# State of Wisconsin Deferred Compensation

March 7<sup>th</sup>, 2019

**BLACKROCK**°

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I. Relationship Summary

### **Relationship Summary**

State of Wisconsin Deferred Compensation Plan	Assets Under Management \$
EAFE Equity Index Fund T	153,106,925
MidCap Equity Index Fund F	180,834,478
Russell 2000 Index Fund T	68,393,739
U.S. Debt Index W	183,216,152
Total State of Wisconsin Deferred Compensation BlackRock Assets	585,551,381

As of 31 December 2018

II. BlackRock Update

### **BlackRock at a Glance**

#### **BlackRock Mission Statement**

Create a better financial future for our clients by building the most respected investment and risk manager in the world



#### \$5.97 trillion managed across asset classes



As of 31 December 2018. All figures are represented in USD.

### **BLACKROCK**<sup>®</sup>

#### Mission: Help people retire with dignity

#### **BUSINESS HIGHLIGHTS**

- We serve 60K+ DC plans, reaching 15M participants
- Largest DC investment-only provider focused solely on acting as a fiduciary to our clients; second largest DC provider by AUM
- Over 100 dedicated professionals, across the US and Canada to partner with plan sponsors
- DC capabilities extend across asset classes and management styles; active, index and alternatives
- Over 50% of the Fortune 100 entrust BlackRock DC to manage their assets
- Pioneered Index (1971) and Lifecycle (1993) investing
- Engaged by governments and organizations globally as a thought leader on retirement policy, target date investing and longevity issues

#### **COMPREHENSIVE INVESTMENT SOLUTIONS**

Robust research drives development of solutions that can be assembled to meet needs across the DC investment menu



Data as of 31 December 2018 AUM in USD

#### **BLACKROCK'S FOCUS**



The world's biggest economies are sitting on a \$70T pension time bomb that will balloon to more than \$400 trillion within four decades



Economic Policy Institute

#### "I'm 70, and I'm working for less money than I ever did in my life."

- NY Times feature on Bankruptcy Boom Among Older Americans

Nearly half of American families have no retirement

savings

#### **Lack of Access**

 More than one-third of Americans lack access to an employer-sponsored plan<sup>1</sup> – even higher for those working for small businesses<sup>2</sup>

#### Lack of Participation

 31% of those whose employers offer retirement benefits do not participate<sup>1</sup>

#### Lack of Savings

 Many Americans are not saving enough to fund a secure retirement

1. Refers to private sector workers. Pew Charitable Trusts, *Employer-Sponsored Retirement Plan Access, Uptake and Savings*, 2016 | 2. Only one-third of individuals employed by businesses with less than 50 employees had access to an employer-sponsored plan in 2012. GAO, *Report to Congress, The Nation's Retirement System: A Comprehensive Re-evaluation Is Needed to Better Promote Future Retirement Security*, 2017 | 3. U.S. Bureau of Labor Statistics, *Employee Benefits in the United States*, 2017

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**III.** Index Review

Index Platform Overview

### BlackRock: Partnering with you to help meet your indexing needs



 A comprehensive set of strategies and services – from portfolio construction and risk analytics to access to industry leaders
 Cost effective and transparent pricing

Client Focus

We are a fiduciary – we act in your best interests

 Committed to offering seamless & efficient client service

Client Focus

We partner with investors of all sizes to help build better, more cost efficient index portfolios



- We aim to deliver market exposure that is transparent, investable, and rules-based
- We are at the forefront of index innovation, allowing investors to execute market views and access targeted corners of the globe
- We use technology to continuously redefine indexing



Performance

- We seek to achieve precise and consistent exposures
- Long track record in securities lending to help enhance returns
- Proprietary risk management platform we believe rigorous risk analysis is critical to the delivery of superior indexing



- Trusted to manage over \$4.1 trillion<sup>1</sup> in index assets globally
- Pooled, segregated and exchange traded vehicles
- Supported by Aladdin® technology

Expertise



Client needs are different – index customization allows us to address your indexing requirements **in the wrapper you prefer** 

Customization

<sup>1</sup> Source: BlackRock, as of 31 December 2018

### **BLACKROCK**<sup>®</sup>

### BlackRock's global index investment platform

### With \$4.1 trillion in indexed assets BlackRock is a global leader in index investing

- Seek to deliver consistent performance with efficient outcomes for our clients
- Provide clients with access to a broad range of market opportunities

### Extensive and flexible platform for index strategies

- Over 2,500 funds managed against 850+ benchmarks
- Investment teams in San Francisco, London, Hong Kong, and Tokyo



#### Total indexed assets of \$4.1 trillion



### Distribution by asset class %

#### Source: BlackRock as of 31 December 2018

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# BlackRock's scale and internal network for netting client flows facilitates the potential to significantly lower transaction costs



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

Average client cost in 2018, as of Dec 31, 2018

Actual Client T-Cost T-Cost Estimate Pre Netting of Flows

### The scale of BlackRock's CTFs and global trading footprint resulted in reduced T costs:

- On average, we have netted internally approximately 40 50% of client flows
- · Market trades reflect the industry's most competitive commission rates

Source: BlackRock. BlackRock Flagship Index Funds shown.

1 Estimated transaction costs includes commissions and taxes based on BlackRock's current standard negotiated rates

Netting of client flows is not guaranteed, and may depend on several other factors, including but not limited to, client flows and external trading markets. Historical transaction costs are not indicative of future results.

### 47 years of experience driving index forward

#### We constantly reinvest in and reinvent our business so our clients have access to high quality index solutions

- Drive the industry forward through our ability to create specialized, innovative investments afforded by our scale and depth of expertise
- Forge new ground for clients first manager to offer opportunities in equity index developed and emerging markets
- Evolve capabilities to continuously deliver on emerging trends smart beta, global benchmarking, liquidity/completion strategies
- Serve as an index advocate on behalf of clients and as a key partner to index providers seeking our practitioner knowledge

#### 47 years of Index Equity — Continual evolution of products, technology and capabilities



### **Americas Equity Index Team**

#### ETF and Index Investments Business

Investments Pillar Leadership

#### Manish Mehta

Global Head of Investments, Products, and Markets

		Americas Portfo	lio Management			Global Research	Global Strategy	
		Alan N Head of Amer Manag	icas Portfolio			Ananth Madhavan Global Head of ETF and Index Investment Research	Jessica Irschick Global Head of Index Product Strategy	
	Portfolio Management						Strategy	
Developed Markets	Emerging	U.S. & Canada ETF	Index Asset Allocation	Index Plus	Index Research	Investment Research	Global Strategy	
Rachel Aguirre Head of Developed Markets Portfolio Management	Jennifer Hsui, CFA Head of Emerging Markets Portfolio Management	Amy Whitelaw Head of U.S. & Canada ETF Portfolio Management	Greg Savage, CFA Head of Index Asset Allocation	Creighton Jue, CFA Global Head of Index Plus Portfolio Management	Stephanie Allen Global Head of Index Research	+ 30 Research Officers	Americas Scott Dohemann, CFA Head of U.S.	
U.S. Inst'l	International Emerging Inst'l	U.S. ETF	Defined Benefit & Defined Contribution	Index Plus	Index Research		Product Strategy Timothy Murray, CFA Emily Foote, CFA	
+ 5 Portfolio Managers	+ 6 Portfolio Managers	+ 6 Portfolio Managers	+ 6 Portfolio Managers	+ 4 Portfolio Managers	+ 9 Index Researchers		Christian De Leon Valerie Wong Jacqueline Ramkumar	
International Developed Inst'l	International Emerging ETF	Canada ETF		FX / Synthetics			Kevin Kim Niyati Mohan Grace Lancaster	
+ 7 Portfolio Managers	+ 5 Portfolio Managers	+ 4 Portfolio Managers						EMEA
International Developed ETF + 5 Portfolio Managers							Andrew Graver* Head of EMEA Index Strategy Rita Gemelou* Norbert van Veldhuizen* Caroline Hertrich* Dovile Silenskyte* Enrico Zamagna* Emilie Karlsson*	
						APAC		
of 31 December 2 ocated outside of t							Jonathan Howie* Head of APAC Index Strategy Marina Hinterhaeuser* Priya Anoop* Wirawan Tiojaya*	

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### **Americas Fixed Income Index Team**

			Americas	s Fixed Incom	e				
		Portfolio Man				Research	Strategy		
		Core P	М			Global Research	Americas		
		Scott Rade Head of San Franciso				Research Group	Robert Stanley Head of US		
Multi-S	Sector/Other	Cred	lit		ortgages / g Markets	Johnny Kang Co- Head of Systematic	Product Strategy Matt Tucker		
<b>Scott Radell</b> Head of San Francisco Core PM	<b>Karen Uyehara</b> Sr. Portfolio Manager Multi-Sector	<b>Jonathan Graves</b> Sr. Portfolio Manager Corporate Credit	David Dulski Portfolio Manager Corporate Credit	Jay Mauro Deputy Head of SF Core PM	Mark Buell Portfolio Manager US Government Bonds	Fixed Income Research Research	Gordon Readey Kathryn Donovan		
<b>Jasmita Mohan</b> Portfolio Manager Multi-Sector	<b>Joseph Maciunas</b> Portfolio Manager Multi-Sector	Elya Schwartzman Sr. Portfolio Manager Corporate Credit	Giulia Cerardi Portfolio Manager Corporate Credit	Marcus Tom Portfolio Manager Agency Mortgage		+ 9 Index researchers	Laura May Chandler Grinnell		
<b>Joel Silva</b> Sr. Portfolio Manager Munis / Canada /	<b>Jermaine Pierre</b> Portfolio Manager Canada	Karishma Kaul Portfolio Manger Corporate Credit	<b>Jesse Kang</b> Portfolio Manager Corporate Credit	Wes George Portfolio Manager Agency Mortgages	Yang He				
ESG Rena Patel Portfolio Manager	<b>Lip Tong</b> Portfolio Manager Canada	Cynthia Fan Portfolio Manager Corporate Credit	Allen Kwong Portfolio Manager Corporate Credit	<b>Emily Freeman</b> Portfolio Manager Emerging Markets	<b>Gabe Shipley</b> Portfolio Manager Emerging Markets				
Municipals Kent Yamane Portfolio Manager Securitized Credit	<b>Tao Chen</b> Portfolio Manager Municipals	Nicolas Giometti Portfolio Manager Corporate Credit / ESG Sam Dreyfuss Portfolio Manager	Danny Ng Portfolio Manager Corporate Credit						
Clay Armistead Portfolio Manager Securitized Credit		Corporate Credit							

As of December 31, 2018

# BlackRock Index Investments Philosophy and Process

### An approach that seeks to deliver efficient investment outcomes



### Index investment management cycle – dedicated expertise and resources

#### **Performance & Oversight**

- Review cumulative effect of investment decisions to help identify factors contributing to/subtracting from portfolio performance
- Risk & Quantitative Analysis Team (RQA) monitors dozens of risk factors globally on a continuous basis

### **Efficient Trading**

- Building smart trading strategies designed to access optimal liquidity
- Industry's largest internal market place for potential netting of client flows
- Focused trading research and systems

### **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

### **Portfolio Construction**

- Significant investment in technology
- Market leading portfolio and risk tools provided by our Aladdin® platform
- Integrated cost and liquidity analysis
- Knowledge of optimisation challenges

### Index investment management cycle Benchmark knowledge

Ell Strategies has a dedicated Index Research team

Index equity benchmark management The Index Research Group communicates directly with index vendors on various levels

- Daily index loads to provide a clean fund snapshot
- Project daily changes and rebalances
- Field all equity index data requests across the firm

## Global coverage model

Based out of London and San Francisco, with daily reconciliations and handovers

> 9 index analysts (5 US, 4 UK) and 1 global head

# Index methodology expertise

Use knowledge of benchmarks to assist with daily portfolio management, predictions, and consultations.

- Benchmark expertise for index portfolio management
- Seek to predict index changes before announcement
- Lead consultations with index providers to drive methodology improvements

### Index Research based portfolio design in action

### BlackRock's modular fund design leverages scale and facilitates crossing opportunities



Source: Barclays as March 31, 2018 Funds are BlackRock CTFs

### Index investment management cycle Portfolio construction

Over 160+ Investment professionals dedicated to overseeing 2,000 Funds managed against 850+ benchmarks. Thousands of investment decisions made every year around:

- · Optimizing versus full replication
- Equitizing cash
- Trading around periodic index changes
- Corporate action elections
- · Investing / divesting based on client and participant instruction

BlackRock's propriety portfolio management applications, Portfolio Construction and Index Pro, provide a seamless platform, where by every step of the investment process is handled electronically from the time a client order is placed to the time any required trades go out to market

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+ E Cash & Cash Equivale	405,722,616	0.0000%	0.8819%	0.8807%	0.8819%	0.8807%	0.8819%	0.8807
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A Materials     A Industrials     A Industrials     A Consumer Discretionary	443,266 20,383,284 -82,216,601	10.6020% 12.6975%	10.6030% 12.7417%	10.6030% 12.7417%	0.0010%	0.0010%	0 Russell : 10 Russell :	1000 Defenisve Index in EUR 1000 CUSTOM Index 1000 Growth Index
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A Materials     A Industrials     A Industrials     Consumer Discretionary     A Health Care     A Health Care     A Prancials	443,266 20,363,284 -62,216,607 2,395,562 180,531,528 8,434,295	10.6020% 12.6979% 9.5689% 14.1285% 17.0458% 19.5060%	10.6030% 12.7417% 9.4555% 14.1337% 17.4377%	10.6030% 12.7417% 9.4555% 14.1337% 17.4377%	0.0010% 0.0442% -0.1133% 0.0052% 0.3919%	0.0010% 0.0442% -0.1133% 0.0052% 0.3919%	0 Russel : 0 Russel : 0 Russel : 0 Russel : 0 Russel :	1000 Defenisve Index in EUR 1000 CUSTOM Index 1000 Growth Index 1000 Index (Gross Total Retu 1000 Value Index (Total Retu 1000 Value xTobacco xFirear
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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.

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	In	RS1000XTOB	2.57	2.57	0.70			0.0607%		0.0607%		Consumer Discretionary	
	In	RS1000G	2.19	2.37	0.93			1.0359%		1.0359%		Producer Durables	
)	In	RS1000	1.98	1.98	0.66			1.0553%		1.0553%		Health Care	
)	In	RS1000V	7.23	7.23	0.93			1,9140%		1.9140%			
s Custom Ind	In	RUS1KXTXFA	3.01	3.01	0.89			0.0600%		0.0600%			
1)	In	RS1000	1.65	1.65	1.48	1.4	8 459,712,944	1.8423%		1.8423%			
	In	RS1000G	7.64	7.64	8.29	8.2	9 2,830,116,867	0.0854%		0.0854%			
)	In	RS1000V	13.08	13.08	13.34	13.3	4 2,692,370,378	0.0390%		0.0390%			
1)	Out	RS1000	132.07	131.58	132.65	132.6	5 103,513,821	0.8440%		0.8395%			
)	In	RS1000	9.77	9.77	9.99	9.9	9 2,632,528,184	2.4859%		2.4859%			
)	In	RS1000	1.19	1.19	0.90			1.6865%		1.6865%			
	In	RST200TR	2.69	2.69	0.10		0 1,332,421,954	2.6598%		2.6598%			
	In	RS1000G	2.36	2.36	0.89			0.0853%		0.0853%			
n)	In	RS1000	1.17	1.17	0.80	0.8		1.9342%		1.9342%			
n)	In	RS1000V	3.17	3.17	1.95	1.9	5 4,668,989,978	0.0388%		0.0388%			

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Russell 1000 Index (Gross Total Ret. Russell 1000 Index (Gross Total Ret.

Russell Top 200 Total Return Index Russell 1000 Growth Index

Russell 1000 Index (Gross Total Retu

Russell 1000 Value Index (Total Retu

### Index investment management cycle Efficient trading

# Over 60 equity traders across four trading hubs and three spokes

- Leverage traders' local market expertise
- · Benefit from execution in appropriate time zone
- Common technology enables us to pass the book with embedded business continuity plan

# Proprietary applications are used to monitor expected trading costs and actual trading costs

- 1. Ability to specify date range
- 2. Custom filters to drill into specific trading activity
- 3. Data visualization provides intuitive execution insights
- 4. Extensive library of metrics and analytics for evaluating trading performance
- 5. Enable breakdown of TCA across order, execution, broker, or asset-level characteristics and dimensions



BlackRock's global coverage

#### 24 hour a day, 5.5 day per week coverage

Data as of 31 December 2018 Screenshots are for illustrative purposes only.

#### BlackRock's proprietary applications



### Index investment management cycle Performance & oversight

### Performance and oversight of portfolios occurs through the following steps

- Daily Portfolio Management review
- Monthly IRC review with senior management
- · Independent review from BlackRock's Risk and Quantitative Analysis Group

### The following additional systematic checks occur for all portfolios and accounts



### **Front-end compliance**

- On a real time basis prior to executions, the front-end compliance systems checks for restrictions and violations
- Violating trades would be blocked from proceeding



### Key takeaway Our approach to Index: anything but passive

Investors today demand more efficient returns and innovative ways to use index products

BlackRock's Index approach is focused on:

People	Performance	Process	Platform	Products
Team combines skill and ingenuity in seeking to enhance outcomes	Seek to provide consistent performance as planned	Rooted in deep understanding of benchmarks and capital markets	Scale and technology innovations enhance ability to deliver consistent performance and minimize costs	Flexible spectrum of solutions featuring more than 2,000 funds covering 850+ benchmarks

**Characteristics & Performance**
## Mid Capitalization Equity Index Fund Characteristics

Fund information						
Benchmark	S&P MidCap 400 <sup>®</sup> Index					
Total fund assets	\$5.12B					
Number of issues in fund	400					
Number of issues in benchmark	400					

Top 10 holdings		
	Fund %	Index %
Teleflex Inc	0.80	0.80
Atmos Energy Corp	0.73	0.73
Dominos Pizza Inc	0.70	0.70
IDEX Corp	0.65	0.65
UGI Corp	0.63	0.63
Alleghany Corp	0.63	0.62
Steris	0.61	0.61
PTC Inc	0.60	0.60
Reinsurance Group of America Inc	0.60	0.59
Zebra Technologies Corp Class A	0.58	0.58

### Sector diversification



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

## Mid Capitalization Equity Index Fund F Performance



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

■ Fund ■ S&P MidCap 400 Index

	MTD* %	Q4* %	YTD* %	1-yr* %	3-yr %	5-yr %	10-yr %	Since incept %
Tracking difference (Gross vs. Benchmark)	0.03	0.03	0.07	0.07	0.07	0.08	0.07	0.09

\* 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

### **BLACKROCK**°

## **Russell 2000<sup>®</sup> Index Fund** Characteristics

Fund information						
Benchmark	Russell 2000 <sup>®</sup> Index					
Total fund assets	\$6.49B					
Number of issues in fund	2,026					
Number of issues in benchmark	2,029					

Top 10 holdings		
	Fund %	Index %
Integrated Device Technology Inc	0.35	0.35
Etsy Inc	0.32	0.32
Five Below Inc	0.31	0.31
Haemonetics Corp	0.29	0.29
Ciena Corp	0.27	0.27
Planet Fitness Inc Class A	0.27	0.26
Idacorp Inc	0.26	0.26
HubSpot Inc	0.26	0.26
Livanova Plc	0.25	0.25
Cree Inc	0.24	0.24

### **Sector diversification**



Fund inception date 30 June1997

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, Frank Russell Company

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



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

Fund Russell 2000 Index

	MTD* %	Q4* %	YTD* %	1-yr* %	3-yr %	5-yr %	10-yr %	Since incept %
Tracking difference (Net vs. Benchmark)	0.01	0.02	0.12	0.12	0.20	0.20	0.16	0.05

\* Period returns for less than a year are cumulative

\*\* Fund inception date 02 January 2001

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## EAFE Equity Index Fund Characteristics

Fund information					
Benchmark	MSCI EAFE Net Dividend Return Index				
Total fund value		\$41.87B			
Number of issues in fund		927			
Number of issues in benchmark		920			
Top 10 holdings					
	Country	Weight (%)			
Nestle Sa	Switzerland	1.95			
Novartis Ag	Switzerland	1.46			
Roche Holding Par Ag	Switzerland	1.37			
HSBC Holdings Plc	United Kingdom	1.31			
Royal Dutch Shell Plc	United Kingdom	1.08			
Toyota Motor Corp	Japan	1.07			
Total Sa	France	1.02			
BP Plc	United Kingdom	1.01			
Royal Dutch Shell Plc Class B	United Kingdom	0.89			
AIA Group Ltd	Hong Kong	0.80			

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.

## EAFE Equity Index Fund T Performance



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

Fund MSCI EAFE Net Dividend Return Index

	MTD* %	Q4* %	YTD* %	1-yr* %	3-yr %	5-yr %	10-yr %	Since incept %
Tracking difference (Net vs. Benchmark)	0.00	01	0.29	0.29	0.55	0.25	0.08	-0.09

\* Period returns for less than a year are cumulative

\*\* Fund inception date 30 June 1999

This information is unaudited, subject to change and intended for analytical purposes only. The Fund's net asset value does include an accrual for the investment management fee at an annual rate of 0.06% and does include an accrual for fund level administrative costs capped at 0.02% per year and, if applicable, certain third party acquired fund fees and expenses. **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.

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## U.S. Debt Index Fund Portfolio profile

	U.S. Debt Index Fund	Bloomberg Barclays U.S. Aggregate Bond Index
Market value (\$B)	15.35	20,837.50
# Issues	8,270	10,252
Characteristics		
Coupon (%)	3.20	3.20
Yield to maturity (YTM) (%)	3.26	3.28
Weighted avg life (yrs)	8.06	8.08
Effective duration (yrs)	5.62	5.60
Spread duration	3.68	3.60
Option adjusted spread (bps)	52	52
Convexity	0.14	0.14
MSCI ESG Score (adjusted)*	6.24	6.26
Environment Score	6.18	6.16
Social Score	6.55	6.61
Governance Score	6.16	6.20
Quality breakdown (mkt val %	(6)	
AAA or above	72.50	73.28
AA	3.80	3.09
A	10.05	10.03
BBB	13.65	13.59
Other	0.00	0.01

	U.S. Debt Index Fund	Bloomberg Barclays U.S. Aggregate Bond Index
Sector breakdown (mkt va	l %)	
Treasury	37.13	38.88
Agencies	2.80	1.38
Financials	7.96	7.93
Industrials	14.70	14.62
Utilities	1.75	1.76
Non-US credit	4.10	4.07
Taxable munis	0.61	0.63
ABS	0.53	0.52
Mortgages	28.11	28.20
Hybrid ARM	0.06	0.00
CMBS	1.96	1.96
Foreign Government	0.00	0.04
Cash	0.30	0.00
Weighted avg life breakdo	wn (mkt val %)	
0-1	2.05	0.05
1-2	8.83	11.07
2-3	10.10	10.64
3-5	20.70	19.30
5-7	19.19	21.21
7-10	23.24	21.97
10-20	3.67	3.69
20-30	11.70	11.55
30+	0.50	0.53

\* MSCI ESG Scores assess companies' ability to manage their exposure to the most relevant ESG risks and opportunities, relative to industry peers. A score of 6.68 or higher correspond to an industry leader, 3.34-6.67 corresponds to an average score, and scores of 3.33 and lower corresponds to a laggard vs. industry peers. 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. Although BlackRock's information providers, including without limitation, MSCI ESG Research Inc. and its affiliates (the "ESG Parties"), obtain information from sources they consider reliable, none of the ESG Parties warrants or guarantees the originality, accuracy and/or completeness of any data herein. None of the ESG Parties makes any express or implied warranties of any kind, and the ESG Parties hareby expressly disclaim all warranties of merchantability and fitness for a particular purpose, with respect to any data herein. None of the ESG Parties shall have any liability for any errors or omissions in connection with any data herein. Further, without limiting any of the foregoing, in no event shall any of the ESG Parties have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. ©2019 MSCI ESG Research Inc. Reproduced by permission.

Fund inception date 30 June 1986

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## U.S. Debt Index Fund Portfolio profile

### As of 31 December 2018

	U.S. Debt Index Fund	Bloomberg Barclays U.S. Aggregate Bond Index	U.S. Debt Index Fund Duration Contribution	Bloomberg Barclays U.S. Aggregate Bond Index Duration Contribution
Market value (\$B)	15.35	20,837.50		
# Issues	8,270	10,252		
Characteristics				
Coupon (%)	3.20	3.20		
Yield to maturity (YTM) (%)	3.26	3.28		
Weighted avg life (yrs)	8.06	8.08		
Effective duration (yrs)	5.62	5.60		
Spread duration	3.68	3.60		
Option adjusted spread (bps)	52	52		
Convexity	0.14	0.14		
MSCI ESG Score (adjusted)*	6.24	6.26		
Environment Score	6.18	6.16		
Social Score	6.55	6.61		
Governance Score	6.16	6.20		
Quality breakdown				
AAA or above	72.50	73.28	3.77	3.76
AA	3.80	3.09	0.20	0.19
A	10.05	10.03	0.71	0.70
BBB	13.65	13.59	0.95	0.94
NR	0.00	0.01	0.00	0.00
Sector breakdown (mkt val %)	· ·			
Treasury	37.13	38.88	2.28	2.34
Agencies	2.80	1.38	0.11	0.06
Financials	7.96	7.93	0.44	0.44
Industrials	14.70	14.62	1.11	1.10
Utilities	1.75	1.76	0.17	0.17
Non-US credit	4.10	4.07	0.16	0.17
Taxable munis	0.61	0.63	0.07	0.07
ABS	0.53	0.52	0.01	0.01
Mortgages	28.11	28.20	1.17	1.15
Hybrid ARM	0.06	0.00	0.00	0.00
CMBS	1.96	1.96	0.10	0.10
Foreign Government	0.00	0.04	0.00	0.00
Cash	0.30	0.00	0.00	0.00
Weighted avg life breakdown				
0-1	2.05	0.05		
1-2	8.83	11.07		
2-3	10.10	10.64		
3-5	20.70	19.30		
5-7	19.19	21.21		
7-10	23.24	21.97	1	
10-20	3.67	3.69		
20-30	11.70	11.55		
30+	0.50	0.53		

\* MSCI ESG Scores assess companies' ability to manage their exposure to the most relevant ESG risks and opportunities, relative to industry peers. A score of 6.68 or higher correspond to an industry leader, 3.34-6.67 corresponds to an average score, and scores of 3.33 and lower corresponds to a laggard vs. industry peers. 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's information providers, including without limitation. MSCI ESG Research Inc. and its affiliates (the "ESG Parties"), obtain information from sources they consider reliable, none of the ESG Parties makes any express or implied warranties of any kind, and the ESG Parties hereby expressly disclaim all warranties of merchantability and fitness for a particular purpose, with respect to any data herein. Further, without limiting any of the foregoing, in no event hall any of the ESG Parties have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages. @2019 MSCI ESG Research Inc. Reproduced by permission.

Fund inception date 30 June 1986

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## U.S. Debt Index Fund W Performance



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

	MTD %*	Q4%*	YTD %*	1-yr %*	3-yr %	5-yr %	10-yr %	Since incept %
Tracking difference (Net vs. Benchmark)	-0.01	-0.02	0.02	0.02	0.05	0.08	0.05	0.03

\* Period returns for less than a year are cumulative

\*\* Fund inception date 01 February 2001

This information is unaudited, subject to change and intended for analytical purposes only. The Fund's net asset value does include an accrual for the investment management fee at annual rate of 0.04% and does include an accrual for fund level administrative costs capped at 0.01% per year and, if applicable, certain third party acquired fund fees and expenses. **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.

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# Appendix

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