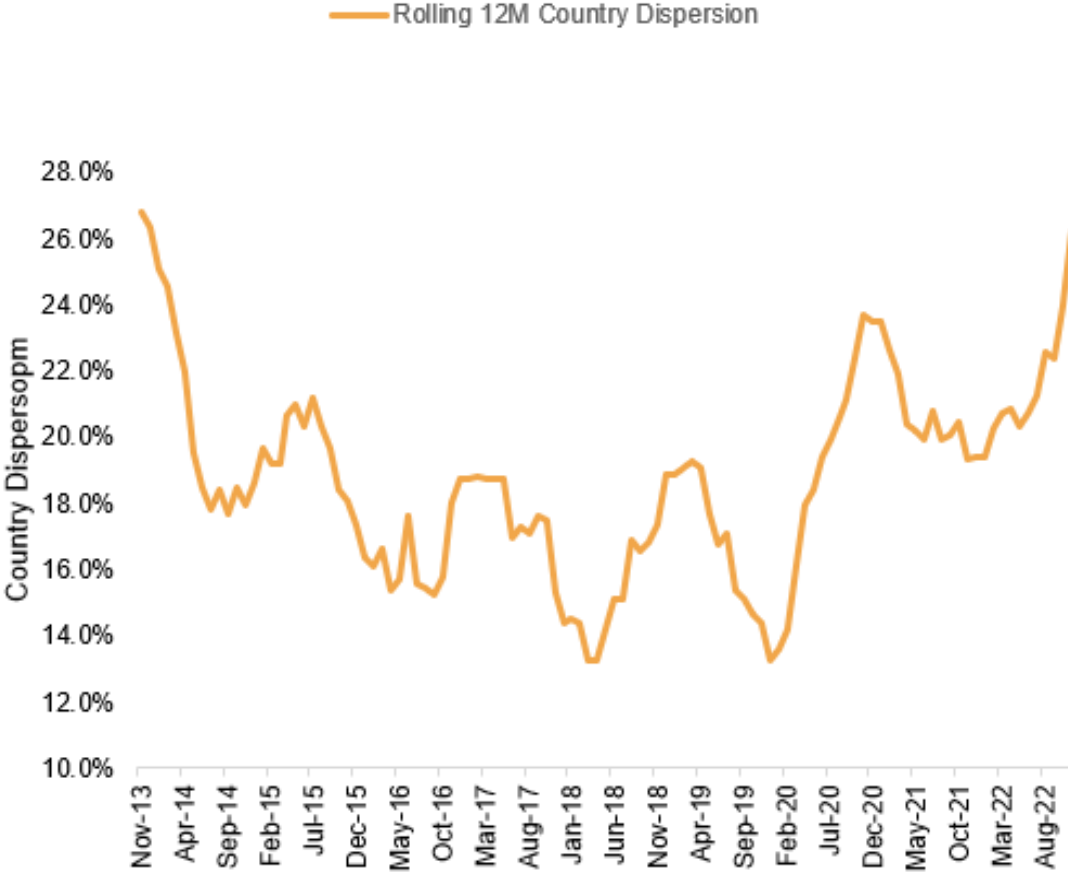
Source: S&P Dow Jones Indices. Data as of Dec. 30, 2022. Past performance is no guarantee of future results. Chart is provided for illustrative purposes only.

Skillful Allocation (Could Have) Secured Success

Rolling 12-month S&P Global 1200 Sector Dispersion

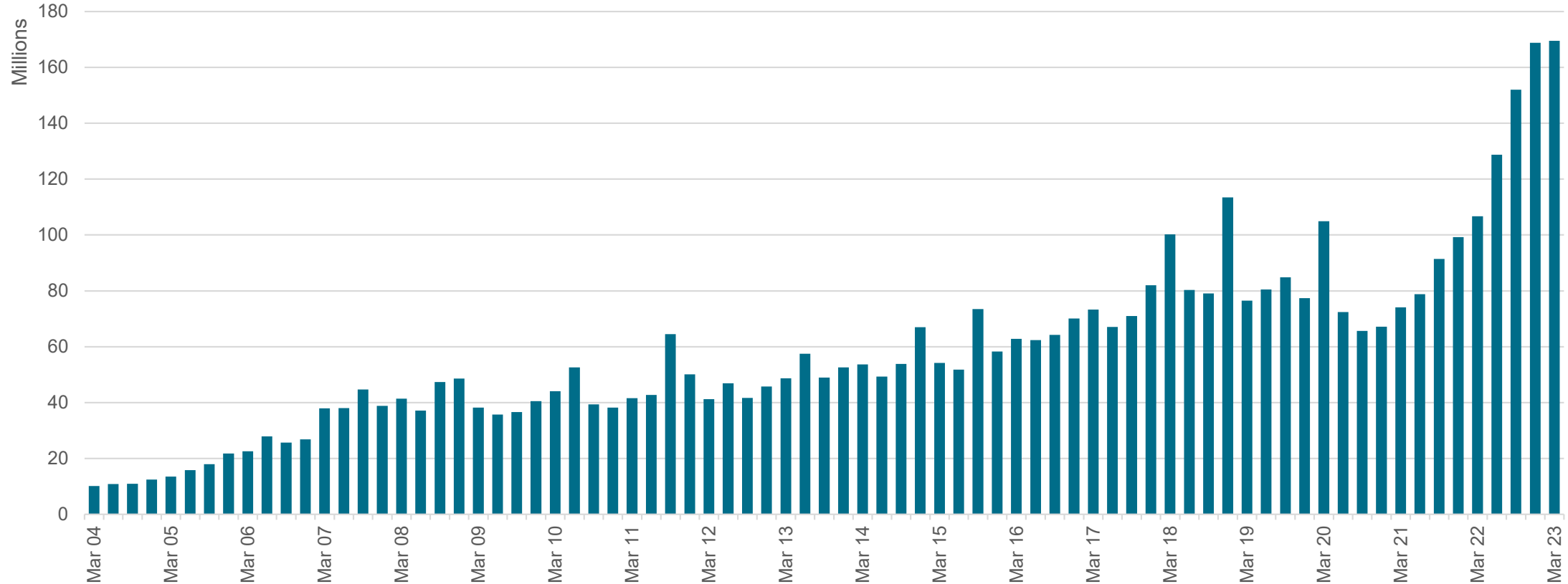


Rolling 12-month S&P Global BMI Country Dispersion



Options Ecosystem has Grown Materially Since 2021

Total SPX Option Volume, Quarterly



Sources: S&P Dow Jones Indices, Cboe. Data as of April 12, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes only.

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Benchmarking Alternatives

US PRIVATE EQUITY

US PRIVATE EQUITY

AS OF MARCH 31, 2023

FUND INDEX SUMMARY: HORIZON POOLED RETURN COMPARED TO CA MODIFIED PUBLIC MARKET EQUIVALENT (MPME)

Net to Limited Partners

CA INDEX	1-QUARTER	1-YEAR	3-YEAR	5-YEAR	10-YEAR	15-YEAR	20-YEAR	25-YEAR
CAMBRIDGE ASSOCIATES LLC US PRIVATE EQUITY INDEX⁰¹	2.69	-1.46	25.81	18.47	16.95	12.97	15.51	13.10

MPME ANALYSIS ²								
mPME Constructed Index: MSCI World/MSCI All Country World Index ³ (gross)		-5.65	14.75	7.47	8.68	6.90	8.43	6.62
Value-Add (bps)		419	1,106	1,100	828	606	708	649
mPME Russell 3000 [®] Index		-7.57	17.87	10.43	12.00	10.22	10.26	8.23
Value-Add (bps)		611	795	804	496	275	525	487
mPME Russell 2000 [®] Index		-10.55	15.72	4.66	8.32	8.74	9.73	7.71
Value-Add (bps)		908	1,009	1,381	864	423	578	539

Sources: S&P Dow Jones Indices, Cboe. Data as of Mar. 31, 2023. Past performance is no guarantee of future results. Chart is provided for illustrative purposes only.

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Performance Disclosure

The S&P 500 ESG Index launched January 28th, 2019. The S&P MidCap 400 ESG Index and S&P SmallCap 600 ESG Index launched January 11th, 2021. All information presented prior to an index's Launch Date is hypothetical (back-tested), not actual performance. The back-test calculations are based on the same methodology that was in effect on the index Launch Date. Complete index methodology details are available at www.spdji.com.

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S&P Dow Jones Indices defines various dates to assist our clients in providing transparency. The First Value Date is the first day for which there is a calculated value (either live or back-tested) for a given index. The Base Date is the date at which the Index is set at a fixed value for calculation purposes. The Launch Date designates the date upon which the values of an index are first considered live: index values provided for any date or time period prior to the index's Launch Date are considered back-tested. S&P Dow Jones Indices defines the Launch Date as the date by which the values of an index are known to have been released to the public, for example via the company's public website or its datafeed to external parties. For Dow Jones-branded indices introduced prior to May 31, 2013, the Launch Date (which prior to May 31, 2013, was termed "Date of introduction") is set at a date upon which no further changes were permitted to be made to the index methodology, but that may have been prior to the Index's public release date.

Past performance of the Index is not an indication of future results. Prospective application of the methodology used to construct the Index may not result in performance commensurate with the back-test returns shown. The back-test period does not necessarily correspond to the entire available history of the Index. Please refer to the methodology paper for the Index, available at www.spdji.com for more details about the index, including the manner in which it is rebalanced, the timing of such rebalancing, criteria for additions and deletions, as well as all index calculations.

Another limitation of using back-tested information is that the back-tested calculation is generally prepared with the benefit of hindsight. Back-tested information reflects the application of the index methodology and selection of index constituents in hindsight. No hypothetical record can completely account for the impact of financial risk in actual trading. For example, there are numerous factors related to the equities, fixed income, or commodities markets in general which cannot be, and have not been accounted for in the preparation of the index information set forth, all of which can affect actual performance.

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