



What Do We Really Know About Index Funds?

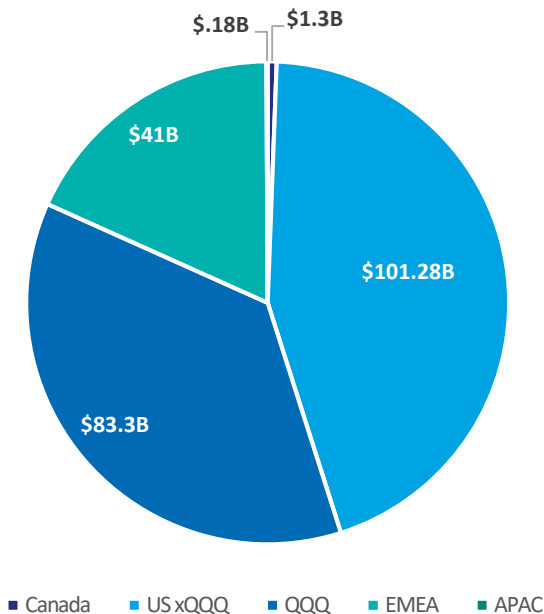
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Sr. Director, Equity ETF Strategy

NOT FDIC INSURED | MAY LOSE VALUE | NO BANK GUARANTEE



Invesco ETFs leadership profile

With \$227.6 billion in global assets and \$184.6 billion in U.S. assets including QQQ, Invesco ETFs rank the 4th largest ETF provider in the U.S. by AUM



Invesco ETFs leadership profile

- Brand strength
- Recognized industry leader & innovator
- Broad product line including leadership position in Smart Beta ¹
- Strategic relationships
- Global reach
- Dedicated client service/ relationship management

1. Beta is a measure of risk representing how a security is expected to respond to general market movements. Smart Beta represents an alternative and selection index based methodology that seeks to outperform a benchmark or reduce portfolio risk, both in active or passive vehicles. Smart beta funds may underperform cap-weighted benchmarks and increase portfolio risk.

Today's Discussion



A Short History of Indexing

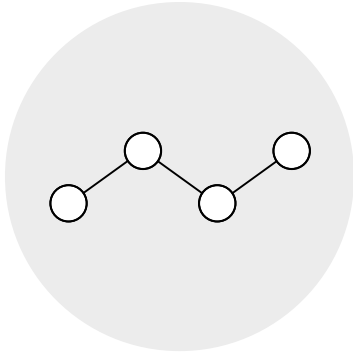
The Rise of Index Investing

How Passive is Passive?

Innovations in Index Investing

Putting this into Action

What is an Index?



Index: a number derived from a series of observations used as an indicator or measure



Where does it say “*and serve as the basis for a strategy?*”

Overview of First Available Indexes



When indexing was first introduced, it was originally designed to gauge the general direction of the overall broad market.

- These initial indexes were based on the best knowledge and technology of their day
- However, advances in technology over the past century have greatly improved both our understanding of the financial markets and our ability to create indexes that track them

Dow Jones Industrial Average

Originated in 1896

- Originally consisted of 12 companies that Charles Dow considered to be the backbone of the industrial economy
- In 1916 the index was revamped to include eight additional stocks, thus increasing the total to 20
- In 1928, 10 additional stocks were added to bring the total to 30
- Today, 30 stocks still comprise the index with additions/deletions occurring on an ad hoc basis

S&P 500® Index

Originated in 1923

- Originally consisted of 223 companies (S&P 223) grouped into 26 industries based on Standard & Poor's methodology
- The S&P index committee gradually added names in order to create new industry group indexes
- In 1957, the index was expanded to include 500 companies (S&P 500) that encompassed approximately 90 industry groupings
- Today, 500 stocks still comprise the index with additions/deletions occurring on an ad hoc basis

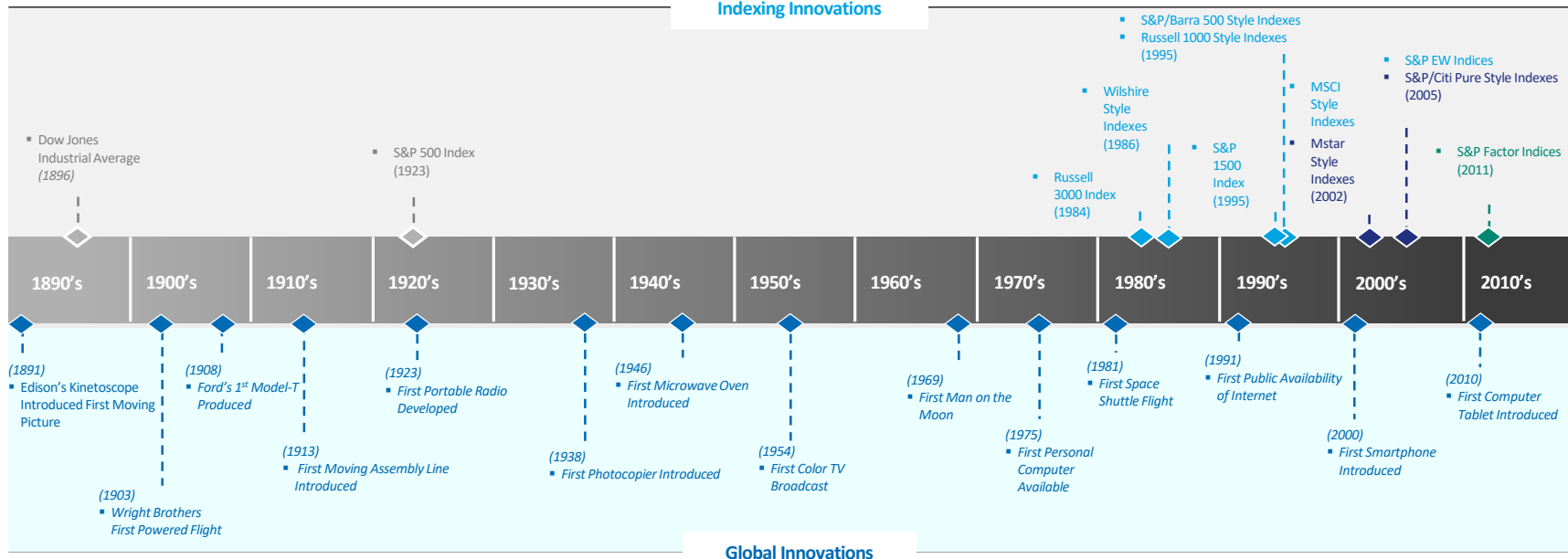
Source: S&P Dow Jones Indices.

Historical Innovations in Indexing – A Long Time in Coming?



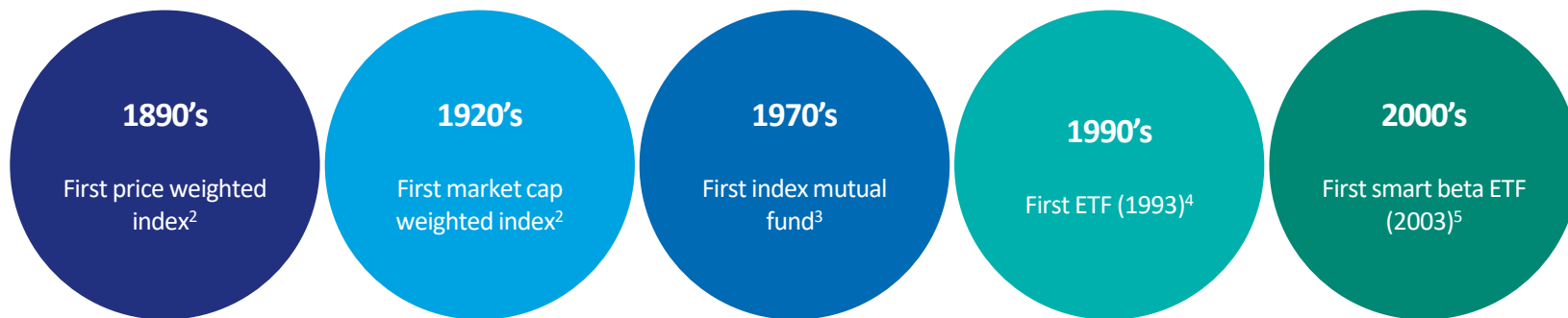
When indexing was first introduced, it was originally designed to gauge the general direction of the overall broad market.

Indexing Innovations



Source: Index methodology papers; Various historical website postings.

The pace of change has increased in recent years



For illustrative purposes only.

1 Source: Bloomberg, L.P. as of Dec. 31, 2020

2 Source: S&P Dow Jones Indices, djindexes.com

3 Source: Vanguard, vanguard.com

4 Source: State Street Global Advisors, spdrs.com.

5 Source: Invesco.com

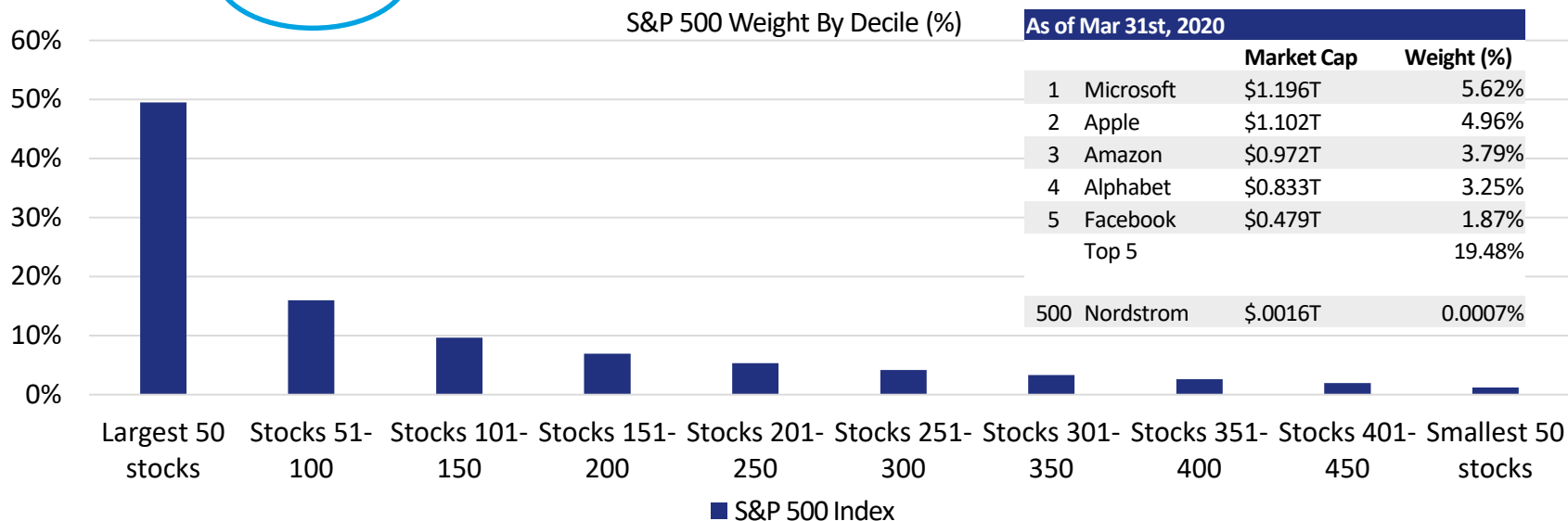
An investor cannot invest directly in an index.

Smart Beta represents an alternative and selection index based methodology that seeks to outperform a benchmark or reduce portfolio risk, both in active or passive vehicles. Smart beta funds may underperform cap-weighted benchmarks and increase portfolio risk.

How Are Market Capitalization Weighted Benchmarks Constructed?



Size of Company = **Share Price** X Number of Shares Outstanding

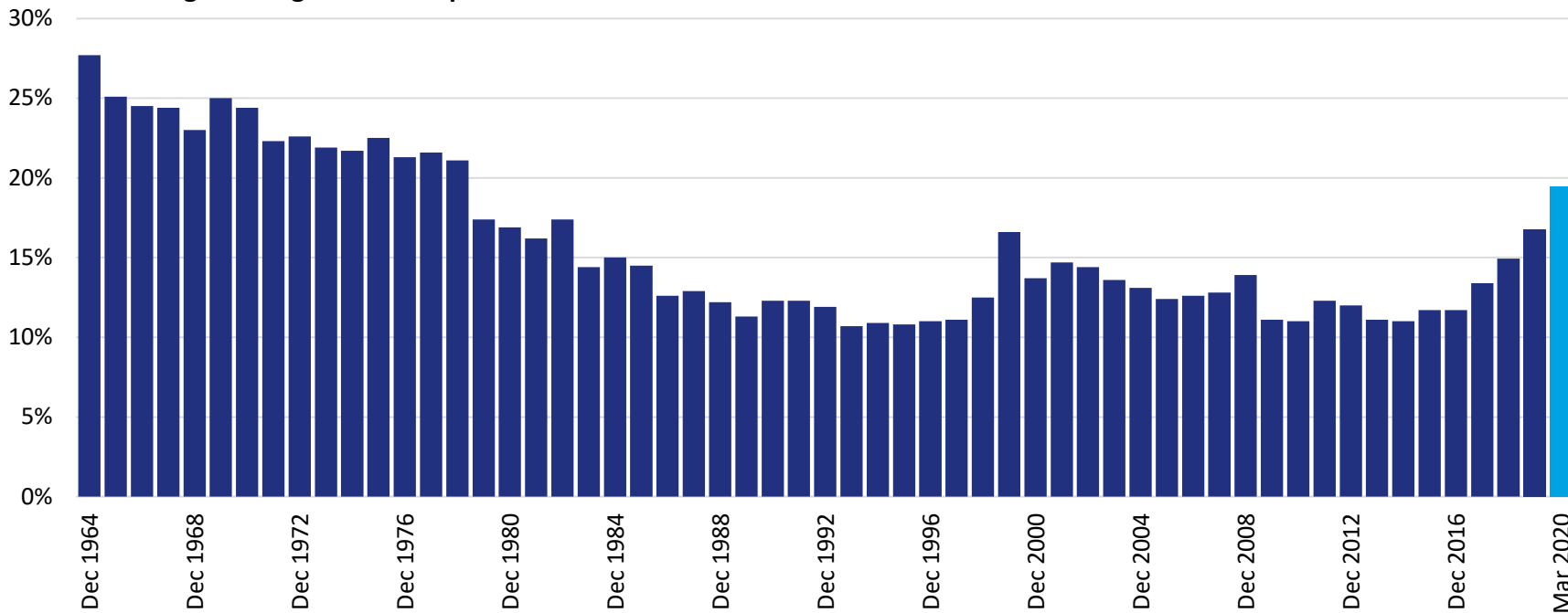


Source: Bloomberg L.P., as of March 31, 2020. An investor cannot invest directly in an index.

How Diversified are Benchmark Indexes?



Cumulative Weight of Largest Five Companies in the S&P 500®



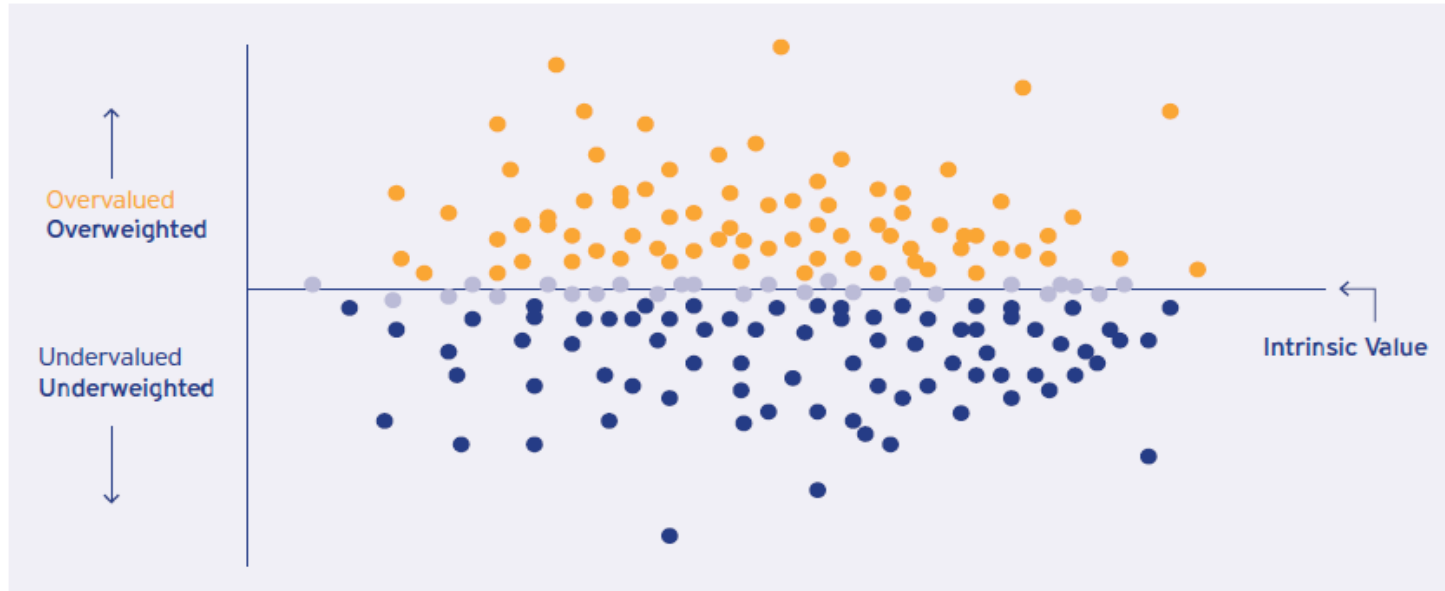
Source: S&P Dow Jones Indices, LLC

What If Stock Prices Don't Always Represent Fair Value?



“In the short term the market is like a voting machine – tallying up which firms are popular and unpopular but in the long run the market is like a weighing machine – assessing the substance of a company”

- Benjamin Graham

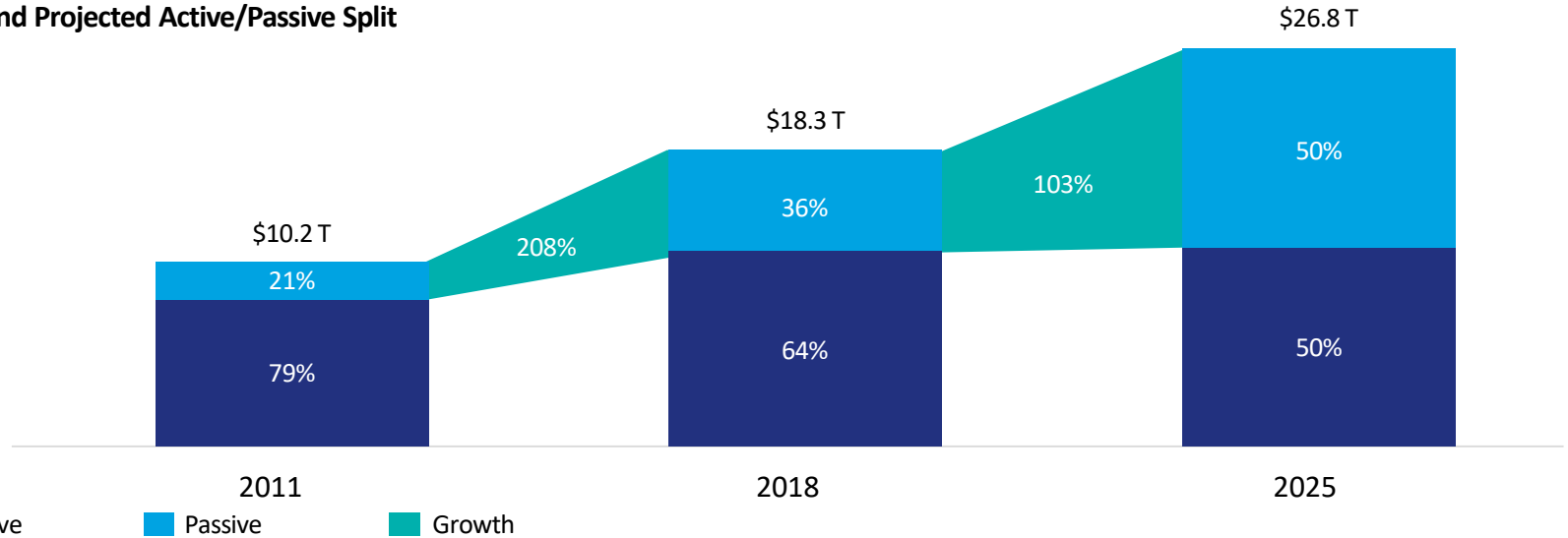


For Illustrative Purposes Only

Growth in Passive Investing



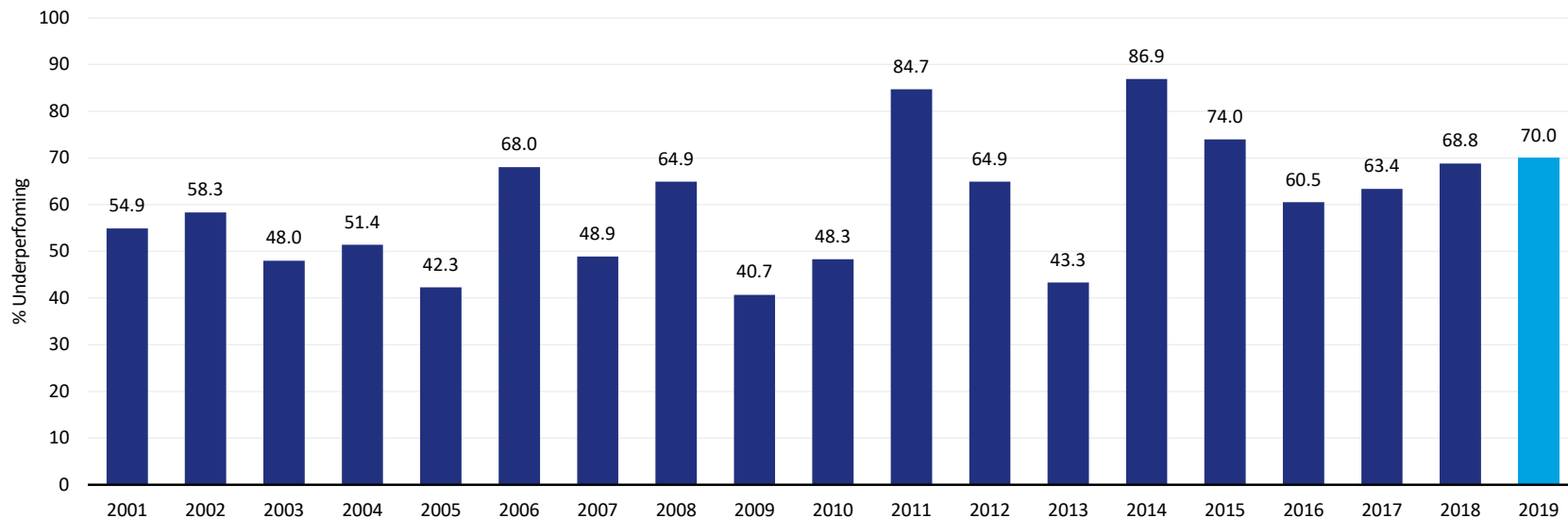
U.S. Mutual Fund Industry Assets: Actual and Projected Active/Passive Split



For Illustrative Purposes Only

Source: PwC Analysis based upon data from ICI. Estimates for 2025 based upon PwC analysis

Percent of U.S. Domestic Equity Funds Underperforming the S&P 1500



Source: S&P Dow Jones Indices; data as of 12/31/2019

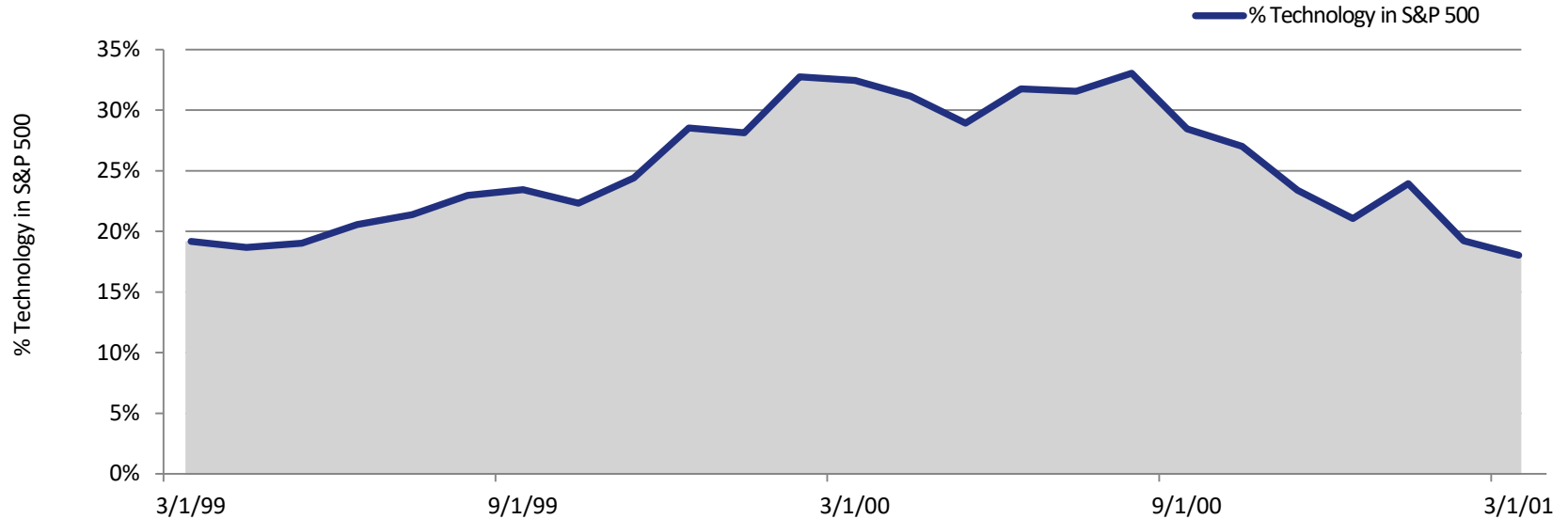
How Passive is Passive?



Case #1: Technology Bubble

Tech Exposure Grew from 19% to 33% in Just One Year

Did U.S. equity investors intend to increase their exposure to Technology by 70% during the Tech Bubble?



Source: Bloomberg L.P., FactSet as of March 31, 2020.

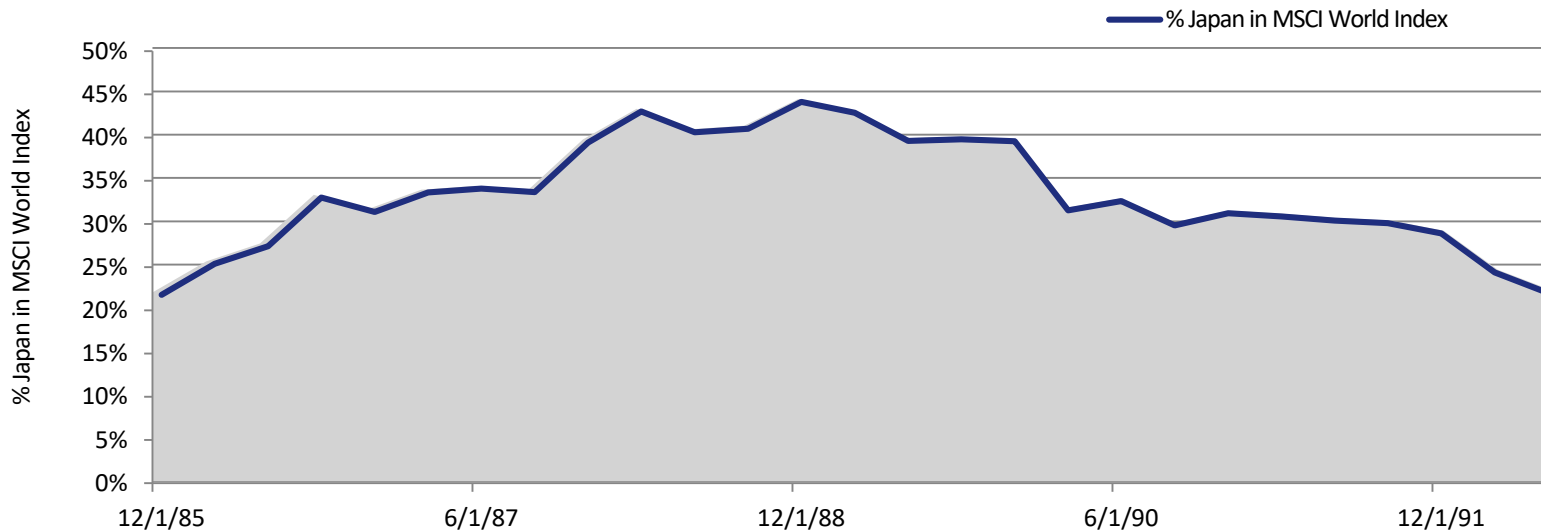
How Passive is Passive?



Case Study #2: Japan Equity Bubble

Japan Exposure Grew from 22% to 44% in Just Three Years

Did global equity investors intend to *double* their exposure to Japan during the Japanese Equity Bubble?

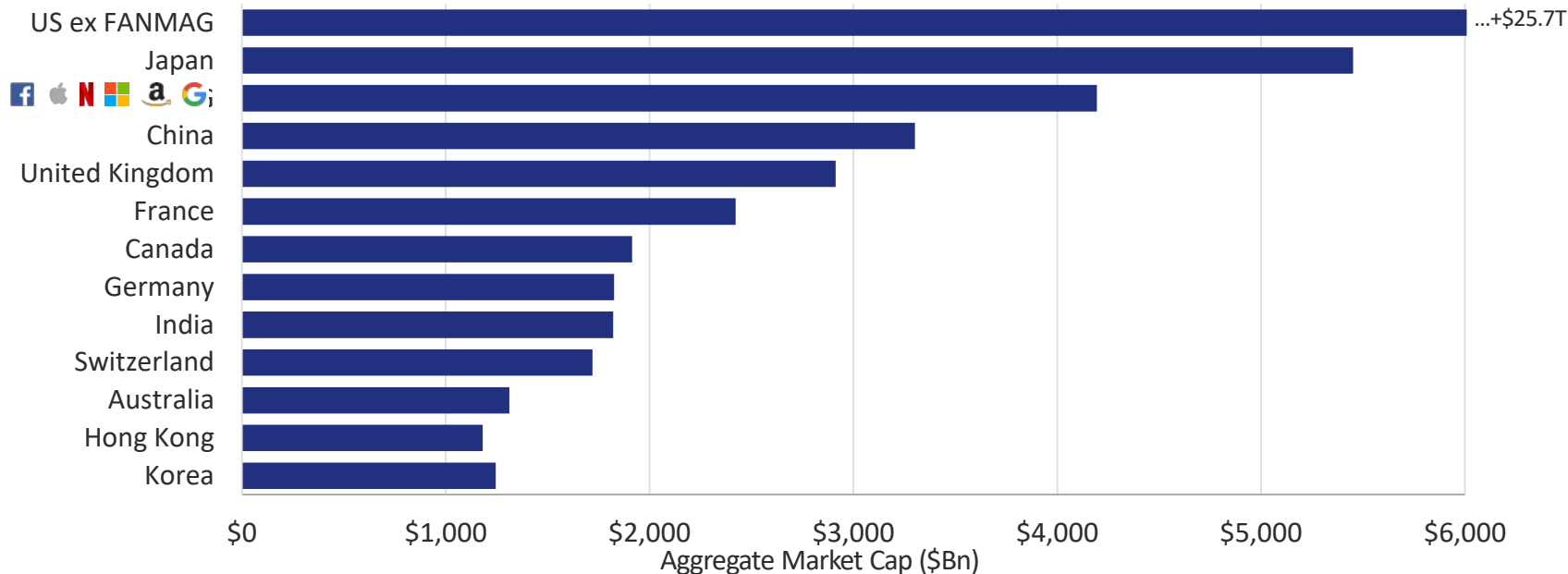


Source: Bloomberg L.P., FactSet as of March 31, 2020.

How Passive is Passive?



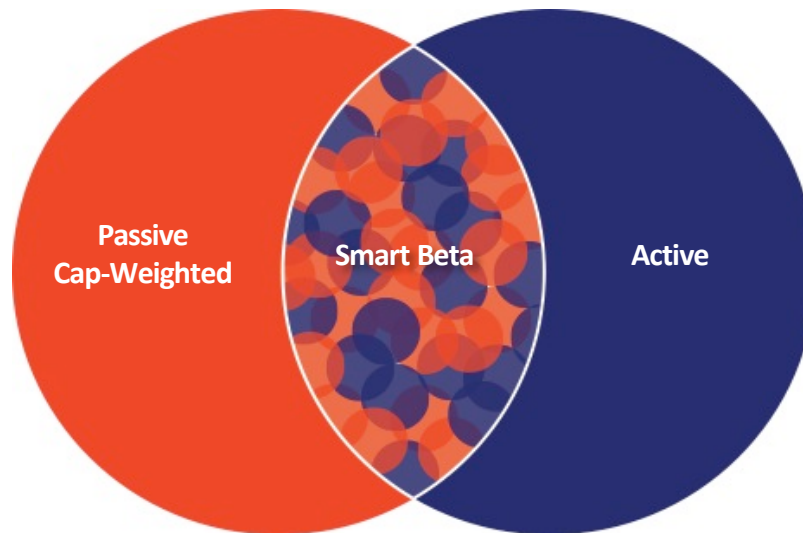
Aggregate Market Cap by Country



Source: Research Affiliates, LLC, based on data from FactSet as of 12/31/2019. Most recent data used. Market cap for countries represents the sum of the market caps for their constituents in the Morningstar Global Markets Index. Market caps for Facebook, Apple, Netflix, Microsoft, Amazon, & Google (FANMAG) are excluded from the United States. The total market capitalization for the United States is \$25.7 trillion, which is cut off at \$6.0 trillion in this graph for scaling purposes.

Innovations in Indexing

Transcending the traditional investment paradigm



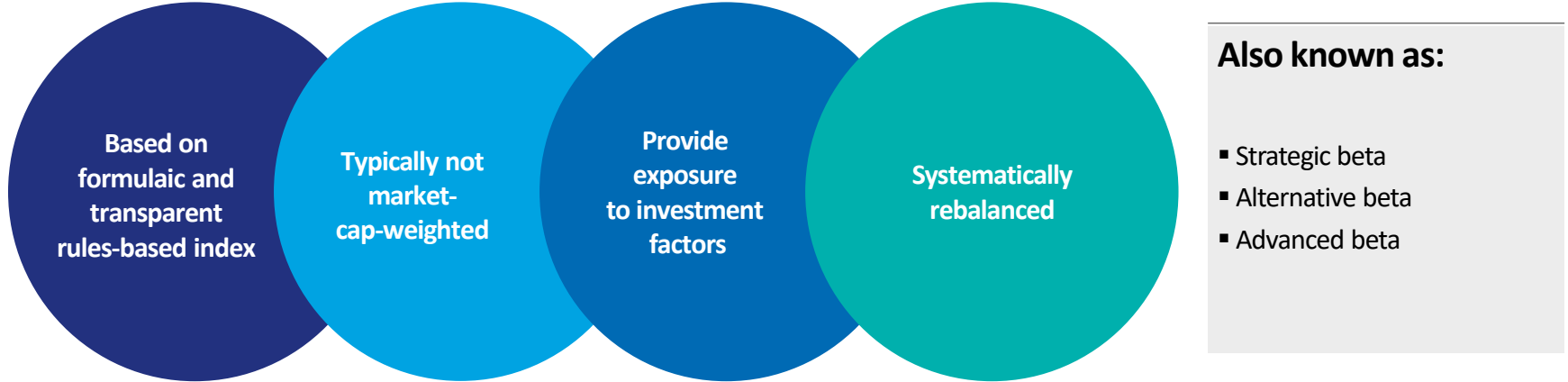
Smart Beta: An alternative selection and weighting index based methodology that may outperform a benchmark, mitigate portfolio risk, or both

Smart Beta: an alternative and selection index based methodology that may outperform a benchmark or mitigate portfolio risk, or both in active or passive vehicles. *Smart beta funds may underperform cap-weighted benchmarks and increase portfolio risk. There is no assurance that an investment strategy will outperform or achieve its investment objectives.

** Diversification does not guarantee a profit or eliminate the risk of loss.

1 Liquidity: Shares are not individually redeemable and owners of the shares may acquire those shares from the Fund and tender those shares for redemption to the Fund in Creation Unit aggregations only, typically consisting of 50,000, 75,000, 100,000 or 200,000 shares. 2Low Cost: Since ordinary brokerage commissions apply for each buy and sell transaction, frequent activity may increase the cost of ETFs. 3Transparency: ETFs disclose their holdings daily.

Common ingredients smart beta/factor-based indexes and ETFs



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ETF Innovations from Invesco



[Invesco S&P 500 Equal Weight Portfolio \(ticker: RSP\)](#)

Based on the S&P 500® Quality Index. Provides exposure to S&P 500 Index constituents on an equal weighted basis (1/500th allocated to each stock)

Potential Benefits:

- Reduce concentration weight to largest stocks in economy
- Quarterly rebalancing imposes strict rebalancing discipline

[Invesco S&P 500 Low Volatility Portfolio \(ticker: SPLV\)](#)

Based on the S&P 500® Low Volatility Index. Provides exposure to the 100 least volatile constituents from the S&P 500 Index

Potential Benefits:

- Enables investors to participate in equity market returns while potentially mitigating risk
- Quarterly rebalancing discipline enables ongoing exposure to lower volatility companies within the S&P 500

[Invesco S&P 500 Quality Portfolio \(ticker: SPHQ\)](#)

Based on the S&P 500® Quality Index. Provides exposure to 100 companies from the S&P 500 Index that meet criteria regarding profitability, earnings quality, & financial health

Potential Benefits:

- Higher quality stocks have the potential to generate lower volatility and higher returns than low-quality stocks
- Semi-annual rebalancing discipline enables continued exposure to quality companies within the S&P 500

Thank You

NOT FDIC INSURED | MAY LOSE VALUE | NO BANK GUARANTEE



Important information



There are risks involved with investing in ETFs, including possible loss of money. Index-based ETFs are not actively managed. Actively managed ETFs do not necessarily seek to replicate the performance of a specified index. Both index-based and actively managed ETFs are subject to risks similar to stocks, including those related to short selling and margin maintenance. Ordinary brokerage commissions apply. The Fund's return may not match the return of the Index. The Fund is subject to certain other risks. Please see the current prospectus for more information regarding the risk associated with an investment in the Fund.

Investments focused in a particular industry or sector are subject to greater risk, and are more greatly impacted by market volatility, than more diversified investments.

Factor investing is an investment strategy in which securities are chosen based on certain characteristics and attributes that may explain differences in returns. There can be no assurance that performance will be enhanced or risk will be reduced for funds that seek to provide exposure to certain factors. Exposure to such investment factors may detract from performance in some market environments, perhaps for extended periods. Factor investing may underperform cap-weighted benchmarks and increase portfolio risk.

There is no guarantee that low-volatility stocks will provide low volatility.

Investing in securities of small capitalization companies involves greater risk than customarily associated with investing in larger, more established companies.

A value style of investing is subject to the risk that the valuations never improve or that the returns will trail other styles of investing or the overall stock markets.

Momentum style of investing is subject to the risk that the securities may be more volatile than the market as a whole or returns on securities that have previously exhibited price momentum are less than returns on other styles of investing.

This does not constitute a recommendation of any investment strategy or product for a particular investor. Investors should consult a financial advisor/financial consultant before making any investment decisions. Shares are not individually redeemable and owners of the Shares may acquire those Shares from the Fund and tender those Shares for redemption to the Fund in Creation Unit aggregations only, typically consisting of 10,000, 50,000, 75,000, 80,000, 100,000, 150,000 or 200,000 Shares. Note: Not all products, materials or services available at all firms.

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Before investing, investors should carefully read the prospectus/summary prospectus and carefully consider the investment objectives, risks, charges and expenses. For this and more complete information about the Funds call 800 983 0903 or visit invesco.com for prospectus/summary prospectus.

Index Definitions



Index	Definition	Source
Dow Jones Industrial Average	The Dow Jones Industrial Average® (The Dow®), is a price-weighted measure of 30 U.S. blue-chip companies.	S&P Dow Jones Indices, LLC
S&P 1500® Index	A broad-based capitalization weighted index of 1500 companies comprised of the S&P 500®, S&P 400®, & S&P 600® indexes	S&P Dow Jones Indices, LLC
MSCI World Index	An unmanaged index considered representative of stocks of developed countries.	FactSet Research Systems, Inc.
S&P 500® Equal Weight Index	The S&P 500® Equal Weight Index (EWI) is the equal-weight version of the widely-used S&P 500®.	S&P Dow Jones Indices, LLC
S&P 500® Low Volatility Index	The S&P 500® Low Volatility Index measures performance of the 100 least volatile stocks in the S&P 500. The index benchmarks low volatility or low variance strategies for the U.S. stock market. Constituents are weighted relative to the inverse of their corresponding volatility, with the least volatile stocks receiving the highest weights.	S&P Dow Jones Indices, LLC
S&P 500® Quality Index	The S&P 500® Quality Index is designed to track high quality stocks in the S&P 500 by quality score, which is calculated based on return on equity, accruals ratio and financial leverage ratio.	S&P Dow Jones Indices, LLC



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