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Going Beyond Indexing

Carlo Venes
Co-Head of Global Client Group

August 14, 2023

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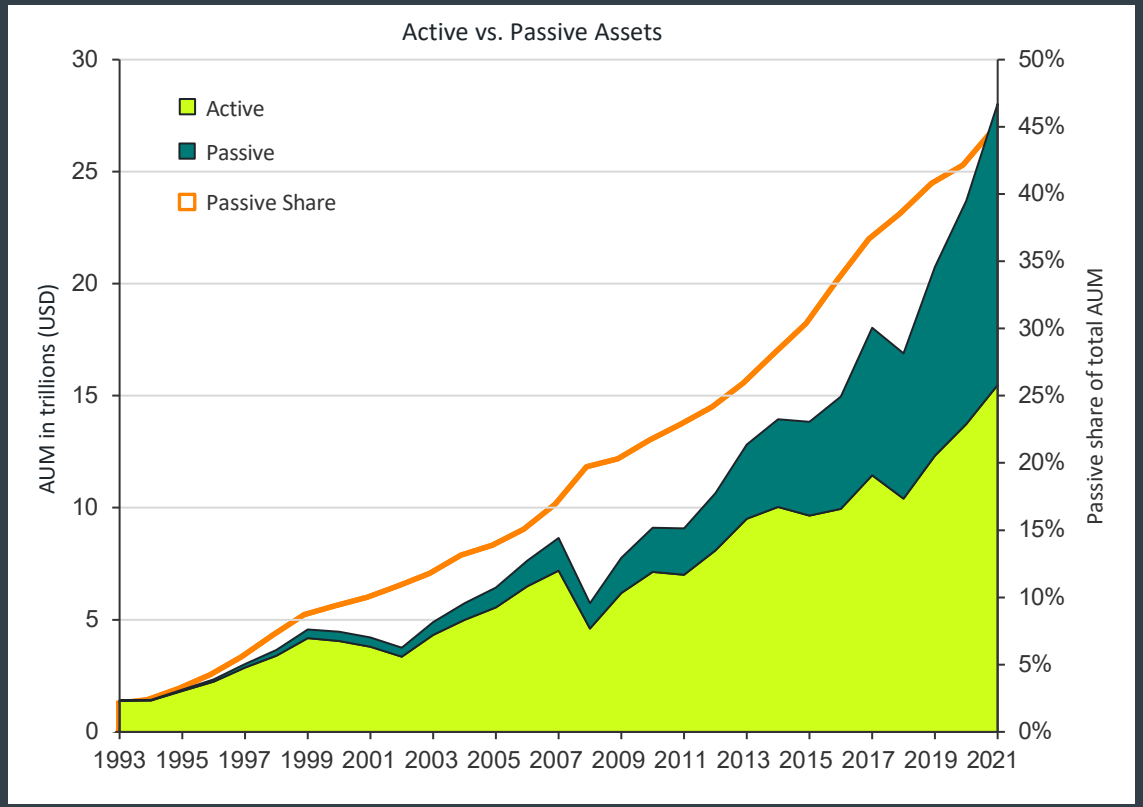
United States Investment Landscape



Assets continue to leave active management for passive index funds.

Why?

Source: https://www.federalreserve.gov/econres/feds/files/2018060r1pap.pdf

Challenges with Indexing

Index Providers Call the Shots but are not Fiduciaries

Dimensional

Index Provider
Non-Fiduciary

MSCI

"This **fiduciary duty is fundamentally at odds with the role of index providers** in the capital markets ecosystem, which is to produce independent and rules-based information for use by market participants."[1]

S&P

"Each index is designed in accordance with stated rules; it is **not intended to meet the investment objective** of any individual licensee or investor. Although S&P DJI often includes design features to create indices that are stable, liquid and replicable when developing its indices, it **does not consider the investment needs** of its individual licensees and/or the downstream investors in our licensees' investment products. **In fact, S&P DJI is not even necessarily aware of what those investment needs are.**"

1. https://www.sec.gov/comments/s7-18-22/s71822-20136043-306781.pdf
2. https://www.sec.gov/comments/s7-18-22/s71822-20136253-307288.pdf

Index Providers Make Active Decisions

Dimensional

1. Which countries and stocks to include in their index?

2. How often to reconstitute the index?

3. When to announce the changes for reconstitution events?

Which Index is Passive?

Dimensional

US Small Cap (return %)

S&P Small Cap 600 Index | Russell 2000 Index | CRSP US Small Cap Index

	2002	2003	2004	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014	2015	2016	2017	2018	2019	2020	2021
HIGHER RETURNS	-14.6	47.3	22.7	8.7	18.4	2.0	-31.1	40.1	28.0	1.0	18.6	41.3	7.5	-2.0	26.6	16.2	-8.5	27.4	20.0	26.8
	-18.0	46.0	20.0	7.7	16.0	-0.3	-33.8	27.2	26.9	-1.9	16.4	38.8	5.8	-3.7	21.3	14.7	-9.3	25.5	19.1	17.7
LOWER RETURNS	-20.5	38.8	18.3	4.6	15.2	-1.6	-36.8	25.6	26.3	-4.2	16.3	38.5	4.9	-4.4	18.3	13.2	-11.0	22.8	11.3	14.8
Difference between highest and lowest (%)	5.9	8.5	4.4	4.1	3.2	3.6	5.7	14.5	1.7	5.2	2.3	2.8	2.6	2.4	8.3	3.0	2.5	4.6	8.7	12.0

Average difference = 5.3%

Source: S&P data © 2023 S&P Dow Jones Indices LLC, a division of S&P Global. All rights reserved. CRSP data provided by the Center for Research in Security Prices, University of Chicago. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes.

Past performance is not a guarantee of future results. Indices are not available for direct investment; therefore, their performance does not reflect the expenses associated with the management of an actual portfolio.

Which Stocks To Include?

Dimensional

Tesla daily stock price, January 1, 2020–December 31, 2020

Past performance is no guarantee of future results.
In USD. Stock price data from Bloomberg L.P. This information is intended for educational purposes and should not be considered a recommendation to buy or sell a particular security. Named securities may be held in accounts managed by Dimensional. The securities identified do not represent all securities purchased or sold for client accounts. It should not be assumed that an investment in the securities identified was or would be profitable.

Total Cost of Ownership is More than the Expense Ratio

Dimensional

Total Cost of Ownership ≈

Expense Ratio

Management Fee and Expenses

+

Trading Costs

Explicit and Implicit

Higher if turnover is concentrated or inflexible

+

Index Reconstitution Effect

Pressure from tracking an index

Performance drag on the index itself, and index tracking funds

+

Opportunity Cost from Style Drift

Missing style or factor betas

Due to infrequent index reconstitutions

+

Securities Lending Shortfall[1]

Some managers keep some profits instead of charging a higher expense ratio

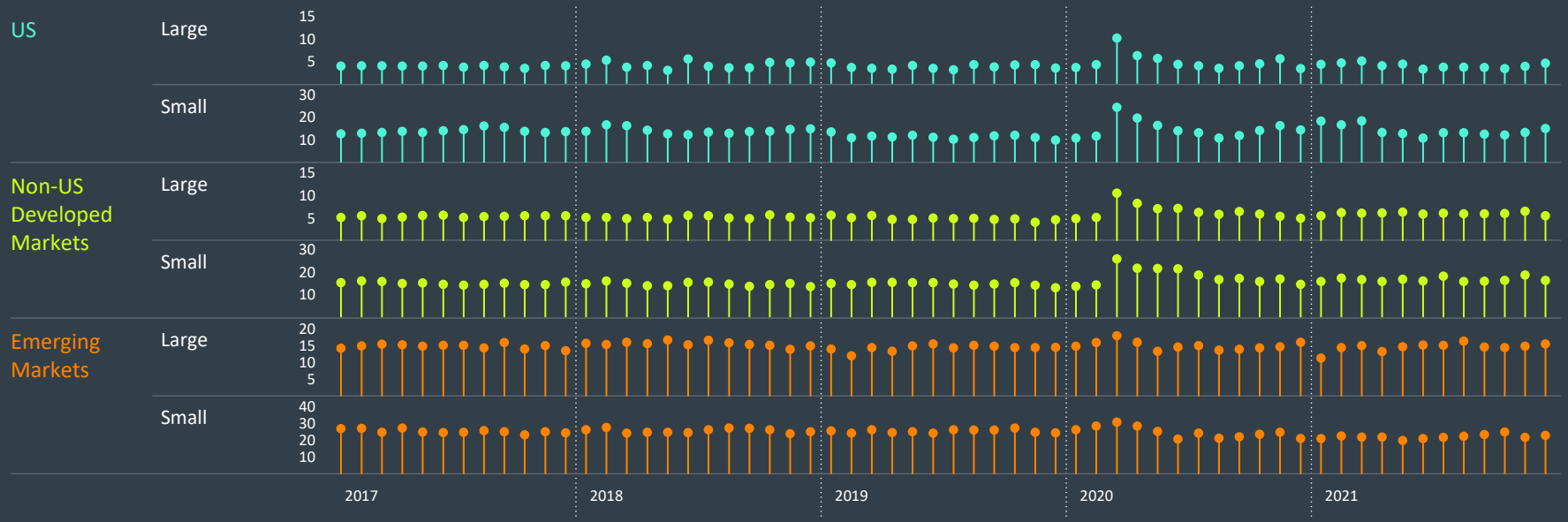
Tracking an index constrains the ability to maximize returns

1. Shortfall = Net securities lending return averaged across Dimensional funds (as % of AUM) - Net securities lending return

Relative Price Advantages of Flexible Trading

Dimensional

Dimensional price advantage in equity trades vs. demanding immediacy[1] (bps), 2017–2021



Flexible trading prices are near **10 bps** more favorable on average than those obtained by market participants that demand immediacy.

Past performance is no guarantee of future results.

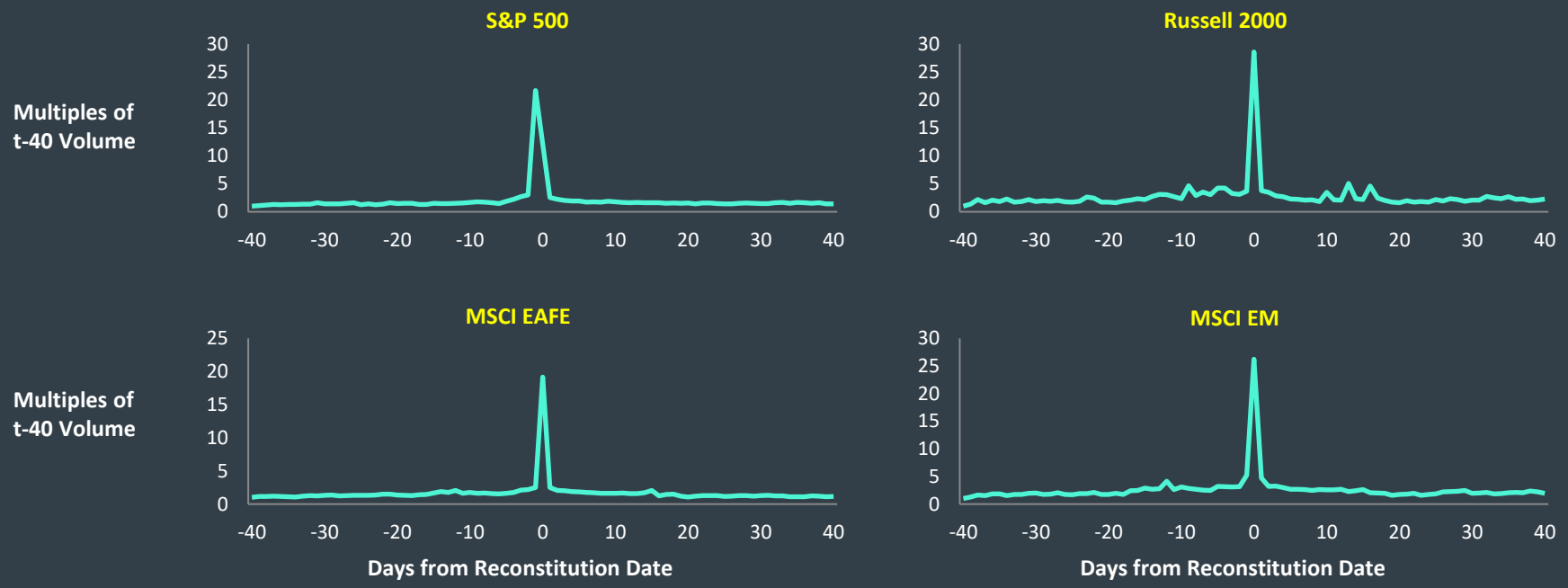
1. Price advantages estimated relative to demanding immediacy, represented by an approach that sells at the bid and buys at the offer (SBBO).

Monthly average price advantages over SBBO in basis points (bps). Source: Dimensional. Small cap is defined as approximately the bottom 8% of market cap within the US, bottom 12.5% of market cap within each non-US developed market country, and bottom 15% of market cap within each emerging market country. Small cap stocks with the lowest profitability and lowest book-to-market ratios are excluded. For more information and a description of the methodology used, see Jerry Liu and Ryan J. Wiley, "Global Trading Price Advantages of Flexible Equity Portfolios," June 2021.

Avoiding Immediacy-Driven Price Movement

Dimensional

Equal-Weighted Average Trade Volume for Index Additions and Deletions, 2018–2022



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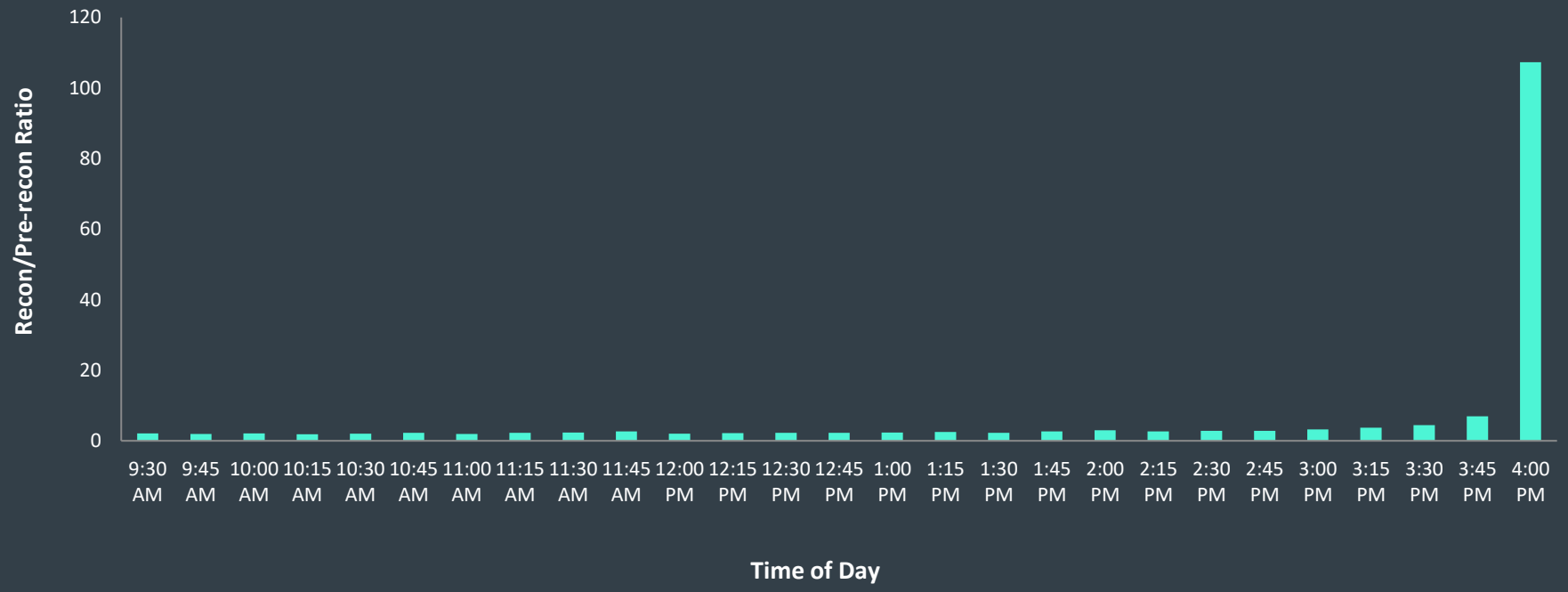
Indices change their reconstitution dates and methodologies from time to time. The data depicted during the relevant period may reflect a number of different reconstitution practices. This data does not suggest that past performance will re-occur in future periods, as index reconstitution may be different in the future. Other simultaneous events, such as triple-witching dates, could lead to spikes in volume, in addition to reconstitution dates and fund trades which follow them.

Intraday Volume Effects of Reconstitution: S&P 500

Dimensional

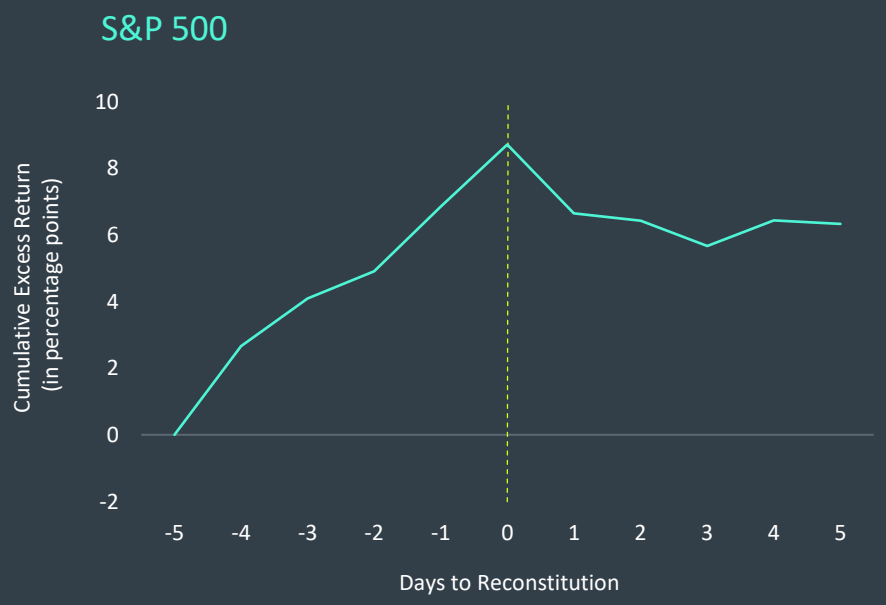
Demands for liquidity can increase considerably in the close

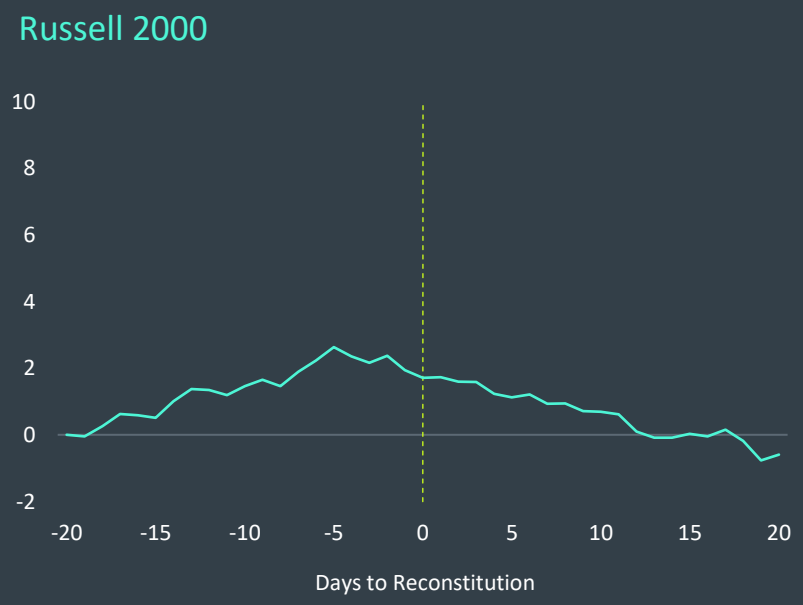


Sample includes all additions and deletions to the S&P 500 Index in 2018. Chart shows average intraday volume on reconstitution day divided by average volume over the 30 days prior to reconstitution.
Indices change their reconstitution dates and methodologies from time to time. The data depicted during the relevant period may reflect a number of different reconstitution practices. This data does not suggest that past performance will re-occur in future periods, as index reconstitution may be different in the future. Other simultaneous events, such as triple-witching dates, could lead to spikes in volume, in addition to reconstitution dates and fund trades which follow them.

Price Pressure from Indexing

Value-weighted average cumulative excess return of index additions and deletions since announcement dates, 2012–2021





Cumulative excess return (CER) is calculated as the cumulative sum of the daily excess returns for a given security vs. its respective index return. To examine deletions and additions together, the excess return for deletions is multiplied by –1. Value-weighted average CER is calculated by weighting the set of CERs on a day by the securities' respective free-float market capitalizations, which are month-end values from the most recent month prior to the trade date. Additions and deletions to the Russell 2000 exclude migration firms that were included in the Russell 1000 immediately prior to or immediately after the reconstitution date. Additions and deletions to the S&P 500 exclude migration firms that were included in the S&P MidCap 400 or S&P SmallCap 600 immediately prior to or immediately after the reconstitution date. For the S&P 500, reconstitution events that occur on triple-witching dates, or days on which stock index futures, stock index options, and stock options all expire simultaneously, are excluded. S&P data provided by Standard & Poor's Index Services Group. Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. Indices are unmanaged and cannot be invested into directly. Indices change their reconstitution dates and methodologies from time to time.

Implementation Advantage

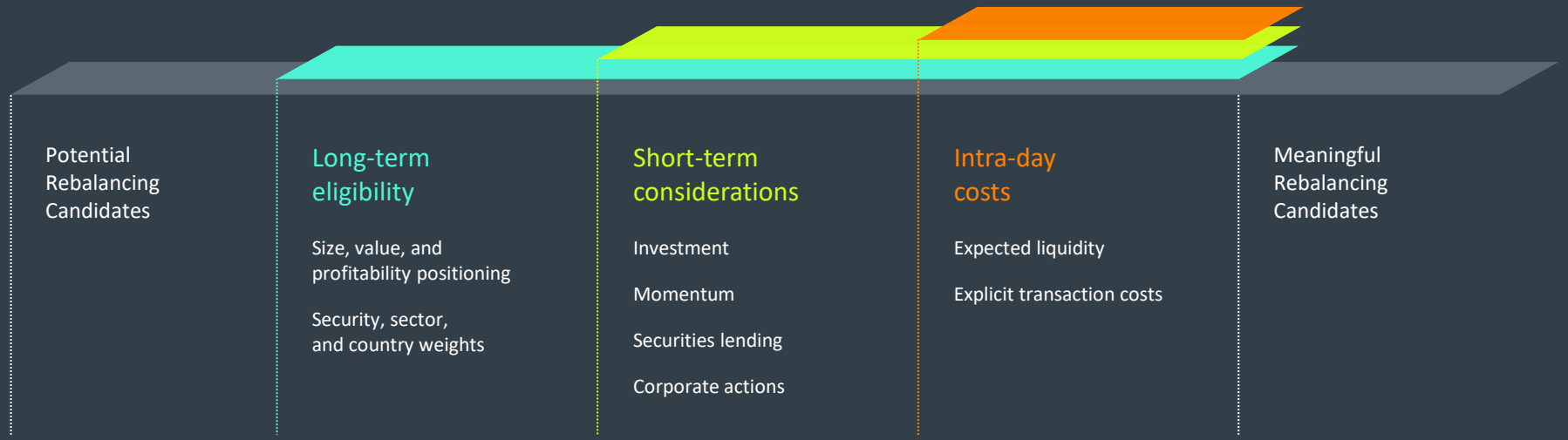
A More Flexible Approach or a Rigid Index

Dimensional

	EXPOSURE	CASH FLOWS	REBALANCING COSTS
INDEX APPROACHES	May face style drift between rebalance dates	Maintain portfolio to limit tracking error	Force trading that may lead to higher costs
DIMENSIONAL'S FLEXIBLE APPROACH	Provides more consistent focus through time	Rebalances continuously toward current market	Allows flexibility across names and timing to help reduce costs

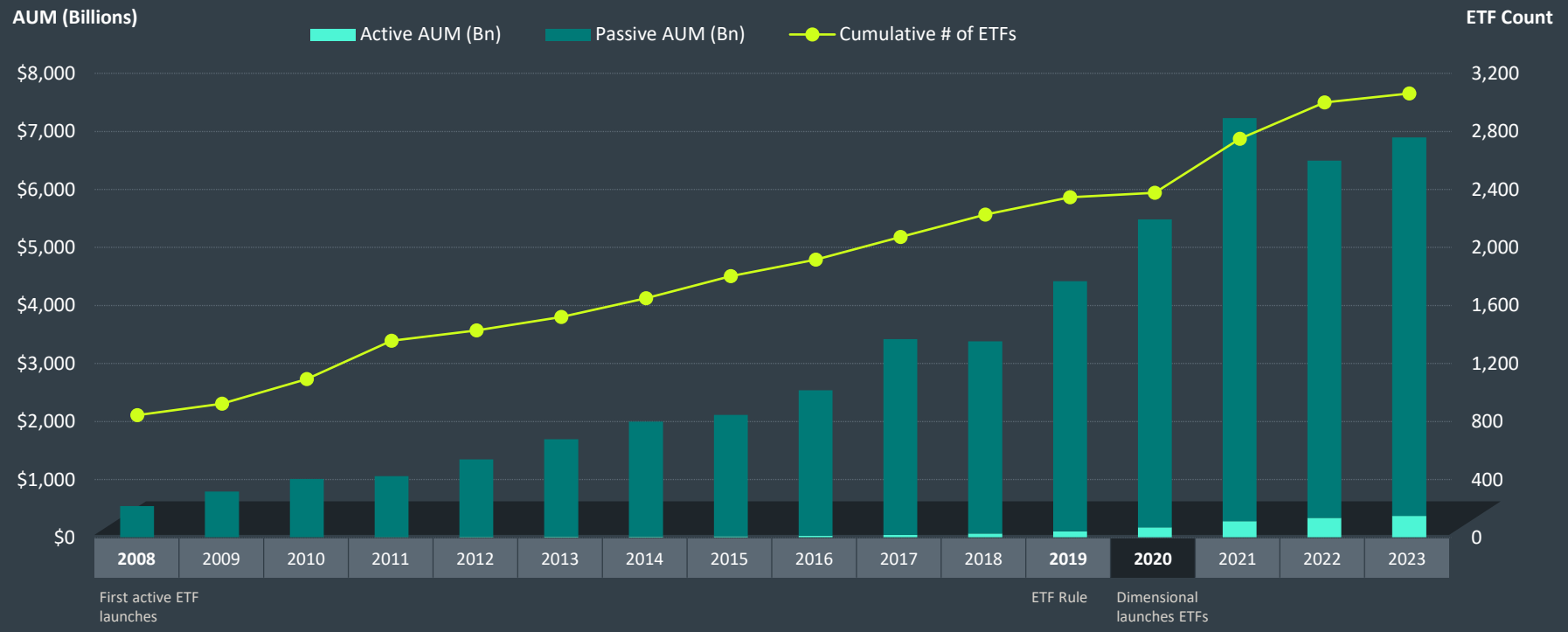
Improving Expected Returns through Daily Rebalancing

Many inputs inform which stocks we want to hold each day



Evolution of Active ETFs

Growth of Active and Passive ETF AUM and Fund Count, January 2008–March 2023



Source: Morningstar Direct
Funds of Funds are not included in the analysis.

37761

Active ETF Landscape

As of March 31, 2023

Dimensional

$377bn
US active ETF AUM

5%
of total ETF AUM

32%
of total ETF flows YTD

1,102
number of active ETFs

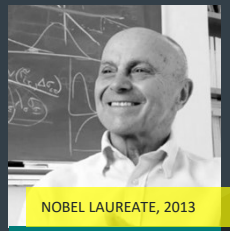
Data as of 3/31/2023. Data provided by Morningstar.

Appendix

A Heritage of Leading Research

Dimensional

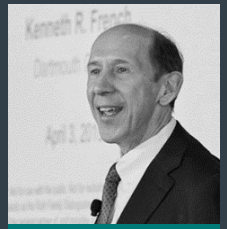
The bar for research at Dimensional has been set by the best in the field



NOBEL LAUREATE, 2013

Eugene Fama
University of Chicago

Dimensional Director and Consultant, Dimensional,[1] 1981–present

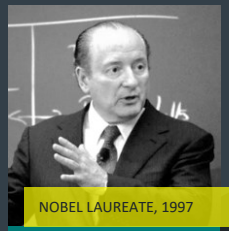


Kenneth French
Dartmouth College

Consultant, Dimensional,[1] 1986–present

Co-Chair of the Investment Research Committee, Dimensional,[1] 2006–present

Dimensional Director, 2006–present



NOBEL LAUREATE, 1997

Robert Merton
MIT

Director, Dimensional US Mutual Funds, 2003–2009

Resident Scientist, Dimensional Holdings Inc., 2010–present

Robert Novy-Marx
University of Rochester

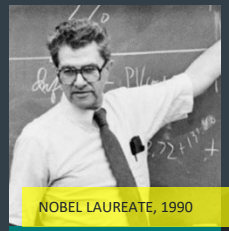
Consultant, Dimensional,[1] 2014–present

NOBEL LAUREATE, 2022

Douglas Diamond
University of Chicago

Independent Director, Dimensional US Mutual Funds, 2017–2021

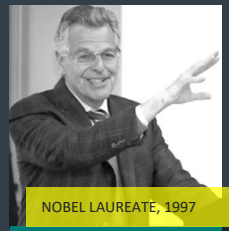
Lead Independent Director, Dimensional US Mutual Funds and ETF Trust, 2022–present



NOBEL LAUREATE, 1990

Merton Miller
University of Chicago

Independent Director, Dimensional US Mutual Funds, 1981–2000



NOBEL LAUREATE, 1997

Myron Scholes
Stanford University

Independent Director, Dimensional US Mutual Funds, 1981–2012

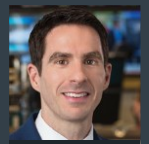
Lead Independent Director, Dimensional US Mutual Funds, 2013–2021

1. Dimensional Fund Advisors LP.
"Dimensional Directors" refers to the Board of Directors of the general partner of Dimensional Fund Advisors LP.

Implementation Requires Expertise

Dimensional

Adding value over benchmarks and peers through cost-efficient portfolio management, design, and trading



GERARD K. O'REILLY, PhD

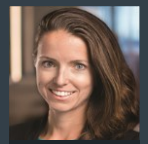
Co-Chief Executive Officer and Chief Investment Officer

Investment Solutions

MARLENA LEE, PhD

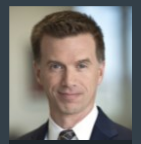
Global Head of Investment Solutions

Research



SAVINA RIZOVA, PhD

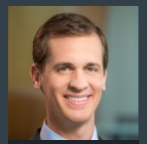
Global Head of Research



PETE DILLARD

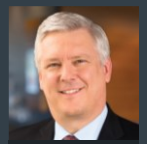
Chief Data Officer and Head of Investment Analytics and Data

Portfolio Management



JED FOGDALL

Global Head of Portfolio Management

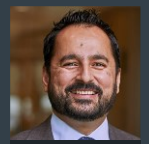


DAVE PLECHA

Global Head of Fixed Income

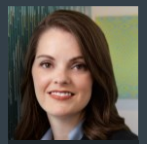
PAUL FOLEY

Head of EMEA Portfolio Management



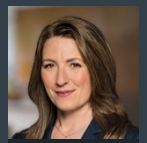
BHANU SINGH

Chief Executive Officer, DFA Australia Limited and Head of Asia Pacific Portfolio Management



NICOLE HUNTER

Head of Capital Markets



MARY PHILLIPS

Deputy Head of Portfolio Management, North America

ALLEN PU

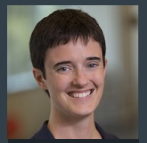
Deputy Head of Portfolio Management, North America

JOEL SCHNEIDER

Deputy Head of Portfolio Management, North America

JIM WHITTINGTON

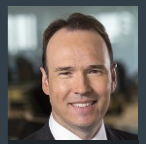
Head of Responsible Investment and Senior Portfolio Manager



LACEY HUEBEL

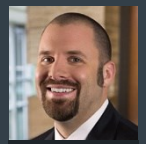
Head of Responsible Investment, North America and Senior Portfolio Manager

Trading



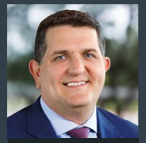
RYAN WILEY

Global Head of Equity Trading



DAVID LaRUSSO

Head of Fixed Income Trading



JASON LAPPING

Head of International Equity Trading

Investment professional headcount information as of June 30, 2023.

Dimensional vs. the Industry Appendix

Dimensional

Data Sample
The sample includes US-domiciled, USD-denominated open-end and exchange-traded funds (ETFs) in the following Morningstar categories. Non-Dimensional fund data provided by Morningstar. Dimensional fund data is provided by the fund accountant. Dimensional funds or subadvised funds whose access is or previously was limited to certain investors are excluded. Dimensional Retirement Equity Fund included. Index funds, load-waived funds, and funds of funds are excluded from the industry sample.

Methodology
The beginning samples include funds as of the start of each respective time period. Surviving funds are those with return observations for every month of the sample period. Each fund is evaluated relative to its primary prospectus benchmark. Where the full series of primary prospectus benchmark returns is unavailable, non-Dimensional funds are instead evaluated relative to their Morningstar category index. Outperformers are funds that survived the sample period and whose cumulative net return over the period exceeded that of their respective benchmark. We aggregate funds with multiple share classes to the strategy level.

Morningstar Categories (Equity)
Equity fund sample includes the following Morningstar historical categories: Diversified Emerging Markets, Europe Stock, Foreign Large Blend, Foreign Large Growth, Foreign Large Value, Foreign Small/Mid Blend, Foreign Small/Mid Growth, Foreign Small/Mid Value, Global Real Estate, Japan Stock, Large Blend, Large Growth, Large Value, Mid-Cap Blend, Mid-Cap Growth, Mid-Cap Value, Miscellaneous Region, Pacific/Asia ex-Japan Stock, Real Estate, Small Blend, Small Growth, Small Value, Global Large-Stock Blend, Global Large-Stock Growth, Global Large-Stock Value, and Global Small/Mid Stock.

Index Data Sources
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Indices are not available for direct investment. Their performance does not reflect the expenses associated with management of an actual portfolio. US-domiciled mutual funds and US-domiciled ETFs are not generally available for distribution outside the US.

Mutual fund investment values will fluctuate, and shares, when redeemed, may be worth more or less than original cost. Diversification neither assures a profit nor guarantees against a loss in a declining market. There is no guarantee investment strategies will be successful. Past performance is no guarantee of future results.

ETFs trade like stocks, fluctuate in market value, and may trade either at a premium or a discount to their net asset value. ETF shares trade at market price and are not individually redeemable with the issuing fund, other than in large share amounts called creation units. ETFs are subject to risks similar to those of stocks, including those regarding short-selling and margin account maintenance. Brokerage commissions and expenses will reduce returns.