

**BlackRock**<sup>®</sup>

# **BlackRock Index Investments Review**

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# **I. Relationship Summary**

# Relationship Summary

State of Wisconsin Public Employees Deferred Compensation Plan	Assets Under Management \$
Russell 2000 Index Fund M	174,938,680
Mid Capitalization Equity Index Fund F	309,556,520
EAFE Equity Index Fund F	344,602,739
U.S. Debt Index Fund M	304,288,608
<b>Total State of Wisconsin Public Employees Deferred Compensation Plan Assets</b>	<b>1,133,386,547</b>

As of 30 September 2024

## **II. BlackRock Update**

## Who & how we serve

We collectively support millions of people around the world by working alongside institutions and financial advisors as they contribute to the financial well-being of those who depend on them.

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**400+**

**of the world's top insurance companies** utilize our products and services to help enhance the value they deliver to their clients

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**130+**

**official institutions** collaborate with us across asset management, risk and advisory to help countries achieve their broader objectives

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**\$100M**

**Is being committed by The BlackRock Foundation** to the Breakthrough Energy Catalyst Program\* to accelerate the affordability and availability of clean energy technologies

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**31mn**

**Investor accounts in the US** hold iShares® ETFs in their portfolio<sup>1</sup>

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**40mn**

**Individuals planning for retirement in US & Canada** have access to our products through their defined contribution plans<sup>2</sup>

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**400+**

**family offices in the US** entrust us to manage assets on their behalf

Source: BlackRock, data as of December 31, 2023 unless otherwise noted. \*For more details: <https://www.blackrock.com/corporate/about-us/social-impact/breakthrough-energy> <sup>1</sup> Number of accounts calculated based on data sourced from Broadridge of accounts holding U.S. listed iShares ETFs (as of November 30, 2022) <sup>2</sup> Represents the estimated number of participants (active and retired) with access to BlackRock investment products through their US DC plan. The 401(k) and 403(b) active plan participant count is sourced from Brightscope (as of December 31, 2020, or plan's latest filed Form 5500). State Government DC Plan participant counts are based on total current state employees (Census Annual Survey) where the state plan is known to hold a BLK product in their DC plan. Local Government DC Plan participants counts are estimated based on total current local government employees (Census Annual Survey), adjusted to align with BlackRock's current AUM market share of the US DC industry. The Federal Government's TSP participant count is sourced from their public November 2021 meeting notes. Retiree participant count is estimated based on the population 65+ (Census quick facts), with access to a DC plan (CRS 2021 Report) that stays in plan (Cerulli "US Retirement End Investor Report 2022), adjusted to align with BlackRock's current AUM market share of the US DC industry.

# We are designed to deliver: our investment platform seeks to enhance outcomes, returns, convenience, value and transparency for clients.

## Investment solutions designed to address every client need

**Active Equities**

\$466bn

**Active Fixed Income**

\$1,112bn

**Cash Management**

\$778bn

**Multi-Asset**

\$921bn

**Alternatives**

\$303bn

**iShares® & Index**

\$7,064bn

Investment teams directly benefit from firm-wide resources

**BlackRock Capital Markets**

**BlackRock Investment Institute**

**BlackRock Investment Stewardship**

**Risk & Quantitative Analysis**

**Aladdin®, Data & Technology**

**Global Capital Markets**

**Public Policy**

**Transition Management**

**Securities Lending**

Source: BlackRock. Assets under management as of June 30, 2024. All figures are represented in USD. Alternatives AUM may include committed capital, in addition to invested capital, which remains subject to drawdown.

# **III. Index Investments Review**



# BlackRock's Index Equity Platform:

## Global leader in Index Equity assets<sup>1</sup>

### Focus on consistent performance with efficient outcomes for clients

- Thousands of skillful and thoughtful decisions made annually in each portfolio in seeking to achieve the precise performance that clients demand

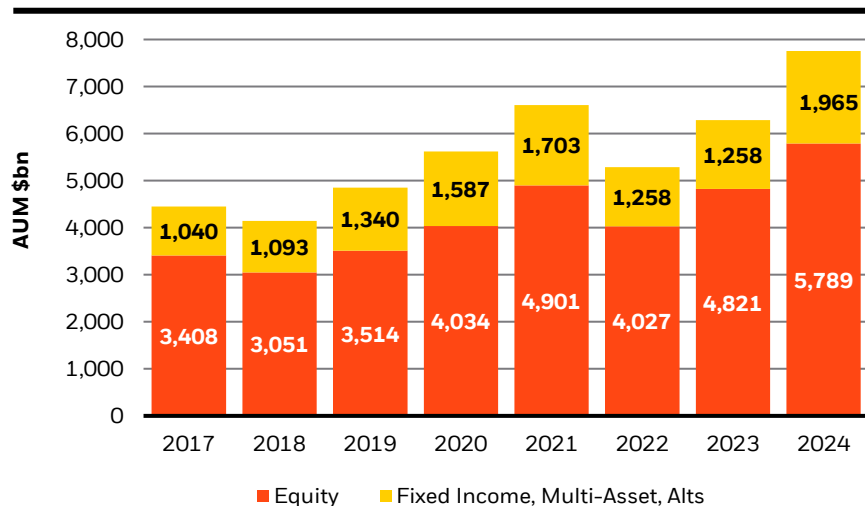
### Extensive and flexible platform for index strategies

- Over 2,500 funds managed against 900+ benchmarks, including: factors, ESG, liquidity strategies and index plus

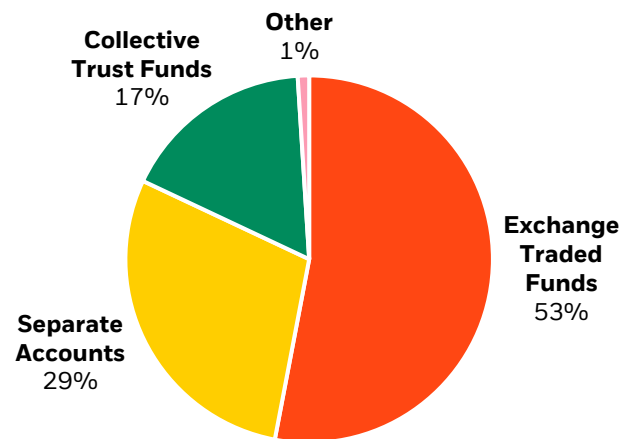
### Sophisticated technology and risk management

- The Aladdin® platform seamlessly integrates the capabilities of our dedicated portfolio management, research, trading and risk management teams

### Index and ETF assets as of Q3 2024: \$7.75 trillion



### Distribution of assets by vehicle type as of Q3 2024



Source: BlackRock as of 30 September 2024

<sup>1</sup> In terms of AUM. Source: Pensions & Investments as of 30 September 2024

All dollar amounts referenced in this presentation are in USD

# Current Indexing Landscape



## Trending / Ongoing Interests

- China
- Enhanced Indexing Strategies
- Geopolitical Risk
- Lending vs. Non-Lending
- Index Concentration
- Digital Assets

## Global Index Flows<sup>1,2</sup>

- Total 2024 index flows of +\$229B
- iShares represented >90% of the equity inflows, remainder into institutional strategies

## Recent and Upcoming Index Events

<b>Nov 2024</b>	<b>Dec 2024</b>	<b>Feb 2025</b>	<b>Mar 2025</b>	<b>May 2025</b>	<b>Jun 2025</b>	<b>Aug 2025</b>	<b>Sep 2025</b>
(MSCI)	(S&P)	(MSCI)	(S&P)	(MSCI)	(Russell)	(MSCI)	(S&P)
Quarterly index review	Rebalance	Quarterly index review	Rebalance	Quarterly index review	Annual index Reconstitution (S&P) Rebalance	Quarterly index review	Rebalance

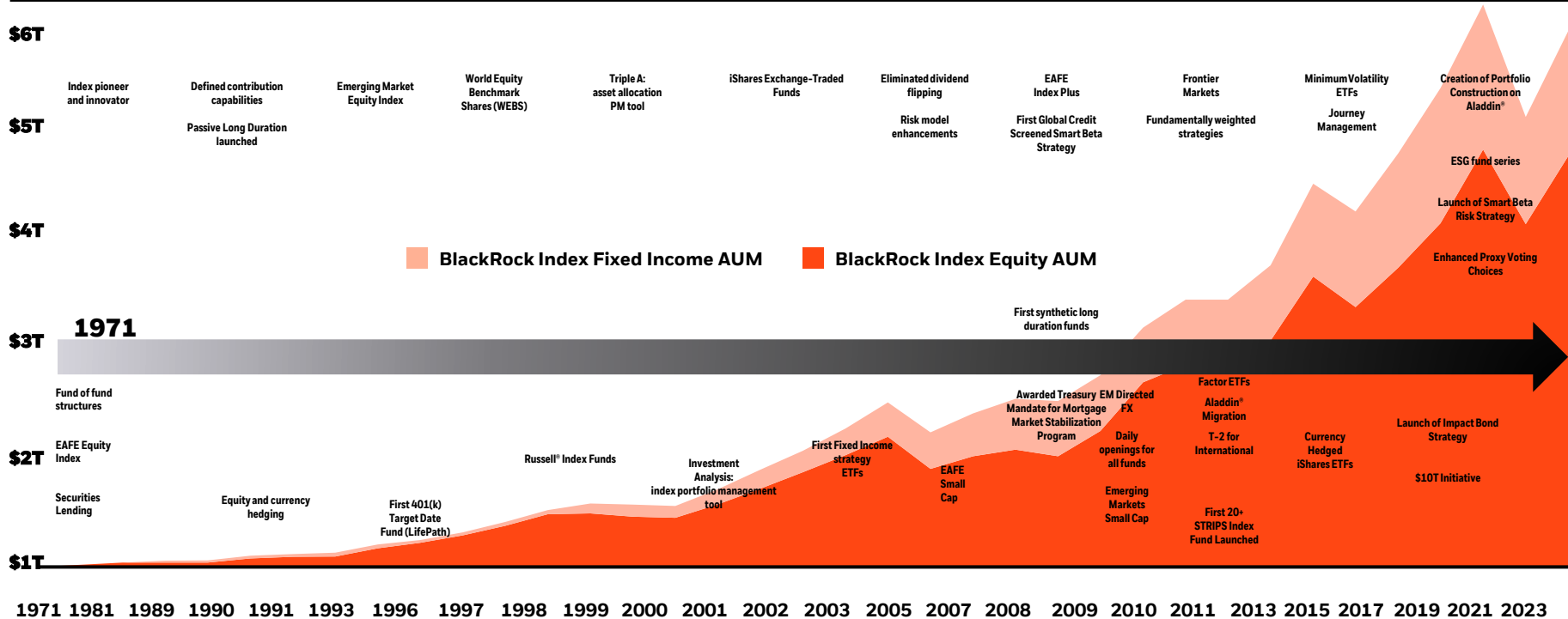
1 Flows are from January 1, 2024 –September 30, 2024. Data includes BlackRock institutional index and ETF asset flows  
 2 Non-ETF flows includes flows into commingled trust funds, mutual funds and separately managed accounts as of September 2024.

# Over 50 years of experience driving index forward

## Creating solutions so our clients have access to high quality index exposures

- Drive the industry forward through our ability to create specialized, innovative investments afforded by our scale & depth of expertise
- Forge new ground for clients
- Evolve capabilities to continuously deliver on emerging trends – smart beta, global benchmarking, overlay strategies
- Serve as an index advocate on behalf of asset owners and act a key partner to index providers seeking our practitioner knowledge

## Over 50 years of Index Equity – Continual evolution of products, technology and capabilities

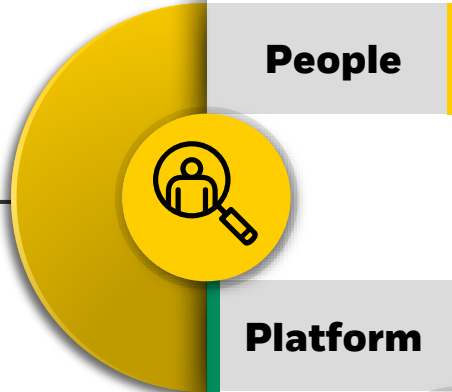


AUM as of 31 December 2023

# BlackRock's vision for the future of indexing

**We continue to invest in a scalable investment engine through a focus on:**

**Building diverse teams who can sit at the intersection of portfolio management and technology**

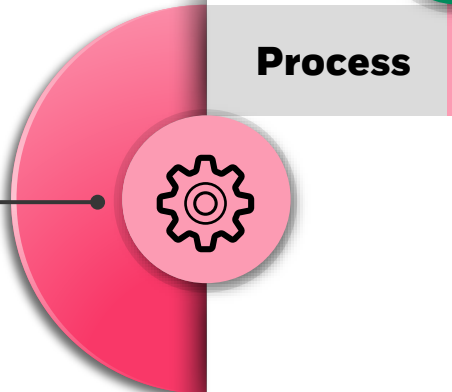


**Platform**

**Leveraging Aladdin® platform and the new technologies to build scale**



**Developing a systems-driven and rules-based investment process**



# Americas Index Equity Team

**Samara Cohen**  
Chief Investment Officer of ETF and Index Investments

## Index Equity

**Jennifer Hsui, CFA**  
Global Head of Index Equity Investments

### CIO Office

**Tim Parsons, CFA**  
Deputy CIO  
+5 Portfolio Managers

**Steven White**  
CIO Global Head of Performance, Risk & Index Advocacy

### Platform

**Rajesh Nagella**  
Global Head of Investment Process & Platform  
+11 Platform Managers

### Portfolio and Transition Management

**Paul Whitehead**  
Deputy Head of Index Equity

#### Americas Portfolio Management

**Matthew Waldron, CFA**  
Head of International PM  
+17 Portfolio Managers

**Peter Sietsema, CFA**  
Head of North America PM  
+25 Portfolio Managers

**Steven White**  
Head of Active Risk Index ETF PM  
+ 5 Portfolio Managers

#### Index Asset Allocation & Synthetics

**Greg Savage, CFA**  
Head of Global IAA & Synthetics  
+20 Portfolio Managers

#### Derivative ETFs

**Matthew DeCicco**  
Global Head of Derivative ETFs

#### Transition Management

**Nick Hogwood**  
Global Transition Management  
+50 Transition Specialists

## Global Research

**Nogie Udevbulu**  
Global Head of Research and Analytics

**Index & Quantitative Research**  
+18 Researchers

**Data Analytics**  
+47 Technologists

### Business Development

**Scott Dohemann, CFA**  
Head of US Index Business Development  
+3 Strategists

### Product Strategy

**MJ Kim**  
Head of Americas Index Product Strategy  
+5 Strategists

As of September 30, 2024

# Americas Index Fixed Income Team

## Americas Fixed Income

### Portfolio Management

#### Jay Mauro

Head of Americas Index Fixed Income PM

#### Karen Uyehara

Deputy Head of Americas Index Fixed Income PM

#### Rates/Securitized/Outcome (8)

#### Corporate Credit/Emerging Markets/Municipals (17)

#### Multi-Sector/Canada (6)

##### Marcus Tom

Head of Atlanta &  
Rates/Securitized/Outcome

##### Jonathan Graves

Head of Corporate Credit/Emerging Markets/Municipals

##### Karen Uyehara

Head of Multi-Sector  
/Canada

##### Rates

##### Securitized

##### IG Corporate

##### HY Corporate

##### EM

##### Multi-Sector

**Jakob Hallmer**  
Portfolio Manager  
Head US Rates

**Wes George**  
Portfolio Manager  
Head US Sec.

**Allen Kwong**  
Portfolio Manager  
IG Credit

**David Dulski**  
Portfolio Manager  
HY Credit

**Gabe Shipley**  
Portfolio Manager  
Emerging Markets

**Danny Ng**  
Portfolio Manager  
Multi-Sector

**William Chen**  
Portfolio Manager  
US Rates

**Yang He**  
Portfolio Manager  
US Securitized

**Cole Bushman**  
Portfolio Manager  
IG Credit

**Ryan Connors**  
Portfolio Manager  
HY Credit

**Camila Ramirez**  
Portfolio Manager  
Emerging Markets

**Brad Chang**  
Portfolio Manager  
Multi-Sector

**Yiming Wang**  
Portfolio Manager  
US Securitized

**Fan Xu**  
Portfolio Manager  
IG Credit

**Meher Habib**  
Portfolio Manager  
HY Credit

**Dandi Li**  
Portfolio Manager  
Emerging Markets

#### Outcome Oriented Solutions

**Cheryl Chow**  
Portfolio Manager  
IG Credit

**Emily Freeman**  
Portfolio Manager  
HY Credit

#### Municipals

**Brian Venter**  
Portfolio Manager  
Outcome

**Jimmy Wang**  
Portfolio Manager  
Outcome

**Oscar Loyola**  
Portfolio Manager  
IG Credit

**Samantha Berry**  
Portfolio Manager  
Hybrid Credit

**Marlin Brown**  
Portfolio Manager  
Municipals

**Tao Chen**  
Portfolio Manager  
Municipals

**Rachel Wu**  
Portfolio Manager  
Municipals

**Jermaine Pierre**  
Portfolio Manager  
Canada

**Lip Tong**  
Portfolio Manager  
Canada

**Spencer Sheff**  
Portfolio Manager  
Canada

### Technology

#### PM Architecture

**Will Flanagan**  
Global Head of Portfolio  
Management Architecture

**Justin Graham**  
Head of Bond ETF  
Architecture

#### Technology

+ 11 Engineers

### Research

#### Global Research

**Bhupinder Bahra**  
Head of Index Fixed  
Income Research

### Strategy

#### Americas

**Gordon Readey**

**Alli Leiva**

**Laura May**

**Chloe Yeh**

**Xoshil Chen-Marquez**

As of 30 September 2024. Subject to change.

# Index Provider Engagements and Portfolio Integrity

**BlackRock makes consistent, focused efforts to protect index portfolios and the overall index ecosystem.**

## Index Monitoring

Inclusions, methodology, turnover, liquidity



## Systematic Approach

Order Generation algorithms, optimal futures basket refresh



## Index Advocacy and Market Consultation

Engaging with index providers on rebalances, reconstitution, methodology changes



## Ongoing Research Efforts

Corporate action research, global rebalance coordination, illiquid security divestment



# **Process and Philosophy**



# Why BlackRock for indexing?

As a BlackRock index client, you receive an excellent indexing experience with the following:

<b>1</b>	<b>Index Research Expertise</b>	Detailed knowledge of index methodologies and experience with projecting index changes
<b>2</b>	<b>Skilled Portfolio Management</b>	Dedicated portfolio managers with deep local market and index expertise
<b>3</b>	<b>Extensive Trading Capabilities &amp; Research</b>	Scale and breadth of our global trading platform helps minimize transaction costs
<b>4</b>	<b>Sophisticated Operating Platform</b>	Proprietary end-to-end Aladdin® platform integrates portfolio management, risk analytics, trading and operations
<b>5</b>	<b>Robust Securities Lending Benefit</b>	Global focus on extracting premiums and negotiating securities loans in order to add value to index portfolios

## Leveraging the Power of the BlackRock Platform

<p><b>Risk &amp; Quantitative Analysis</b></p> <p>Specialized Risk &amp; Quantitative Analysis Team (RQA) monitors risk factors globally on a continuous basis</p>	<p><b>Fiduciary</b></p> <p>With no cross subsidization between business units or affiliate broker-dealers acting as principal, we have an investment-only focus</p>	<p><b>Proxy Voting Choice</b></p> <p>Eligible institutional index commingled trust fund and separate account clients can leverage BlackRock Investment Stewardship for proxy voting or choose to own their proxy voting</p>	<p><b>BlackRock Investment Institute</b></p> <p>Internal forum facilitates idea sharing, debates economic implications and publishes firm wide thought leadership</p>	<p><b>Index Provider Relationships</b></p> <p>Allows for access to a broad index data set, with the ability to customize indices as needed. BlackRock acts as a steward of the indexing ecosystem</p>
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Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.

# Focus on efficient performance outcomes

## Supported by proprietary Aladdin® technology

- BlackRock's disciplined index portfolio management is focused on optimally balancing return, risk and cost in seeking to deliver effective outcomes to clients
- Our portfolio managers specialize in financial markets, supported by BlackRock's extensive global trading platform and market leading analytics, to provide a high-quality index experience



### What is Aladdin® ?

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- A sophisticated operating system that connects information, people and technology to support the entire investment lifecycle

### Aladdin® helps solve investing challenges:

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- Technology does the 'heavy-lifting', enabling portfolio managers to focus on key drivers affecting portfolio return
- Offers process scalability and efficiency
- Includes consistency across product types and functions

Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.

# Index Investment Management Cycle – dedicated expertise and resources

## Performance & Oversight

- Review cumulative effect of investment decisions to help identify factors contributing to/detracting from portfolio performance
- Risk & Quantitative Analysis Team (RQA) monitors dozens of risk factors globally on a continuous basis
- **Aladdin® Platform Advantage:** Portfolio Management tools are integrated on the same platform as risk monitoring tools, making it easy for RQA to provide a third-party risk assessment on portfolios

## Efficient Trading

- Global trading infrastructure allows for real time oversight of all trades in all regions
- Smart trading strategies are designed to access optimal liquidity
- One of the industry's largest internal marketplace for potential netting of client flows
- Focused trading research and systems
- **Aladdin® Platform Advantage:** Extensive global trading platform helps ensure low costs and optimal access to liquidity

## Benchmark Knowledge

- Detailed knowledge of index methodologies
- Experience with predicting and projecting index changes
- Focused on optimal treatment of corporate actions
- Continual research into index events
- **Aladdin® Platform Advantage:** Proprietary Aladdin® 'Index Pro' application makes analyzing benchmark changes a clean and efficient process

## Portfolio Construction

- Significant investment in technology
- Market leading portfolio and risk tools provided by our Aladdin® platform
- Integrated cost, risk, and liquidity analysis
- Access to sophisticated optimization tools
- **Aladdin® Platform Advantage:** Custom 'Portfolio Construction' application built by our Portfolio Management Team designed specially for index management



Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.

# Index Investment Management Cycle

## Benchmark knowledge

Our index platform has a dedicated internal global index research team unique to BlackRock; they are essential to the portfolio management process



### Day-to-Day Benchmark Focus

- **Team works directly with all our index vendors to:**
  - Perform the data-intensive process of combing daily index loads to provide clean fund snapshots
  - Project daily changes and rebalances
  - Field all equity index data requests across the firm



### Long-Term Rebalance Projections

- **All index families have a different cadence of rebalance**
- **Team works to predict what will be added or deleted from various indices in advance of rebalance**
  - This helps portfolio managers to have a thoughtful opinion about what will happen on index effective date
  - Enables portfolio managers to monitor the applicable stocks and their liquidity profiles. This influences our ultimate trade strategy

### Index Methodology Recommendations

**The index research team coordinates across BlackRock and works closely with index providers to drive methodology improvements to the indices we utilize in our strategies**

*ALADDIN® Tools: Index Pro*

Source: BlackRock. Investment process is shown for illustrative purposes only and is subject to change.

# Index Research Group tools: Index Pro

Our Aladdin®-based **IndexPro** application allows for BlackRock's dedicated Index Research Team to: make projections, monitor benchmark changes and help our portfolio management team leverage index provider resources

IndexPro

File Benchmarks Projections Index Data Vendor Data Diagnostics Help

Constituents x Projections x Benchmarks x S&P 500 Index x

Constituents Benchmark Usage Distribution Chart

503 of 1558 constituents (Constituents as of 03-APR-2023 and loaded on 31-MAR-2023)

Security Name *	Ticker *	Sedol *	Currency	USD Price *	FX Rate *	Index Quantity	Shares outstanding	Benchmark Shares *	USD Benchmark Cap *	Bench... Weight *	Country	Industry level 1	Industry level 2	Industry level 3	Industry level 4
APPLE INC	AAPL	2046251	United States Do...	164.90	1.00000	14,872,629,240	15,821,946,000	14,872,629,240	2,452,496,561,6...	7.1414	United States (US)	Information Tech...	Technology Hard...	Technology Hard...	Technology Hard...
MICROSOFT CORP	MSFT	2588173	United States Do...	288.30	1.00000	7,443,804,000	7,443,804,000	7,443,804,000	2,146,048,693,2...	6.2491	United States (US)	Information Tech...	Software & Servi...	Software	Systems Software
AMAZON COM INC	AMZN	2000019	United States Do...	103.29	1.00000	8,915,116,200	10,247,260,000	8,915,116,200	920,842,352,29...	2.6814	United States (US)	Consumer Discre...	Consumer Discre...	Broadline Retail	Broadline Retail
NVIDIA CORP	NVDA	2379504	United States Do...	277.77	1.00000	2,460,000,000	2,460,000,000	2,460,000,000	683,314,200,00...	1.9897	United States (US)	Information Tech...	Semiconductors ...	Semiconductors ...	Semiconductors
ALPHABET INC CLASS A	GOOGL	BYYY8G0	United States Do...	103.73	1.00000	5,956,000,000	5,956,000,000	5,956,000,000	617,815,880,00...	1.7990	United States (US)	Communication S...	Media & Entertai...	Interactive Medi...	Interactive Medi...
TESLA INC	TSLA	B616C79	United States Do...	207.46	1.00000	2,689,487,550	3,164,103,000	2,689,487,550	557,961,087,12...	1.6247	United States (US)	Consumer Discre...	Automobiles & C...	Automobiles	Automobile Manu...
BERKSHIRE HATHAWAY INC CLASS B	BRKB	2073390	United States Do...	308.77	1.00000	1,801,720,400	2,197,220,000	1,801,720,400	556,317,207,90...	1.6199	United States (US)	Financials	Financial Services	Financial Services	Multi-Sector Hold...
ALPHABET INC CLASS C	GOOG	BYYY8Y7	United States Do...	104.00	1.00000	5,192,160,000	5,968,000,000	5,192,160,000	539,984,640,00...	1.5724	United States (US)	Communication S...	Media & Entertai...	Interactive Medi...	Interactive Medi...
META PLATFORMS INC CLASS A	META	B7TL820	United States Do...	211.94	1.00000	2,225,763,000	2,225,763,000	2,225,763,000	471,728,210,72...	1.3736	United States (US)	Communication S...	Media & Entertai...	Interactive Medi...	Interactive Medi...

IndexPro

File Benchmarks Projections Index Data Vendor Data Diagnostics Help

Constituents x Projections x Benchmarks x Compare Benchmark x S&P 500 Index x

Port Group: From Ticker: SNP500 To Ticker: SNP500 From Date: 17-FEB-2023 To Date: 17-MAR-2023  Asset Search  Normal  Proforma  Forward

Comparing 7 constituents.

Benchmark Ticker *	Benchmark Name *	Security Name *	Compare Result Type *	Sedol *	Ticker *	From: Price	To: Price	From: Benchmark Shares *	To: Benchmark Shares *	From: Benchmark Weight *	To: Benchmark Weight *	From: Country	To: Index Quantity	From: Shares To: outstanding	To: Country
SNP500	S&P 500 Index	AMERICAN WAT...	CHANGED	B2R3PV1	AWK	147.46	142.65	181,828,000	192,967,000	0.0783	0.0830	United States (US)	192,967,000	181,828,000	United States (US)
SNP500	S&P 500 Index	LINDE PLC	DELETED	B212VP8	LIN	323.50		494,380,000		0.4673		United States (US)		494,380,000	United States (US)
SNP500	S&P 500 Index	SIGNATURE BANK	DELETED	B00JQL9	SBNY	127.02		62,927,000		0.0234		United States (US)		62,927,000	United States (US)
SNP500	S&P 500 Index	SVB FINANCIAL ...	DELETED	2808053	SIVBQ	301.93		59,104,000		0.0521		United States (US)		59,104,000	United States (US)
SNP500	S&P 500 Index	BUNGE LTD	ADDED	2788713	BG		96.72		149,800,000		0.0437		149,800,000		United States (US)
SNP500	S&P 500 Index	INSULET CORP	ADDED	B1XGNW4	PODD		312.36		69,449,000		0.0654		69,449,000		United States (US)
SNP500	S&P 500 Index	LINDE PLC	ADDED	BNZH881	LIN		338.29		494,380,000		0.5041		494,380,000		United States (US)

Screenshots are for illustrative purposes only. References to specific companies are included solely to help illustrate the portfolio construction process and should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned

# Combining the power of Aladdin® technology with portfolio management expertise

**Portfolio Construction:** We have developed a proprietary system called ‘Portfolio Construction’ that combines together in one place all of the tools a Portfolio Manager would need to effectively and efficiently manage an index portfolio

## Portfolio Managers make thousands of investment decisions every year involving:

Investing/  
divesting  
based on client  
and participant  
instruction

Corporate  
actions  
effecting the  
portfolio assets

Equitization  
and reinvestment  
of dividend  
income

Determining the  
optimal level  
of optimization  
to balance  
risk and costs

Trading  
for periodic  
index  
changes

### Snapshot on: MSCI All Country World Index (ACWI)<sup>1</sup>

- **Constituents:** 2,687
- **Country representation:** 47 (developed and emerging)
- **Coverage:** ~85% of the global investable equity opportunity set
- **As an illustration, a portfolio with an ACWI benchmark will require over 3,900 action points<sup>2</sup> annually, including:**
  - Between 3,000 and 4,000 corporate actions annually
  - Quarterly index rebalances for 900+ index additions/deletions/migrations, IPO addition

*ALADDIN® Tools: Portfolio Construction*

<sup>1</sup> Source: MSCI as of 30 September 2024

<sup>2</sup> Based on MSCI index data as of 30 September 2024

# 'Portfolio Construction' using the power of Aladdin® technology

## Our Portfolio Construction application was built for managing risk in index funds:

- Brings together all index data, portfolio attributes, risk and transaction cost models and optimization tools
- By leveraging a tolerance and exceptions-based framework, portfolio managers are able to focus on the items that most influence portfolio returns
- Portal for trade approval and delivery of orders to our global trading teams

**PORTFOLIO CONSTRUCTION** **Aladdin**

File Options View Action History Format Help

03-APR-2023 - 10:16:57AM As Ordered and Traded w/Proposed - 1 pf 510 pos, 2 trd, 1 ord, 1 cf - 1 distinct bench 503 pos, no trd, no ord, no cf

Port Group [ ] Bench Primary Bench Level Portfolio Date T+1 Ccy USD Filter Issuer (family) LT

Round To 1.0 Trans Direction Min Trade Impact % Nav 0.01 Sell For Hedge Off Actions None ESG SC

Main Window DHV DHV 2.0 CDV Order View Adjustments & Projections Targets Country Country by Ccy Sector Size

**Benchmark Holdings Filtered View** 503 Items

Portfolio	SEDOL	ISIN	BB Ticker	Issuer	Name	Sec Group	Sec Type	MV Bench	%Exp B... (3dps)	%Exp Pf (3dps)	Exp Pf	New %Exp Pf (3dps)	New Nominated ID Active (3dps)	%Exp Active (3dps)	New %Exp Active (3dps)
INDEX1	2046251	US0378331005	AAPL US	APPLE INC	APPLE INC	EQUITY	EQUITY	USD 9,343,858,452	7.141%	7.141%	USD9,343,849,073	7.141%	-0.000%	-0.000%	-0.000%
INDEX1	2588173	US5949181045	MSFT US	MICROSOFT CORPORATION	MICROSOFT CORP	EQUITY	EQUITY	USD 8,176,311,247	6.249%	6.249%	USD8,175,825,820	6.249%	-0.000%	-0.000%	-0.000%
INDEX1	2000019	US0231351067	AMZN US	AMAZON.COM INC	AMAZON.COM INC	EQUITY	EQUITY	USD 3,508,351,747	2.681%	2.681%	USD3,508,348,227	2.681%	-0.000%	-0.000%	-0.000%
INDEX1	2379504	US6706661040	NVDA US	NVIDIA CORPORATION	NVIDIA CORP	EQUITY	EQUITY	USD 2,603,384,348	1.990%	1.990%	USD2,603,381,820	1.990%	-0.000%	-0.000%	-0.000%
INDEX1	BYVY8G0	US02079K3059	GOOGL US	ALPHABET INC	ALPHABET INC CLASS A A	EQUITY	EQUITY	USD 2,353,839,847	1.799%	1.799%	USD2,353,837,418	1.799%	-0.000%	-0.000%	-0.000%
INDEX1	B616C79	US88160R1014	TSLA US	TESLA INC	TESLA INC	EQUITY	EQUITY	USD 2,125,796,831	1.625%	1.625%	USD2,125,794,619	1.625%	-0.000%	-0.000%	-0.000%
INDEX1	2073390	US0846707026	BRK/B US	BERKSHIRE HATHAWAY INC	BERKSHIRE HATHAWAY INC CLASS B B	EQUITY	EQUITY	USD 2,119,533,754	1.620%	1.620%	USD2,119,531,537	1.620%	-0.000%	-0.000%	-0.000%
INDEX1	BYVY887	US02079K1079	GOOG US	ALPHABET INC	ALPHABET INC CLASS C C	EQUITY	EQUITY	USD 2,057,307,693	1.572%	1.572%	USD2,057,305,579	1.572%	-0.000%	-0.000%	-0.000%
INDEX1	B7TL820	US30303M1027	META US	META PLATFORMS INC	META PLATFORMS INC CLASS A A	EQUITY	EQUITY	USD 1,797,254,966	1.374%	1.374%	USD1,797,253,154	1.374%	-0.000%	-0.000%	-0.000%
INDEX1	2326618	US30231G1022	XOM US	EXXON MOBIL CORP	EXXON MOBIL CORP	EQUITY	EQUITY	USD 1,720,491,088	1.315%	1.315%	USD1,720,489,383	1.315%	-0.000%	-0.000%	-0.000%

**Non Benchmark Holdings Filtered View** 2 Items

Lo...	Portfolio	SEDOL	BB Ticker	Issuer	Name	Sec Group	Sec Type	Market	Ccy	Price	Price (USD)	Price As Of Date	Unscaled Qty Bench	MV Bench	%Exp Ben... (3dps)	%Exp Pf (3dps)	Exp Pf	New %Exp
INDEX1	2593025	IVV US	ISHARES S&P 500	ISHARES CORE S&P 500 ETF ETF-E	ISHARES CORE S&P 500 ETF ETF-E	EQUITY	EQUITY	US	USD	USD 411.08000	USD 411.08000	03/31/23	0	0	0.000%	0.000%	0	0
INDEX1			NONE	S&P500 EMINI JUN 23 ME 16-JUN-2023	S&P500 EMINI JUN 23 ME 16-JUN-2023	FUTURE	INDEX	US	USD	USD 4,137.75000	USD 4,137.75000	03/31/23	0	0	0.000%	0.414%	USD 541,217,700	

Screenshots are for illustrative purposes only. References to specific companies are included solely to help illustrate the portfolio construction process and should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned

# Efficient Trading:

## Adding value through core activities

### An Industry Leader

Tier 1 client to all major counterparties, giving us deep access to liquidity  
 Trader expertise across all major asset classes with ~\$95.6T of annual volume (\$5.7T equity notional)

### A Focus on Costs

Large and diverse client base results in a robust marketplace for potential netting of client flows  
 Trading footprint allows us to negotiate extremely competitive commission rates

### Research Driven

Comprehensive inventory of trading cost and performance metrics with >\$281T USD of trading history in >261M transaction records

## BlackRock's Global Coverage



**Color key**  
 Fixed Income  
 Equities  
 Foreign Exchange

One Order Management System platform: Aladdin® Dashboard  
 Regional hubs for each asset class with local market knowledge and sector expertise  
 Common technology enables us to pass the book with embedded business continuity plan

All data as of June 30, 2024; Figures show in USD; Source: BlackRock. Inclusive of internal crossing opportunities. BlackRock Execution Cost is the average difference between: the actual price achieved on the trade and the benchmark price. For Equity, BlackRock calculates Market Expected Cost using an average of multiple independent broker models. There is no guarantee that a positive investment outcome will be achieved. Subject to Change.



# Scalable Trading Platform

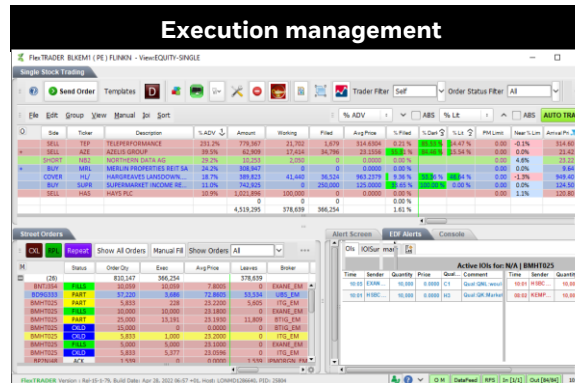
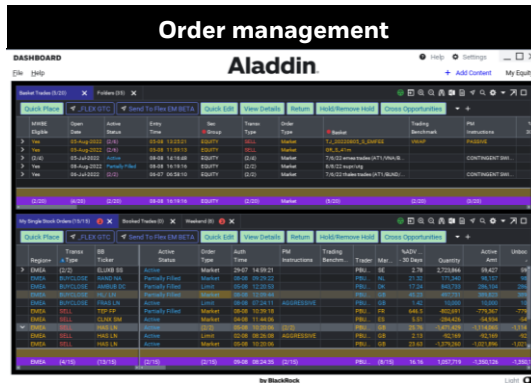
## Fully-integrated trading platform and risk analytics

- Active collaboration between portfolio managers and traders on execution strategy
- Close partnership with Global Trading Research team, focused on analysis of tactics and venues
- Straight-through processing of investments, from order entry to trade execution to settlement

### Portfolio Management

### Trading

### Investment Operations



### Execution tools and venues



Low Touch

High Touch

Screenshots are for illustrative purposes only

References to specific companies are included solely to help illustrate the trading platform and should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned

# Portfolio Risk Monitoring:

## A continual process

**Successful Index Portfolio Management requires a high level of data quality and higher degree of effective forecasting and risk management.**

- The trade-off between tracking error and transaction costs is more impactful in an index portfolio
- Rebalancing index funds requires quantitative sophistication to execute trades over multiple days while closely tracking an index whose performance does not account for trading costs

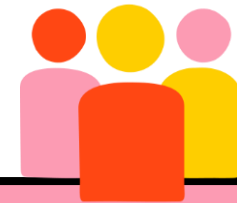
**Performance and oversight of portfolios occurs through:**



**Daily Portfolio  
Management review**



**Monthly Index Review  
Committee with  
senior management**



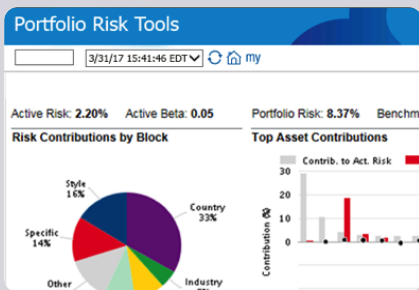
**Independent review from  
BlackRock's Risk and  
Quantitative Analysis  
Group (RQA)**

*ALADDIN® Tools: Portfolio Risk Tools, Green Package, Explore*

Source: BlackRock. Investment Process is shown for illustrative purposes only and is subject to change.

# RQA Tools & Process

1

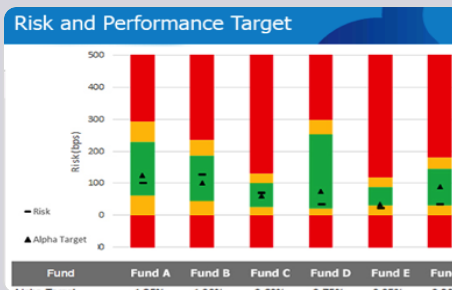


## Ex-Ante Risk Measurement

### Risk measurement tools

RQA seeks to provide accurate and appropriate risk measures for investment, liquidity and redemption risk

2



## Risk Management

### Appropriate levels of risk

RQA works with portfolio managers to achieve buy-in for risk and performance target and ensure risk taking is consistent with targets

3

Green Package

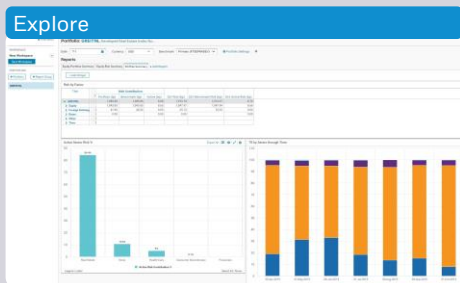
Portfolio Name	As Of Date	Benchmark	NAV US\$ (000)
Portfolio A	30-Mar-2017	JACIGNIG	79,098.00
Portfolio B	30-Mar-2017	NOBENHTWD	49,868.00
Portfolio C	30-Mar-2017	IBALXMXUS	18,123.00
Portfolio D	30-Mar-2017	JACI_XM	2,750,499.00
Portfolio E	30-Mar-2017	LEH_AGG	175,788.00
Portfolio F	30-Mar-2017	LEH_AGG	2,062,868.00
Portfolio G	30-Mar-2017	SMSLLIBOR	1,202,910.00

## Risk/Return Awareness

### Enhancing and assessing

Regular meetings between portfolio managers & RQA to ensure positioning is deliberate, diversified and scaled

4



## Performance Attribution

### Consistency and accuracy

RQA determines the degree of consistency between pre-trade analysis and actual performance

5

ADAM - Portfolio Master

Portfolio A

Ratings and Peer Rankings

Primary Share Class: Share Class - A Portfolio A

Morningstar Rating

Overall 3 Year

☆☆☆ ☆☆☆

Ranking Net of Fees

Vendor (Peer Group)	As Of Date	IM
Lipper (High Yield Funds)	2/28/2017	44 (314/713) 39
MorningStar	2/28/2017	44 (321/737) 40

## Performance Analysis

### Measure of success

RQA, portfolio managers and senior leaders review performance relative to the benchmark, peers and comparable accounts in formal Investment Review Committee Meeting

Screenshots are for illustrative purposes only. Subject to change without notice

# **Index Events**

# Highlights from recent index rebalances

## MSCI August 2024 rebalance highlights

BlackRock Global Markets Index Equity PM team generated orders totaling \$67 billion for the close of August 30th

- The overall trade size was about 65% larger than in August 2023.
- Fill rates were in line with historical averages, with >99% of the trade being completed on effective date. One-way turnover was approximately 1.6%.
- In MSCI Brazil, 5 of 6 new additions are foreign-listed securities. Brazil now meets MSCI's Foreign Listing Materiality Requirements which allows foreign-listed securities to be included in the index.

## Russell Reconstitution 2024 highlights

BlackRock Global Markets Index Equity PM team generated orders totaling \$124 billion for the close of June 28th

- The trade size was about 36% larger than in 2023 (\$91B), partly attributable to higher turnover driven by the migration of Super Micro Computer and MicroStrategy from Russell 2000 to Russell 1000.
- Approximately 51% of the trade activity was crossed.
- Russell 1000 observed 38 adds and 32 deletes, while the broader Russell 3000 observed a total of 223 adds and 144 deletes.
- The three largest names in Russell 1000 immediately post-reconstitution are Microsoft (6.3%), Apple (5.8%), and Nvidia (5.6%).

## FTSE/SPDJ/Morningstar September 2024 rebalance highlights

BlackRock Global Markets Index Equity PM team generated orders totaling \$107 billion for the close of September 20th

- Palantir Technologies (PLTR), Dell Technologies (DELL), and Erie Indemnity (ERIE) were added to the S&P 500, replacing American Airlines (AAL), Bio Rad Laboratories (BIO), and ETSY (ETSY).
- The companies known as the “Magnificent Seven” now make up 31% of the S&P 500 Index. These companies are Microsoft, Nvidia, Apple, Amazon, Meta, Alphabet, and Tesla.
- IT sector saw a 51 bps upweight in S&P 500, driven by the addition of Palantir (16 bps) and the upweight of Apple (34 bps).

## Other Index Provider Notes

- FTSE Russell has been seeking the market's views on a proposed methodology update regarding Russell Reconstitution. Potential changes include:
  - Adding a second Reconstitution in November
  - Widening the band between Russell 1000 and Russell 2000, from the current  $-/+ 2.5\%$  to  $-5\%/+2.5\%$
- Brazil was deemed eligible for the inclusion of foreign-listed securities by MSCI. 5 US-listed names were added in August.
- MSCI Sweden will see the inclusion of foreign-listings in Q4 2024.
- S&P's newly implemented Growth/Value capping methodology was triggered in June, but not in September. This led to increased turnover in September as the caps from June were removed.

Source: BlackRock, MSCI, FTSE Russell, Morningstar, and S&P Dow Jones as of September 2024. Past performance is not indicative of future results.

References to specific companies should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned.

Indexes are unmanaged and one cannot invest directly in an index.

# August 2024 MSCI Quarterly Comprehensive Index Review

BlackRock Global Markets Index Equity PM team generated orders totaling \$67 billion for the close of August 30th

- ▶ The overall trade size was about 65% larger than the trade in August 2023.
- ▶ Across the MSCI-benchmarked assets that BlackRock manages, one-way turnover was expected to be 1.6%.

## Highlights

- ▶ MSCI Brazil saw 5 US-listed adds at a total weight of 14%, with Nu Holdings being the largest at 11%. Brazil now meets MSCI's **Foreign Listing** Materiality Requirements, as MSCI has determined that foreign-listed securities account for a “material impact” on the country’s investable market.
- ▶ The largest changes to **ACWI** were the addition of Nu Holdings (+6 bps) and the downweight of Nvidia (-6 bps). Nvidia has performed stock buybacks throughout the year, resulting in a decrease in total shares outstanding.
- ▶ Flutter Entertainment (FLUT) was reclassified from UK to US after the company moved its primary listing to the US. Previously, FLUT made up 22 bps of the MSCI EAFE Index.
- ▶ Sweden met MSCI’s Foreign Listing Materiality Requirements in Q2 2024, and as a result, foreign-listings will become eligible for inclusion in MSCI Sweden starting in Q4 2024.

## MSCI index change details

Index	# Adds	# Deletes	Aug 2024 One-Way Turnover	Aug 2023 One-Way Turnover
<b>EAFE</b>	4	13	0.7%	0.7%
<b>EAFE Small Cap</b>	38	33	2.0%	3.1%
<b>EM</b>	24	75	2.0%	1.7%
<b>EM Small Cap</b>	86	54	3.6%	6.7%
<b>World</b>	5	24	0.6%	0.4%
<b>World Small Cap</b>	90	58	2.1%	3.3%
<b>ACWI</b>	29	99	0.8%	0.5%
<b>ACWI IMI</b>	169	175	0.7%	1.0%

Source: BlackRock, MSCI, FTSE Russell, Morningstar, and S&P Dow Jones as of August 2024. **Past performance is not indicative of future results.**  
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# Russell Reconstitution 2024

## BlackRock Global Markets Index Equity PM team generated orders totaling \$124 billion for the close of June 28th

- ▶ The overall trade size was about one-third larger than Russell Reconstitution 2023 (\$91B).
- ▶ Approximately 51% of the trade activity was crossed globally.
- ▶ Across the Russell-benchmarked assets that BlackRock manages, one-way turnover was 6.6%.

### Highlights

- ▶ The **largest additions** to Russell 1000 (R1000) were CRH PLC (**CRH**) at 11 bps, Dell Technologies (**DELL**) at 9 bps, Super Micro Computer (**SMCI**) at 9 bps, and MicroStrategy (**MSTR**) at 5 bps. CRH was reclassified from UK to US. DELL satisfied the Russell US Equity Indexes Methodology minimum voting rights requirement. SMCI and MSTR migrated from Russell 2000 (R2000).
- ▶ Higher **turnover** at Russell Recon 2024 versus 2023 was driven heavily by this year's size segment migrations, as SMCI was 1.68% of R2000 and MSTR was 0.95% of R2000. These were the two largest migrations from R2000 to R1000.
- ▶ Within the **Russell 1000 Growth** Index, a notable shift occurred in Technology. Weight changes were led by MSFT (+70 bps), NVDA (+62 bps), and AAPL (+58 bps). At rebalance, these three stocks now make up 34.75% of the index.
- ▶ **Concentration** at the top of the investable US equity market continues. While the total market cap of Russell 3000 was up 20% since Russell Recon 2023, the total market cap of the ten largest companies in Russell 3000 was up 41% over the same period.

### Index Changes

One-Way Turnover	2024	2023	2022
<b>Russell 1000</b>	1.3%	1.1%	1.7%
<b>Russell 2000</b>	10.2%	7.8%	9.7%
<b>Russell 3000</b>	1.1%	1.1%	1.7%

### ICB Industry Weight Changes (%) at Russell Reconstitution 2024

Industry	Russell 1000	Russell 1000 Growth	Russell 1000 Value
Basic Materials	-0.1	0.0	-0.5
Consumer Discretionary	0.1	-0.5	1.5
Consumer Staples	0.0	0.1	-0.4
Energy	0.0	-0.1	-0.5
Financials	-0.1	0.3	-1.9
Health Care	-0.2	-1.9	1.5
Industrials	0.1	-2.0	1.8
Real Estate	0.0	-0.3	0.0
Technology	0.2	4.4	-0.8
Telecommunications	0.0	-0.2	-0.1
Utilities	0.0	0.2	-0.6

Industry	Russell 2000	Russell 2000 Growth	Russell 2000 Value
Basic Materials	0.3	0.9	-0.3
Consumer Discretionary	-0.6	-1.4	0.2
Consumer Staples	-0.3	-0.6	0.0
Energy	-0.4	-0.2	-0.6
Financials	1.1	1.9	0.5
Health Care	2.1	3.4	0.6
Industrials	-0.2	1.9	-2.4
Real Estate	0.4	0.0	0.9
Technology	-2.9	-4.8	-1.0
Telecommunications	0.2	-0.3	0.7
Utilities	0.3	-0.8	1.4

Weight change = (Industry weight at the close of June 28, 2024) - (Industry weight at the close of June 27, 2024)

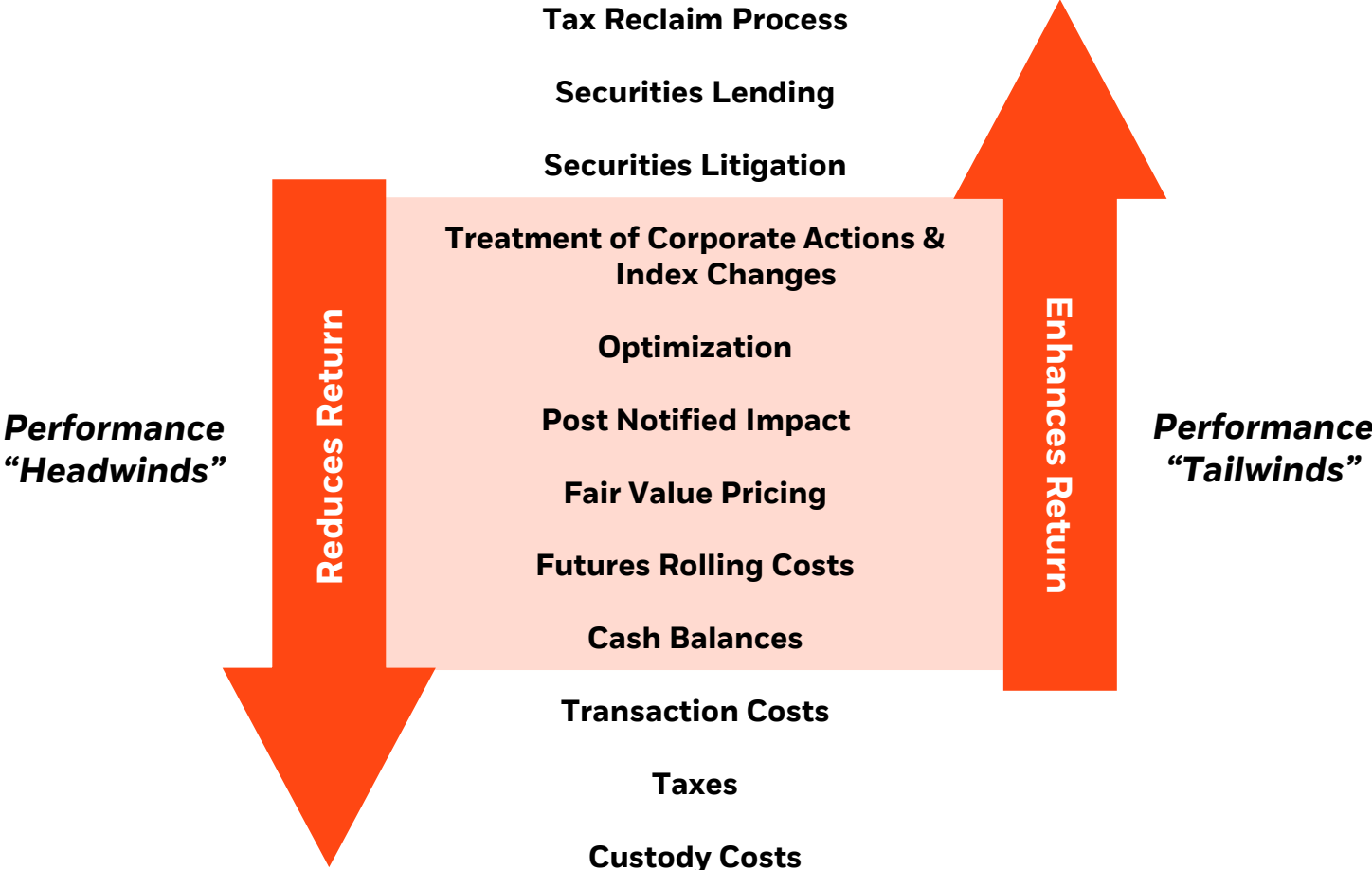
Source: BlackRock, Barclays, Instinet, Bank of America, and FTSE Russell as of June 2024. **Past performance is not indicative of future results.** It is not possible to invest directly in an index. References to specific companies should not be construed as a recommendation to buy or sell any securities. Actual BlackRock portfolios may or may not currently hold positions in the securities mentioned. Industry Classification Benchmark (ICB) is a comprehensive and rules based, transparent classification methodology based on research and market trends designed to support investment solutions.

# Performance Attribution



# Major sources of tracking error:

## Global & domestic index funds



# Wisconsin Deferred Compensation Plan

## Index Equity Attribution Summary

As of 30 September 2024

Fund	1-Year Performance (%)			Attribution (%)						
	Portfolio	Benchmark	Tracking Difference	Futures Mistracking and Cash Drag	Security Misweights	Tax Advantage	Securities Lending	Fair Value Pricing	Other*	Total
Russell 2000 Index Fund M	26.88	26.76	0.12	-0.01	0.02	0.00	0.16	0.00	-0.05	0.12
Mid Cap Equity Index Fund F	26.81	26.79	0.02	0.00	-0.05	0.00	0.06	0.00	0.01	0.02
EAFE Equity Index Fund F	25.49	24.77	0.72	-0.01	-0.03	0.49	0.01	0.32	-0.06	0.72

### Comments on Variance:

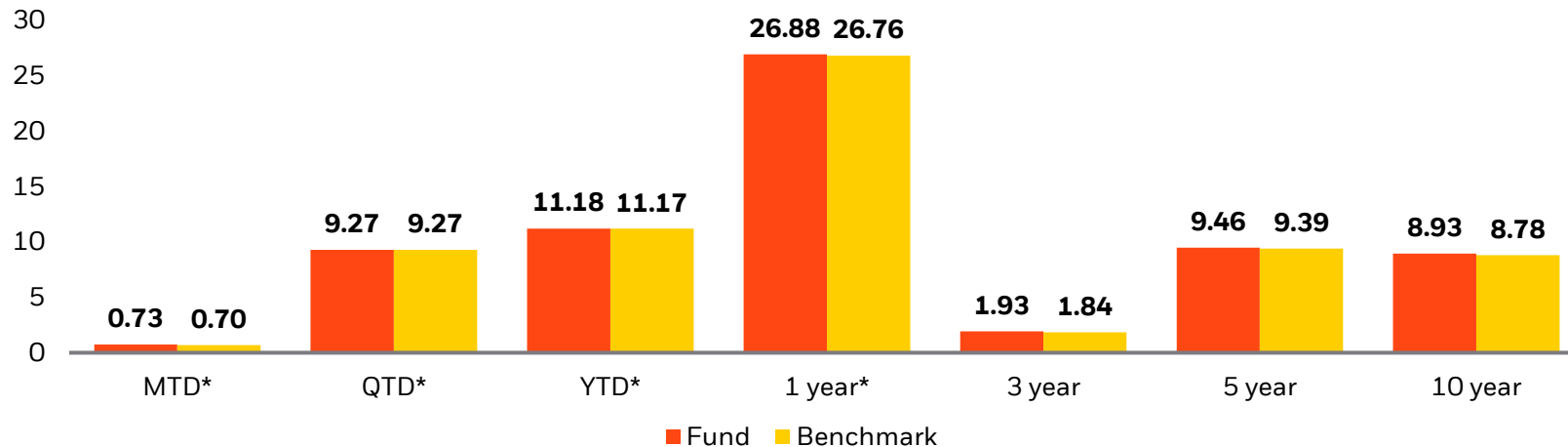
Tracking difference may not equal the performance attribution total due to rounding reasons.

Performance figures as of period end. Past performance is not necessarily indicative of future performance.

\*Other includes: Management and administrative fees, transaction costs and FX.

# Russell 2000<sup>®</sup> Index Fund M Performance

## Net total return in USD (annualized\* %)



	MTD* %	QTD* %	YTD* %	1-yr* %	3-yr %	5-yr %	10-yr %
<b>Tracking difference (Net vs. Benchmark)</b>	0.03	0.00	0.01	0.12	0.09	0.07	0.15

\* Period returns for less than a year are cumulative

Fund inception date 20 March 2012

This information is unaudited, subject to change and intended for analytical purposes only. The Fund's net asset value includes an accrual for the investment management fee and an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did not include an accrual for the investment management fee, the Fund's returns would be higher. **Past performance is not necessarily an indicator of future performance.** Indexes are unmanaged. It is not possible to invest directly in an index.

Sources: BlackRock, FTSE Russell

# Russell 2000® Index Fund

## Characteristics

### Fund information

Benchmark	Russell 2000® Index
Total fund assets	\$18.15B
Number of issues in fund	1,987
Number of issues in benchmark	1,977

### Top 10 holdings

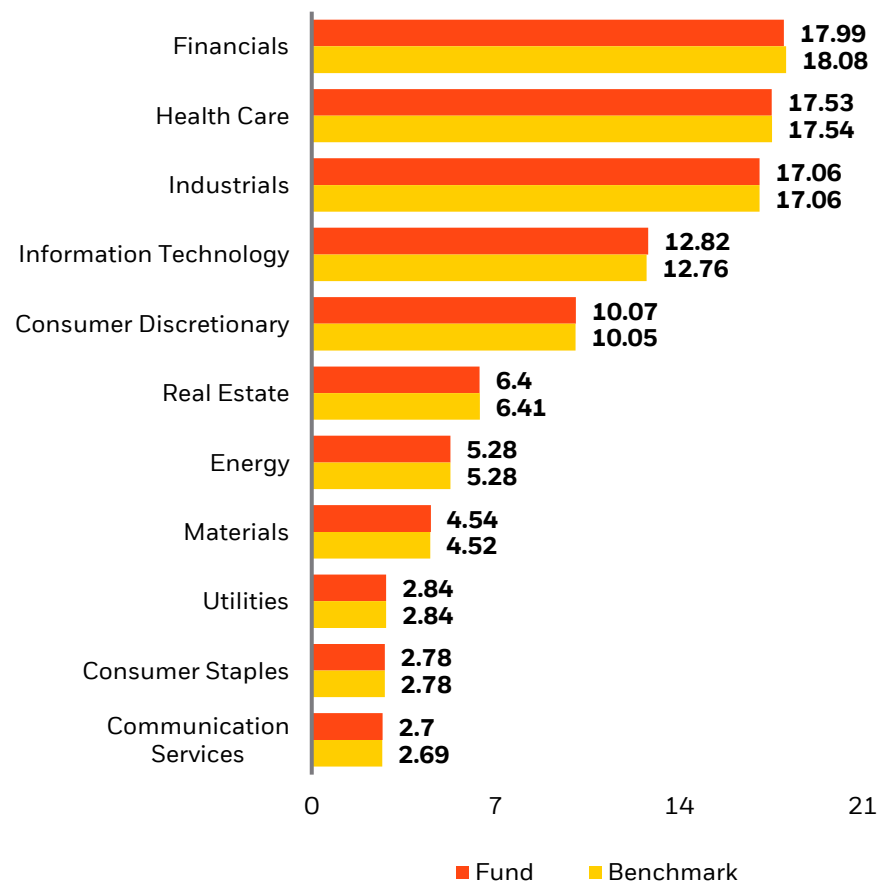
	Fund %	Index %
VAXCYTE INC	0.51	0.51
FTAI AVIATION LTD	0.51	0.50
INSMED INC	0.43	0.43
SPROUTS FARMERS MARKET IN	0.42	0.42
FABRINET	0.32	0.32
APPLIED INDUSTRIAL TECHNO	0.32	0.32
MUELLER INDUSTRIES INC	0.31	0.31
FLUOR CORP	0.31	0.30
UFP INDUSTRIES INC	0.30	0.30
ENSIGN GROUP INC	0.30	0.30

Fund inception date 30 June 1997

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100 percent due to rounding, exclusion of cash, STIF and statistically immaterial factors. Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

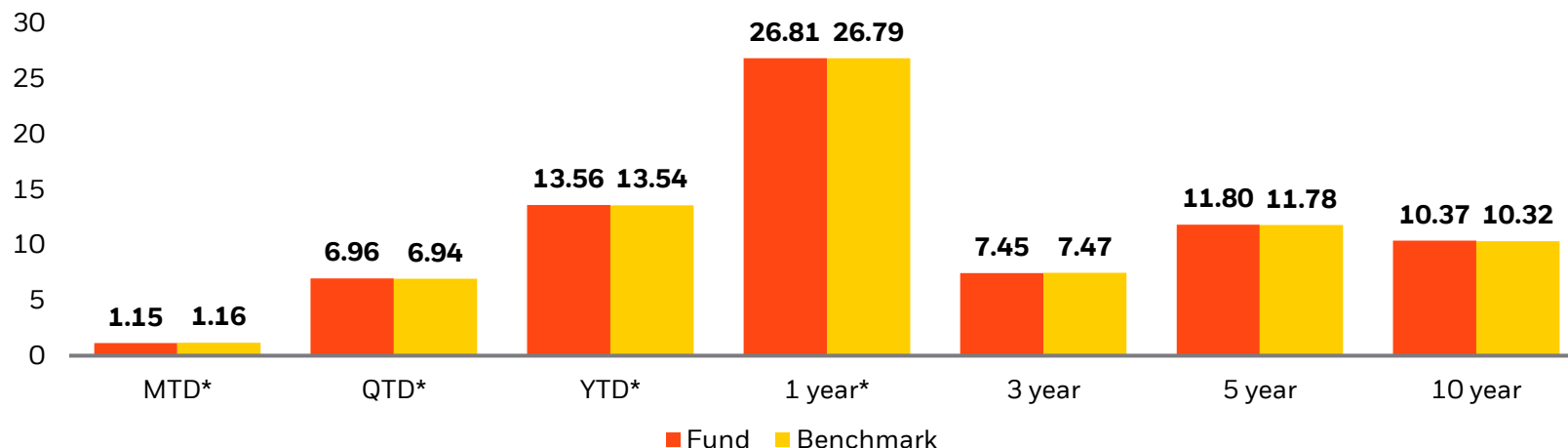
Sources: BlackRock, FTSE Russell

### Sector diversification



# Mid Capitalization Equity Index Fund F Performance

## Gross total return in USD (annualized\* %)



	MTD* %	QTD* %	YTD* %	1-yr* %	3-yr %	5-yr %	10-yr %
<b>Tracking difference (Gross vs. Benchmark)</b>	-0.01	0.02	0.02	0.02	-0.02	0.02	0.05

\* Period returns for less than a year are cumulative

Fund inception date 16 June 1997

This information is unaudited, subject to change and intended for analytical purposes only. The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Indexes are unmanaged. It is not possible to invest directly in an index.

Sources: BlackRock, S&P Dow Jones Indices LLC

# Mid Capitalization Equity Index Fund Characteristics

## Fund information

Benchmark	S&P MidCap 400 <sup>®</sup> Index
Total fund assets	\$10.79B
Number of issues in fund	401
Number of issues in benchmark	401

## Top 10 holdings

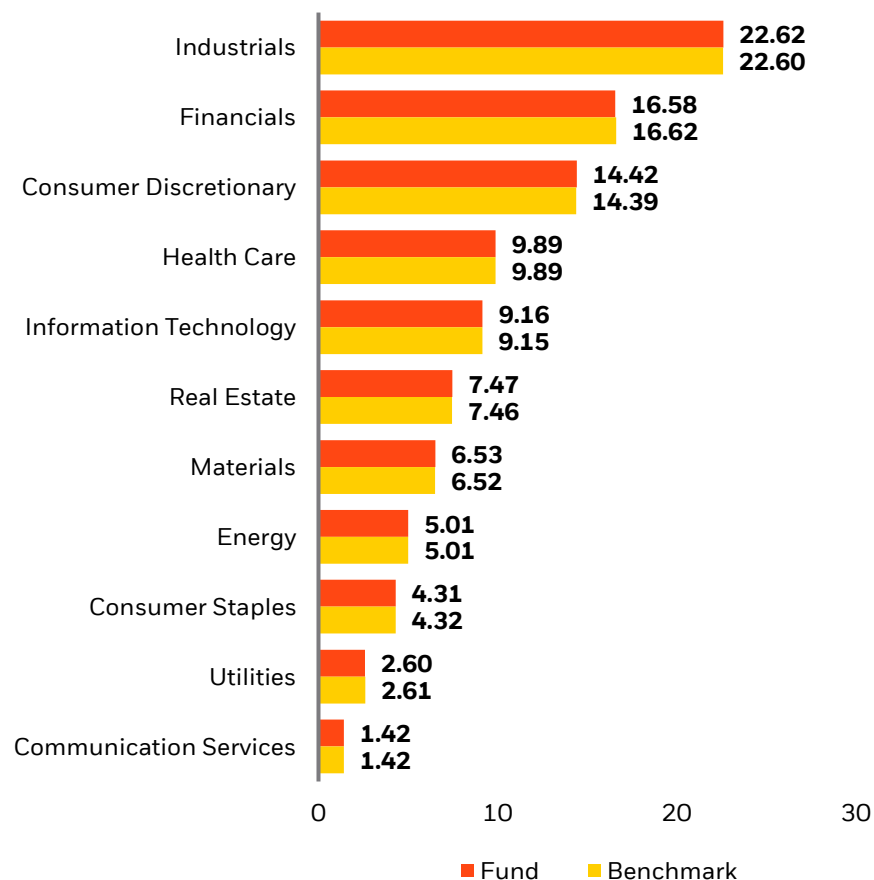
	Fund %	Index %
CARLISLE COMPANIES INC	0.72	0.71
ILLUMINA INC	0.72	0.71
EMCOR GROUP INC	0.69	0.69
WILLIAMS SONOMA INC	0.68	0.68
LENNOX INTERNATIONAL INC	0.67	0.67
AVANTOR INC	0.61	0.60
MANHATTAN ASSOCIATES INC	0.60	0.59
CHESAPEAKE ENERGY CORP	0.59	0.58
TEXAS PACIFIC LAND CORP	0.57	0.57
WATSCO INC	0.57	0.59

Fund inception date 18 November 1999

Data is used for analytical purposes only. Index data may differ to those published by the Index due to calculation methods. Breakdowns may not sum to 100 percent due to rounding, exclusion of cash, STIF and statistically immaterial factors. Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

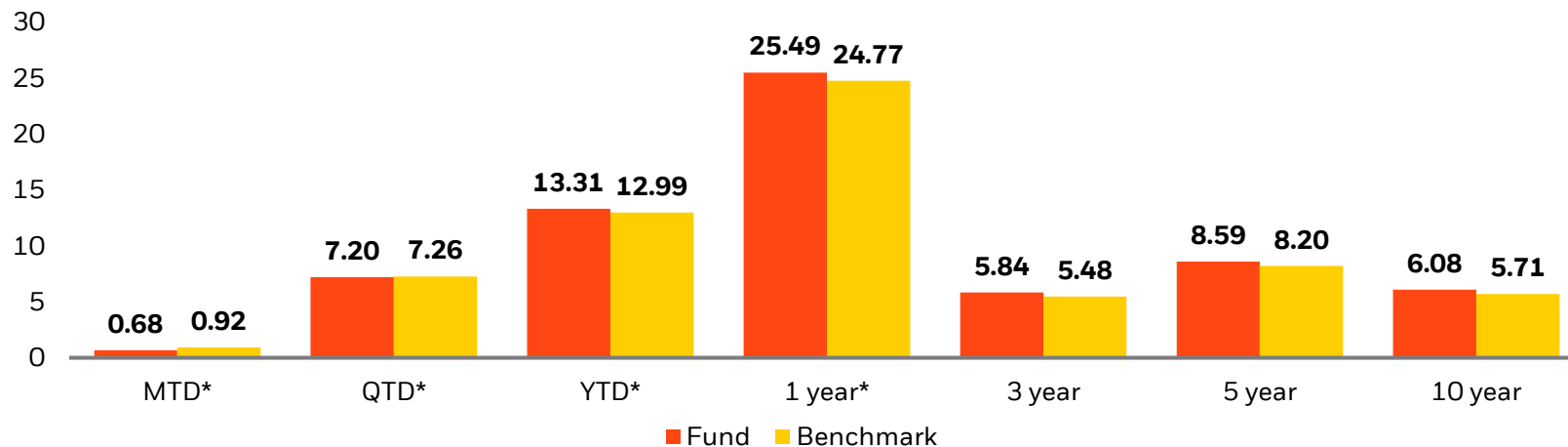
Sources: BlackRock, S&P Dow Jones Indices LLC

## Sector diversification



# EAFE Equity Index Fund F Performance

## Gross total return in USD (annualized\* %)



	MTD* %	QTD* %	YTD* %	1-yr* %	3-yr %	5-yr %	10-yr %
<b>Tracking difference (Gross vs. Benchmark)</b>	-0.24	-0.06	0.32	0.72	0.36	0.39	0.37

\* Period returns for less than a year are cumulative

Fund inception date 1 May 2000

This information is unaudited, subject to change and intended for analytical purposes only. The Fund's net asset value does not include an accrual for the investment management fee but does include an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did include an accrual for the investment management fee, the Fund's returns would be lower. **Past performance is not necessarily an indicator of future performance.** Indexes are unmanaged. It is not possible to invest directly in an index.

Sources: BlackRock, MSCI Inc.

# EAFE Equity Index Fund

## Characteristics

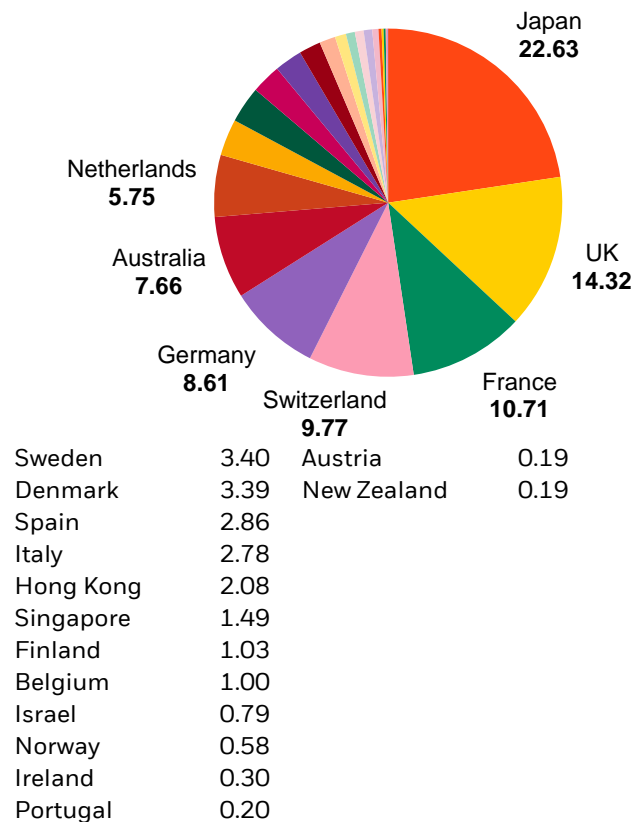
### Fund information

Benchmark	MSCI EAFE Net Dividend Return Index
Total fund value	\$40.96B
Number of issues in fund	733
Number of issues in benchmark	732

### Top 10 holdings

	Country	Weight (%)
NOVO NORDISK CLASS B	Denmark	2.18
ASML HOLDING NV	Netherlands	1.93
NESTLE SA	Switzerland	1.40
ASTRAZENECA PLC	UK	1.39
SAP	Germany	1.30
LVMH	France	1.22
NOVARTIS AG	Switzerland	1.21
ROCHE HOLDING PAR AG	Switzerland	1.20
SHELL PLC	UK	1.18
TOYOTA MOTOR CORP	Japan	1.05

### Country allocation (%)



Fund inception date 31 December 1985

Data is used for analytical purposes only. Breakdowns may not sum to 100 percent due to rounding, exclusion of cash, STIF and statistically immaterial factors. Portfolio holdings are subject to change and are not intended as a recommendation of individual securities.

Sources: BlackRock, MSCI Inc.



# Wisconsin Deferred Compensation Plan

## Index Fixed Income Attribution Summary

As of 30 September 2024

Fund	1-Year Performance (%)			Attribution (%)							
	Portfolio	Benchmark	Tracking Difference	Transaction Cost	Security Selection (Sampling)	Yield / Curve Duration	Securities Lending	Interest/Misc. Income	Pricing Difference	Other *	Total
U.S. Debt Index Fund M	11.58	11.57	0.01	-0.02	0.02	0.00	0.03	0.00	0.00	-0.02	0.01

**Comments on Variance:**

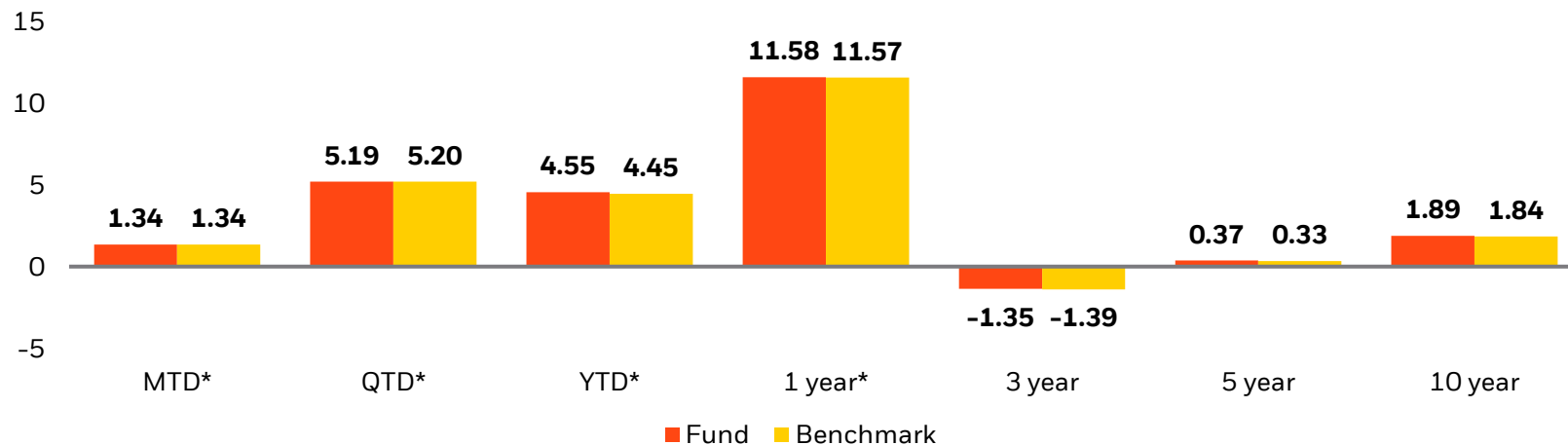
Tracking difference may not equal the performance attribution total due to rounding reasons.

Performance figures as of period end. Past performance is not necessarily indicative of future performance.

\*Other includes: Fees, Transaction Costs, Pricing Differences, Allocation Effect, Interest, Currency Impact, FVP, and DC effects.

# U.S. Debt Index Fund M Performance

## Net total return in USD (annualized\* %)



	MTD* %	QTD* %	YTD* %	1-yr* %	3-yr %	5-yr %	10-yr %
<b>Tracking difference (Net vs. Benchmark)</b>	0.00	-0.01	0.10	0.01	0.04	0.04	0.05

\* Period returns for less than a year are cumulative

Fund inception date 20 July 2012

This information is unaudited, subject to change and intended for analytical purposes only. The Fund's net asset value includes an accrual for the investment management fee and an accrual for fund level administrative costs and, if applicable, certain third party acquired fund fees and expenses. If the Fund's net asset value did not include an accrual for the investment management fee, the Fund's returns would be higher. **Past performance is not necessarily an indicator of future performance.** Indexes are unmanaged. It is not possible to invest directly in an index.

Sources: BlackRock, Bloomberg Finance L.P.

# U.S. Debt Index Fund

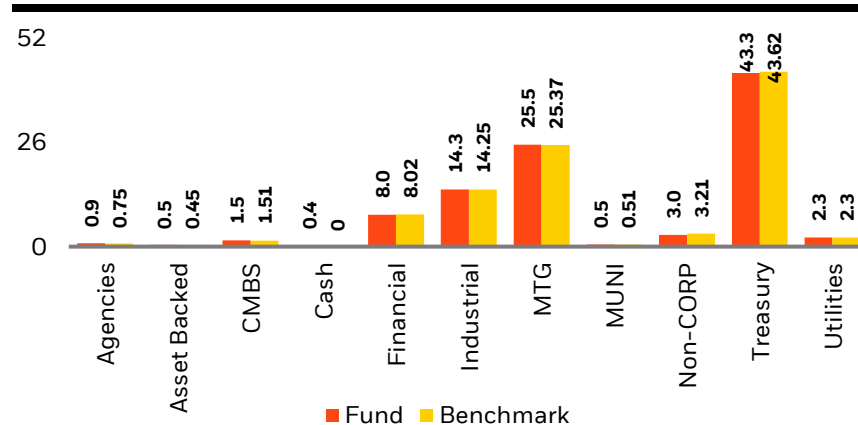
## Portfolio profile

	U.S. Debt Index Fund	Bloomberg U.S. Aggregate Bond Index
Market value	\$8.23B	\$28,918.40B
# Issues	11,696	13,702
<b>Characteristics</b>		
Coupon (%)	3.35	3.37
Yield to maturity (YTM) (%)	4.25	4.24
Weighted avg life (yrs)	8.29	8.31
Effective duration (yrs)	5.97	5.97
Spread duration	3.44	3.42
Option adjusted spread (bps)	34	34
Convexity	0.53	0.53
<b>Weighted average life breakdown (mkt value %)</b>		
<1	0.98	0.20
1-2	11.15	11.75
2-3	11.66	11.78
3-5	20.16	19.78
5-7	12.25	13.47
7-10	25.51	24.41
10-20	7.49	7.49
20-30	9.96	9.96
30+	0.87	0.87

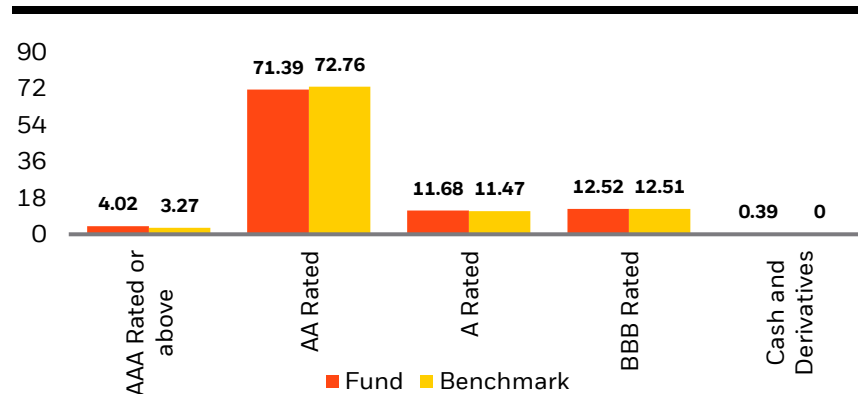
Fund inception date 30 June 1986

Data is for analytical purposes only. Index data points may differ to those published by the Index due to different calculation criteria. The credit quality of a particular security or group of securities may be based upon a rating from a nationally recognized statistical rating organization or, if unrated by a ratings organization, assigned an internal rating by BlackRock, neither of which ensures the stability or safety of an overall portfolio. Breakdowns may not sum to total due to rounding, exclusion of cash, STIF, and statistically immaterial factors. Sources: BlackRock, Bloomberg Finance L.P.

### Sector allocation by Market Value (%)



### Credit Quality by Market Value (%)



# Appendix

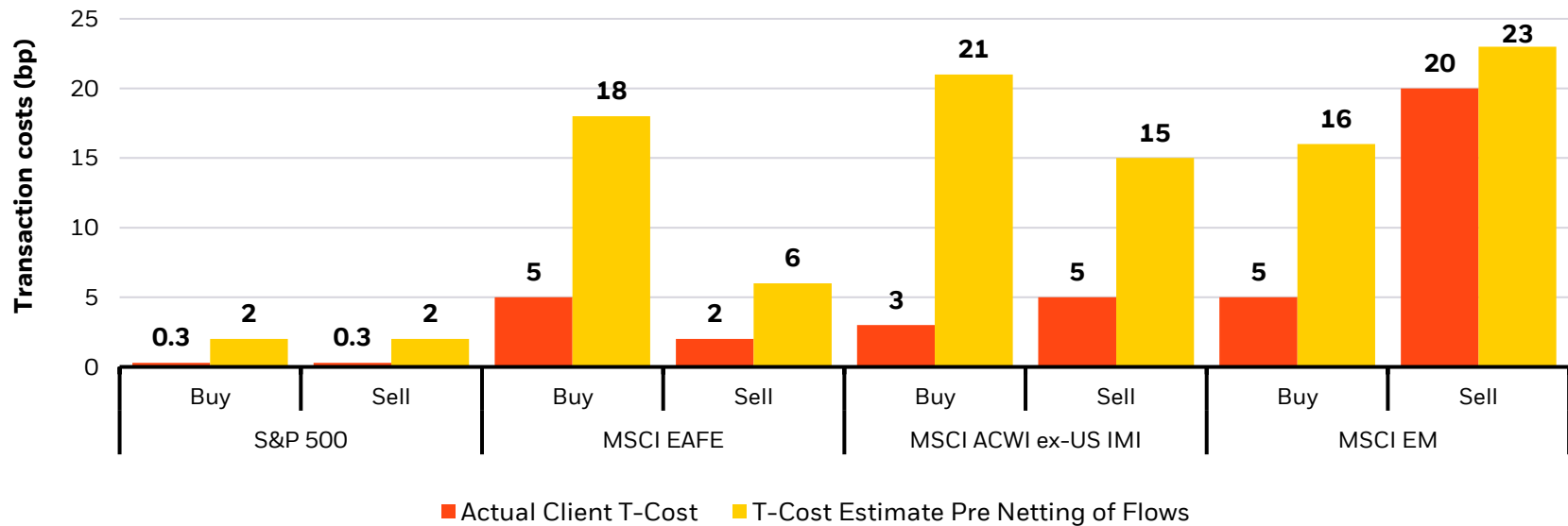
# BlackRock's scale can help drive lower costs

The scale of BlackRock's index platform can help **lower transaction costs** in the following ways:

- The size of our trading footprint allows us to negotiate low commission rates
- The diversity of our client base, coupled with the range of indices we manage assets against, facilitates one of the industry's largest internal marketplace for potential netting of client flows
- Large seasoned funds may require less market trading for flows relative to small asset pools

## BlackRock transaction costs vs. ex-ante estimates<sup>1</sup>

Average client cost in 2022, as of Dec 31, 2022



<sup>1</sup> Estimated transaction costs includes commissions and taxes based on BlackRock's current standard negotiated rates  
 Source: BlackRock. BlackRock Flagship Index Funds shown  
 Historical transaction costs are not indicative of future results

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# Important Notes (cont'd)

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