

THRIFT PLAN

INVESTMENT OPTIONS GUIDE

FEDERAL RESERVE SYSTEM
WWW.FEDERALRESERVEBENEFITS.ORG

 SmartBenefits
Live smart, plan smart.



DEAR FEDERAL RESERVE THRIFT PLAN PARTICIPANT,

Times change.

As a result, our benefits plans and programs also need to adapt — to keep up with your ever-changing needs.

Our Thrift Plan is a good example of this evolution. Based on your feedback, and our analysis of market trends, we have enhanced the Thrift Plan to help provide even more choice, flexibility and ease of use in support of reaching your savings goals.

Here are some examples since the last time we published this *Guide* to help illustrate the Thrift Plan's recent enhancements:

- Introduced a custom series of Target Date Funds that automatically adjusts your investment strategy over time in order to maximize growth opportunities when you're younger and provide more stability later in life as you transition into retirement.
- Added new features to help you maximize all that the Plan offers including:
 - **Automatic Rebalancing:** This tool can help keep the “ups and downs” of the market from adversely affecting your elected allocations by periodically rebalancing your funds every 90 days, 180 days or annually. This is particularly useful for those who may want to create and maintain their own investment mix.
 - **In-Plan Roth 401(k) Rollovers:** This feature provides you the option to convert eligible non-Roth funds into Roth 401(k) contributions (subject to taxation at the time of conversion), which can be withdrawn tax-free (along with all future earnings) if you are age 59½ or older or become disabled. This could be an attractive feature in your retirement planning.
 - **Contribution Elections by Dollar Amounts:** Using dollar amounts provides greater precision when designating the exact amount from your salary you wish to contribute to the Thrift Plan. This can be very useful for those concerned about hitting contribution limits set each year by the Internal Revenue Service. Of course, you still have the option of using percentages when electing your contribution amounts.
- Continued to reduce investment fees to among the lowest you'll find anywhere. That adds up to more money in your pocket.

The Office of Employee Benefits, alongside the Committees on Investment Performance and Plan Administration, is committed to finding even more ways to improve the Thrift Plan because it is such a significant savings vehicle for you and your family.

As you read this *Guide*, consider using the tools and resources mentioned — including the SmartBenefits website — to help tackle your ever-changing financial needs.



Bruce Monte, Jr.
Executive Director
Office of Employee Benefits



William G. Clark
Chief Investment Officer
Office of Employee Benefits

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This *Thrift Plan Investment Options Guide* provides only a summary of the Thrift Plan. Details about the Thrift Plan are contained in the official Plan document. The Plan document governs the operation and administration of the Thrift Plan and the rights of Thrift Plan members. If there is a discrepancy between the information contained in this *Guide* and the official Thrift Plan document, the Thrift Plan document will govern. The Federal Reserve reserves the right to change, suspend or terminate any plan, coverage, contribution or participation at any time and/or for any reason.

THRIFT PLAN

HIGHLIGHTS

The Federal Reserve's success depends on talented and engaged professionals like you. Whether you are just starting your career, or have retired after years of distinguished service, the Fed is committed to helping provide you with financial peace of mind.

The Thrift Plan provides a means to help achieve this security along your journey.

The Basics

- Eligible employees are automatically enrolled in the Thrift Plan when hired.
- If no election is made after 30 days, a pre-tax contribution election of 3 percent will automatically be made on your behalf and invested in the Target Date Fund that most closely corresponds to the year you turn(ed) age 65.
- The Fed matches your contributions at \$1 for every \$1 you contribute up to 6 percent of your salary per pay period. (**Note:** The match is 7 percent for Board of Governors and Consumer Financial Protection

DID YOU KNOW? It's generally OK to take on more risk when you're younger because there's more time to recover from potential stock market downturns that typically occur from time to time. Despite greater volatility, stocks have shown to have the greatest potential for growth over the long term. Conversely, bonds generally offer lower but more stable and predictable rates of return.

Bureau employees.) Additionally, the Fed contributes an automatic 1 percent Employer contribution independent of your contribution level.

- You are entitled to the Employer contributions and earnings on those contributions — based on the following schedule:
 - 20 percent after one year of service;
 - 40 percent after two years of service;
 - 60 percent after three years of service;
 - 80 percent after four years of service; and
 - 100 percent after five or more years of service. (You are always 100-percent vested in your own contributions and the earnings on those contributions.)

The Transfer Rule

You may transfer among investment options within the Thrift Plan, but you are restricted by the 14-Day Transfer Rule. This means that once you transfer money between any investment funds, you are restricted from transferring money into or out of those particular investment options again until the 15th calendar day following the transfer.

Fund Fees

While contributions to your account and the earnings on your investments will increase your account balance, the cumulative effect of fees and expenses paid by your Plan will reduce the growth of your retirement savings.

Fees and expenses are only two of many factors to consider when you decide to invest in an option. You may also want to consider whether an investment in a

particular option, along with your other investments, will help you achieve your financial goals.

The Pension Purchase Option (PPO)

The PPO is a feature of the Fed's Retirement Plan. It allows eligible retirees/surviving spouses already receiving a monthly Retirement Plan benefit to use some or all of their eligible Thrift Plan account balance — including rollovers from another pension or 401(k)-like plan from a previous employer — to increase the monthly lifetime income benefit payment they already receive from the Retirement Plan. Eligible participants must have a Thrift Plan balance of at least \$25,000 to roll over into the Retirement Plan.

More Information

- Change contribution levels, view your account summary and performance, or change your investment options by logging onto the SmartBenefits website (www.federalreservebenefits.org).
- Access the *Your Thrift/Retirement Handbook* via the home page “Library” tile on SmartBenefits for more on both plans.
- **START Program (Fed employees only):** Speak with an Ayco financial coach over the phone — at no cost — about your savings goals, or any other financial topic, by calling 877-FRS-PLAN (877-377-7526), 9 a.m.–8 p.m. ET, Monday–Thursday, and 9 a.m.–5 p.m. ET, Friday. (**Note:** Eligible Consumer Financial Protection Bureau employees should visit the SmartBenefits website to access their

The START (Seize Today And Reward Tomorrow) Financial Education Program is the product of the Fed's long-standing partnership with Ayco, one of the nation's leading financial planning and education providers.

specific Ayco phone number.) Ayco is available to retirees for up to six months after leaving the Fed.

Things to Consider

As you review this *Guide* and your investment elections, consider this: It's beneficial to spread your risk exposure over different types of investments because diversification helps reduce the volatility of future overall investment returns.

If you are comfortable selecting and monitoring your investments, you may want to consider building a customized investment portfolio using a combination of the Core Fund options. If not, the Target Date Funds (TDFs) might be right for you because they are already diversified using the Thrift Plan's Core Funds. TDFs also automatically adjust your investment strategy over time based on how many years you are from a projected age-65 retirement, and they will continue to adjust into your retirement. In the pages that follow, you'll learn more about the investments that make up the Core Funds and the TDFs.

FUND AND BENCHMARK

PERFORMANCE AND EXPENSES

As of June 30, 2018

CORE INVESTMENT OPTIONS WITH BENCHMARKS <i>(in italics)</i>	RETURNS ¹ (in percent)					
	YTD	1 YEAR ³	3 YEARS ³	5 YEARS ³	10 YEARS ³	
Government Securities Fund <i>Bloomberg Barclays Capital 1-3 Year Treasury Index</i>	0.03 0.05	-0.03 0.01	0.37 0.40	0.54 0.58	1.27 1.25	
TIPS Index Fund <i>Bloomberg Barclays US TIPS Index</i>	-0.01 -0.02	2.13 2.11	1.92 1.93	1.66 1.68	3.02 3.03	
Bond Index Fund <i>Bloomberg Barclays Aggregate Bond Index</i>	-1.63 -1.62	-0.40 -0.40	1.73 1.72	2.28 2.27	3.75 3.72	
2020 Select Maturity Bond Fund <i>Bloomberg Barclays U.S. Gov/Credit 2020 Rolldown⁴</i>	-0.16 -0.18	0.30 0.08	1.93 1.64	2.41 2.34	n/a n/a	
2022 Select Maturity Bond Fund <i>Bloomberg Barclays U.S. Gov/Credit 2022 Rolldown⁴</i>	-1.20 -1.09	-0.68 -0.72	1.91 2.11	n/a n/a	n/a n/a	
2024 Select Maturity Bond Fund <i>Bloomberg Barclays U.S. Gov/Credit 2024 Rolldown</i>	-2.16 -2.02	-1.62 -0.94	n/a n/a	n/a n/a	n/a n/a	
Equity Index Fund <i>CRSP US Total Market Index⁵</i>	3.29 3.29	14.83 14.83	11.66 11.60	13.34 13.28	10.41 10.34	
International Equity Fund⁶ <i>MSCI World ex US IMI Index (Net)⁷</i>	-2.00 -2.57	8.13 7.74	5.81 5.49	7.07 6.77	2.87 3.22	
Small Company Equity Fund <i>Standard & Poor's SmallCap 600 Index</i>	9.34 9.39	20.42 20.50	13.78 13.84	14.53 14.60	11.83 12.25	
Real Estate Index Fund <i>MSCI US Investable Market Real Estate 25/50 Index⁸</i>	0.02 0.11	2.28 2.46	7.54 7.67	7.93 8.03	8.03 8.01	
Emerging Markets Equity Fund⁶ <i>MSCI Emerging Markets IMI Index (Net)</i>	-7.06 -6.86	7.43 7.90	4.85 5.19	4.58 4.91	n/a n/a	

	STANDARD DEVIATION ² (in percent)			EXPENSES (in percent)
	3 YEARS	5 YEARS	10 YEARS	YTD
	0.77 <i>0.76</i>	0.71 <i>0.70</i>	0.94 <i>0.95</i>	0.04
	2.97 <i>2.95</i>	3.71 <i>3.68</i>	5.95 <i>5.96</i>	0.03
	2.66 <i>2.65</i>	2.71 <i>2.70</i>	3.27 <i>3.27</i>	0.03
	1.75 <i>1.78</i>	2.56 <i>2.56</i>	n/a <i>n/a</i>	0.08
	2.84 <i>2.81</i>	n/a <i>n/a</i>	n/a <i>n/a</i>	0.08
	n/a <i>n/a</i>	n/a <i>n/a</i>	n/a <i>n/a</i>	0.08
	10.29 <i>10.30</i>	9.95 <i>9.95</i>	15.21 <i>15.21</i>	0.01
	11.69 <i>11.70</i>	11.37 <i>11.38</i>	20.77 <i>18.08</i>	0.07
	13.76 <i>13.78</i>	13.53 <i>13.54</i>	19.05 <i>19.12</i>	0.01
	13.42 <i>13.48</i>	13.87 <i>13.91</i>	24.78 <i>25.04</i>	0.10
	15.75 <i>15.77</i>	14.58 <i>14.60</i>	n/a <i>n/a</i>	0.14

¹ Returns for the Thrift Plan's funds are net of fees.

² Standard Deviation is a measure of volatility of returns. Investors should consider the returns as well as the volatility of returns in decision-making.

³ Trailing returns (in percent) as of June 30, 2018; periods greater than one year are annualized.

⁴ The Barclays US Aggregate ex MBS 20XX Rolldown Index through June 30, 2015 and the Bloomberg Barclays U.S. Gov/Credit 20XX Rolldown Index thereafter.

⁵ Dow Jones U.S. Total Stock Market Index (formerly known as the Dow Jones Wilshire 5000 Index) through April 8, 2005; the MSCI US Broad Market Index through January 14, 2013; CRSP US Total Market Index thereafter.

⁶ The following funds use fair value pricing (FVP) which is a standard process to adjust closing prices of certain non-U.S. equity securities to account for significant market price movement between the time a security's local market closed and the fund valuation point (U.S. market close). FVP may increase the volatility of performance relative to a benchmark as the fund performance will incorporate fair value pricing adjustments, while the benchmark performance will be based solely on local market closing prices. It is likely that any additional volatility will be mean reverting over time.

⁷ On June 1, 2013, the benchmark was changed from the MSCI EAFE Index (Gross) to the MSCI World ex US IMI (Net).

⁸ MSCI US REIT Index adjusted to include a 2% cash position (Lipper Money Market Average) through April 30, 2009; MSCI US REIT Index through January 31, 2018. On February 1, 2018, through July 24, 2018, the Real Estate Index Fund transitioned from the MSCI US REIT Index to the MSCI US Investable Market 25/50 Index. During this time, the Fund's benchmark was the MSCI US Investable Market 25/50 Transition Index. As of July 25, 2018, and thereafter, the Fund is benchmarked to the MSCI US Investable Market 25/50 Index.

TARGET DATE FUNDS (TDFs) *

■ RETURN OBJECTIVE

To generate long-term growth of capital and current income by investing in various percentages of the Thrift Plan’s Core Funds. TDFs are intended for participants who seek a well-diversified portfolio that automatically becomes more conservative over time.

■ INVESTMENT STRATEGY

TDFs gradually shift to a more conservative asset mix over time by incrementally decreasing their equity allocation and increasing their bond allocation. TDFs are rebalanced, or adjusted, quarterly to maintain their target percentages given that they may change due to market value fluctuations. The target mix for each TDF is reviewed every year to keep investment allocations in line with each TDF’s objective.

■ FUND MANAGER

Morningstar

■ FUND FEES

See the chart to the right for more information on TDF fees. There are no additional expenses associated with TDFs beyond those of the underlying Core Funds.

* TDFs were added to the Thrift Plan lineup on July 2, 2018.

** Reduced fees shown are as of Dec. 3, 2018.

† These fees are represented as a percent of assets.

See page 22 for TDFs Appendix.

FUND NAME	
Equity Index Fund	
Small Company Equity Fund	
International Equity Fund	
Emerging Markets Equity Fund	
Real Estate Index Fund	
Bond Index Fund	
Government Securities Fund	
TIPS Index Fund	
TARGET DATE FUND FEES**†	

Asset Allocation percentages as of July 2, 2018, when these funds first were added to the Thrift Plan lineup.

	RETIRE- MENT INCOME	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060	
		24.46	24.54	25.84	27.89	30.45	33.61	36.84	39.99	42.01	42.70	42.01	40.74	39.25
		3.34	3.56	4.11	4.85	5.76	6.87	8.12	9.47	10.66	11.57	12.13	12.50	12.78
		8.65	9.03	10.13	11.64	13.50	15.82	18.38	21.14	23.50	25.27	26.26	26.90	27.36
		2.16	2.34	2.79	3.40	4.17	5.16	6.33	7.66	8.96	10.12	11.04	11.86	12.64
		2.00	2.05	2.13	2.22	2.30	2.38	2.47	2.55	2.63	2.72	2.80	2.88	2.97
		32.07	33.37	34.19	33.64	31.73	28.03	23.02	16.84	11.36	7.46	5.76	5.12	5.00
		7.13	6.55	5.43	4.27	3.15	2.12	1.26	0.61	0.23	0.04	0.00	0.00	0.00
		20.19	18.56	15.38	12.09	8.94	6.01	3.58	1.74	0.65	0.12	0.00	0.00	0.00

	RETIRE- MENT INCOME	2005	2010	2015	2020	2025	2030	2035	2040	2045	2050	2055	2060
		0.028	0.028	0.028	0.028	0.028	0.029	0.029	0.030	0.031	0.032	0.033	0.033

GOVERNMENT SECURITIES FUND

As of June 30, 2018

■ RETURN OBJECTIVE

To generate returns over time that equal the total returns of its benchmark, the Bloomberg Barclays U.S. 1-3 Year Treasury Bond Index.

■ INVESTMENT STRATEGY

The Fund, which is passively managed, holds the same securities in the same proportions as its benchmark and invests in U.S. Treasury securities with remaining maturities of one to three years.

■ FUND MANAGER

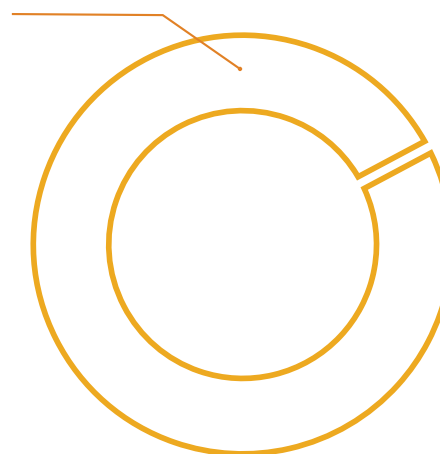
State Street Global Advisors (SSGA)

■ FUND FEE

The Fund fee is 0.04 percent (4 basis points) or \$0.40 per \$1,000 of the average daily balance.

SECTOR BREAKDOWN

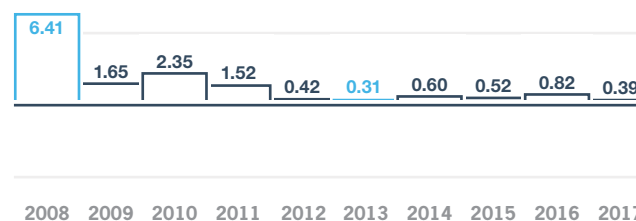
U.S. TREASURYS
99.54%



LESS THAN 1% – CASH 0.46%

TEN-YEAR RANGE OF ANNUAL RETURNS

□ = Maximum and minimum returns during 10-year period



FUND CHARACTERISTICS

AVERAGE CREDIT QUALITY
AAA (S&P) / Aaa (Moody's)

DURATION 1.92

YIELD TO MATURITY 2.53%

NUMBER OF HOLDINGS 97

TREASURY INFLATION-PROTECTED SECURITIES (TIPS) INDEX FUND

As of June 30, 2018

■ RETURN OBJECTIVE

To generate returns over time that equal those of its benchmark, the Bloomberg Barclays U.S. TIPS Index.

■ INVESTMENT STRATEGY

The TIPS Index Fund, which is passively managed, fully replicates its Index by holding each security in the same proportion as its weighting in the Index.

■ FUND MANAGER

BlackRock

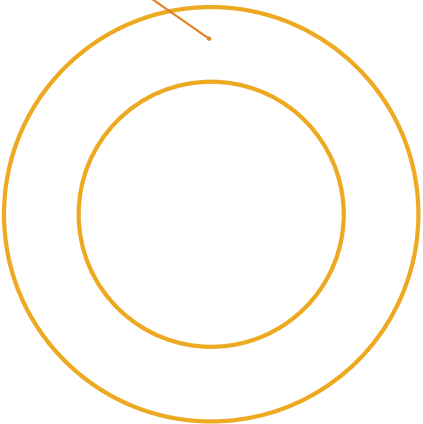
■ FUND FEE

The Fund fee is 0.03 percent (3 basis points) or \$0.30 per \$1,000 of average daily balances.

* The displayed nominal Yield to Maturity (YTM) was calculated by BlackRock using model-based assumptions for expected future inflation. As of June 30, 2018, the real YTM was 0.82%.

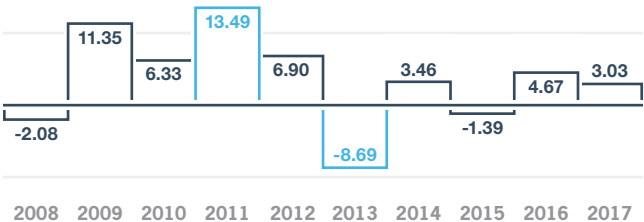
SECTOR BREAKDOWN

TIPS
100%



TEN-YEAR RANGE OF ANNUAL RETURNS

□ = Maximum and minimum returns during 10-year period



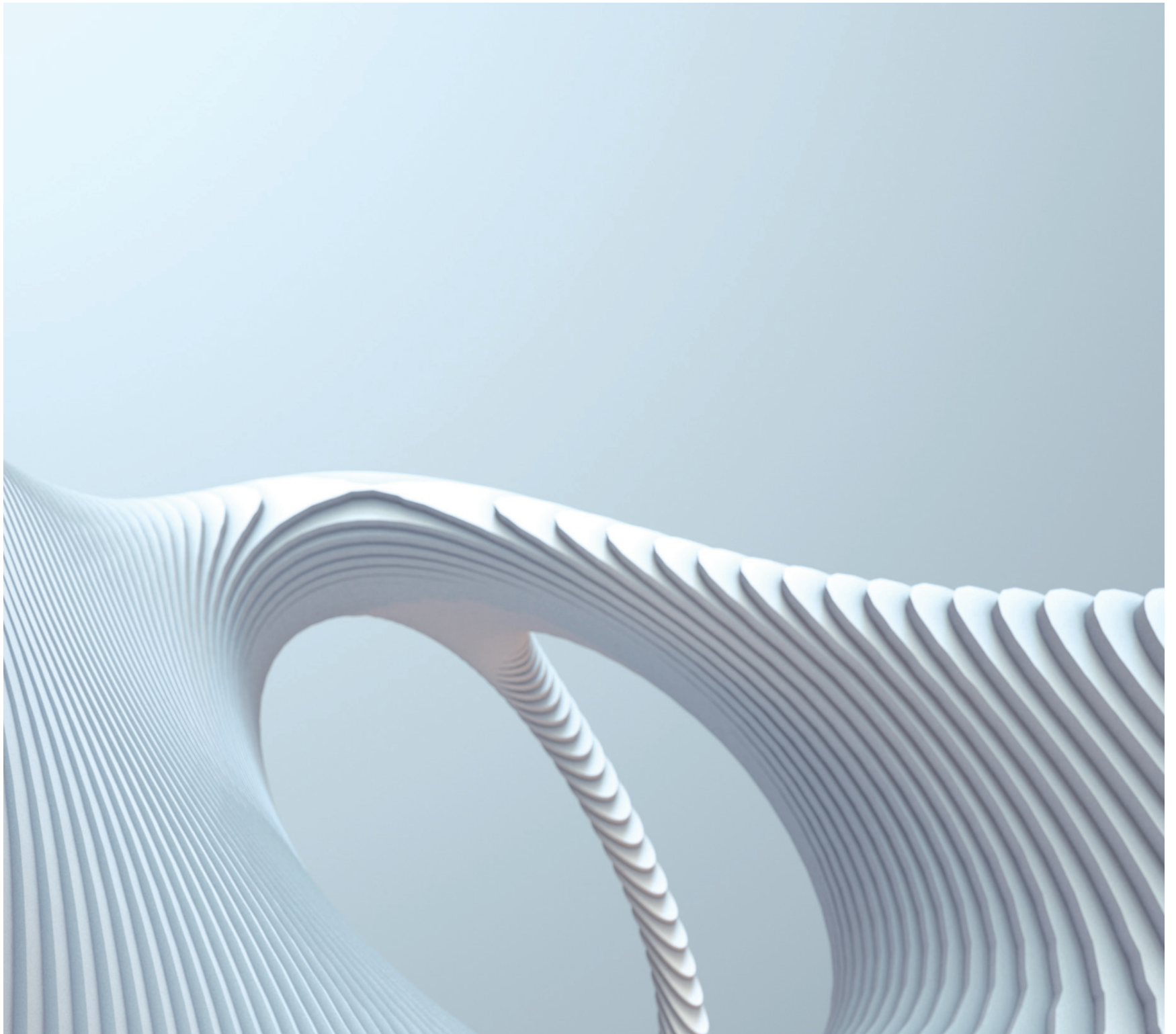
FUND CHARACTERISTICS

AVERAGE CREDIT QUALITY
AA+ (S&P) / Aaa (Moody's)

DURATION 7.66

YIELD TO MATURITY 2.77%*

NUMBER OF HOLDINGS 39



BOND INDEX FUND

As of June 30, 2018

RETURN OBJECTIVE

To generate returns over time that equal those of its benchmark, the Bloomberg Barclays Aggregate Bond Index (Index). The Index incorporates a significant portion of the investment-grade securities in the United States.

INVESTMENT STRATEGY

The Bond Index Fund, which is passively managed, statistically replicates its Index by holding a diversified portfolio of fixed-income securities that, as a whole, have approximately the same statistical risk factors and characteristics (i.e., duration and yield) as the Index. The Fund holds more than 50 percent of the securities in the Index, as it is not practical to hold all of the approximately 9,000 securities in the Index. The Bond Index Fund invests in U.S. dollar-denominated, investment-grade bonds registered with the U.S. Securities and Exchange Commission (SEC). The Fund does not invest in non-investment-grade (junk) bonds.

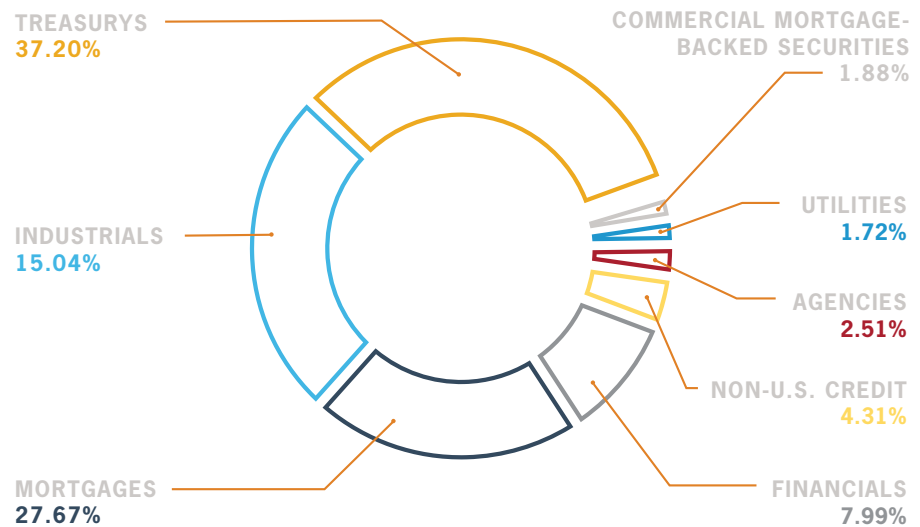
FUND MANAGER

BlackRock

FUND FEE

The Fund fee is 0.03 percent (3 basis points) or \$0.30 per \$1,000 of average daily balances.

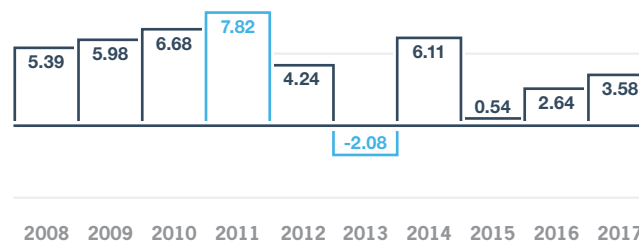
SECTOR BREAKDOWN



LESS THAN 1% – TAXABLE MUNICIPAL BONDS 0.62% • ASSET-BACKED SECURITIES 0.54% • CASH 0.45% • HYBRID ADJUSTABLE RATE MORTGAGE 0.08%

TEN-YEAR RANGE OF ANNUAL RETURNS

□ = Maximum and minimum returns during 10-year period



FUND CHARACTERISTICS

AVERAGE CREDIT QUALITY
AA (S&P) / Aa2 (Moody's)

DURATION 5.84

YIELD TO MATURITY 3.29%

NUMBER OF HOLDINGS 7,931

SELECT MATURITY BOND FUNDS

2020 Fund/ 2022 Fund/ 2024 Fund*

RETURN OBJECTIVE

To generate returns over time similar to the total returns of a traditional stable value fund but using a more diversified investment mix. The goal of the fund options is to achieve a predictable return target through June 30 of the target maturity year. The yield target is updated daily and is an estimate based on the current yield to maturity of each fund, assuming there are no underlying bond defaults. Interest payments may be reinvested at the same or different yields. Therefore, the estimated yield would only apply if you hold each fund option until its maturity, and it would be an “average annualized yield” over the entire holding period.

INVESTMENT STRATEGY

If you maintain your investments in any of the fund options until its scheduled maturity date, you are expected to approximately earn the yield that was quoted as of the date of your investment (minus any realized credit losses and/or defaults). A new fund will be added every two years, with a maturity year two years beyond the current longest-dated fund.

FUND MANAGER

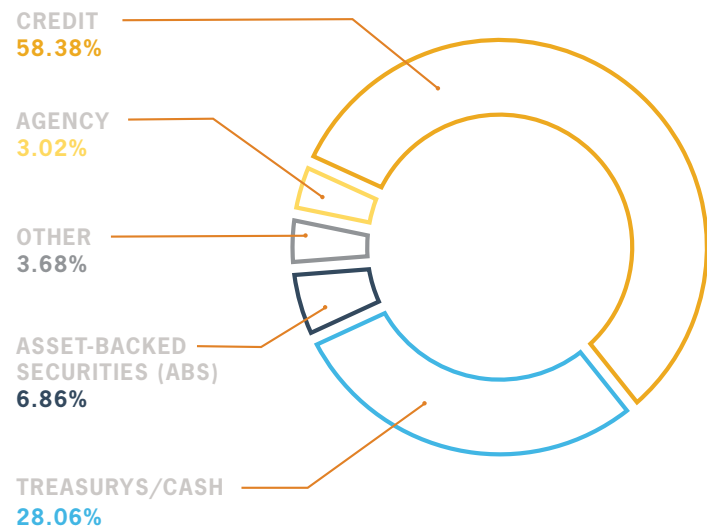
Goldman Sachs

FUND FEE

The Fund fee is 0.08 percent (8 basis points) or \$0.80 per \$1,000 of average daily balances.

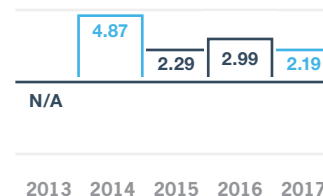
* The 2024 Fund was added to the Thrift Plan lineup on June 30, 2017.

2020 FUND AS OF JUNE 30, 2018



FIVE-YEAR RANGE OF ANNUAL RETURNS

□ = Maximum and minimum returns during 5-year period



FUND CHARACTERISTICS

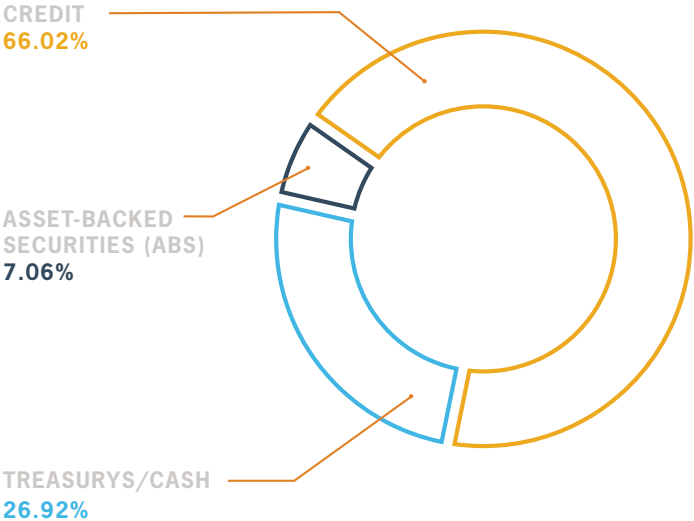
AVERAGE CREDIT QUALITY
AA3 (Moody's) / AA- (S&P)

DURATION 1.91

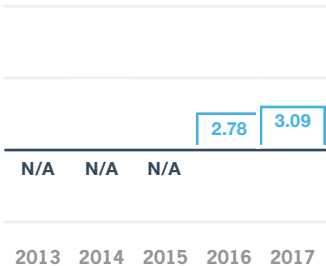
YIELD TO MATURITY 3.00%

NUMBER OF HOLDINGS 3,654

2022 FUND
AS OF JUNE 30, 2018



FIVE-YEAR RANGE OF ANNUAL RETURNS



□ = Maximum and minimum returns during 5-year period

FUND CHARACTERISTICS

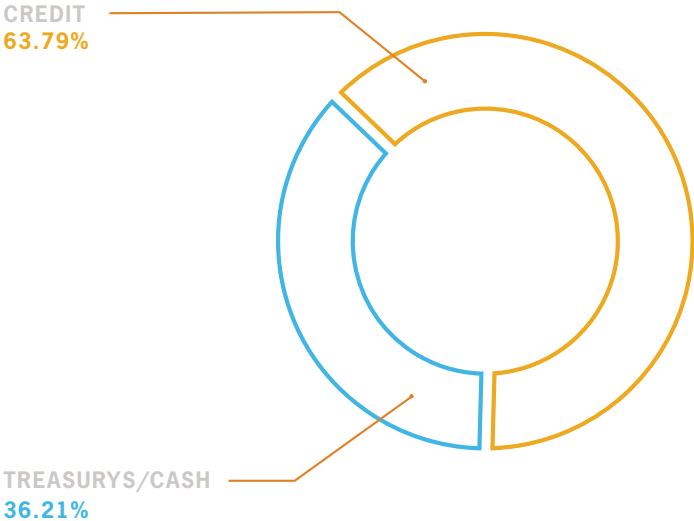
AVERAGE CREDIT QUALITY
 A1 (Moody's) /A+ (S&P)

DURATION **3.88**

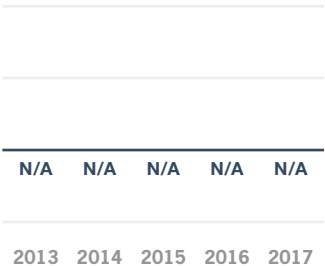
YIELD TO MATURITY **3.39%**

NUMBER OF HOLDINGS **174**

2024 FUND
AS OF JULY 31, 2018**



FIVE-YEAR RANGE OF ANNUAL RETURNS



□ = Maximum and minimum returns during 5-year period

FUND CHARACTERISTICS

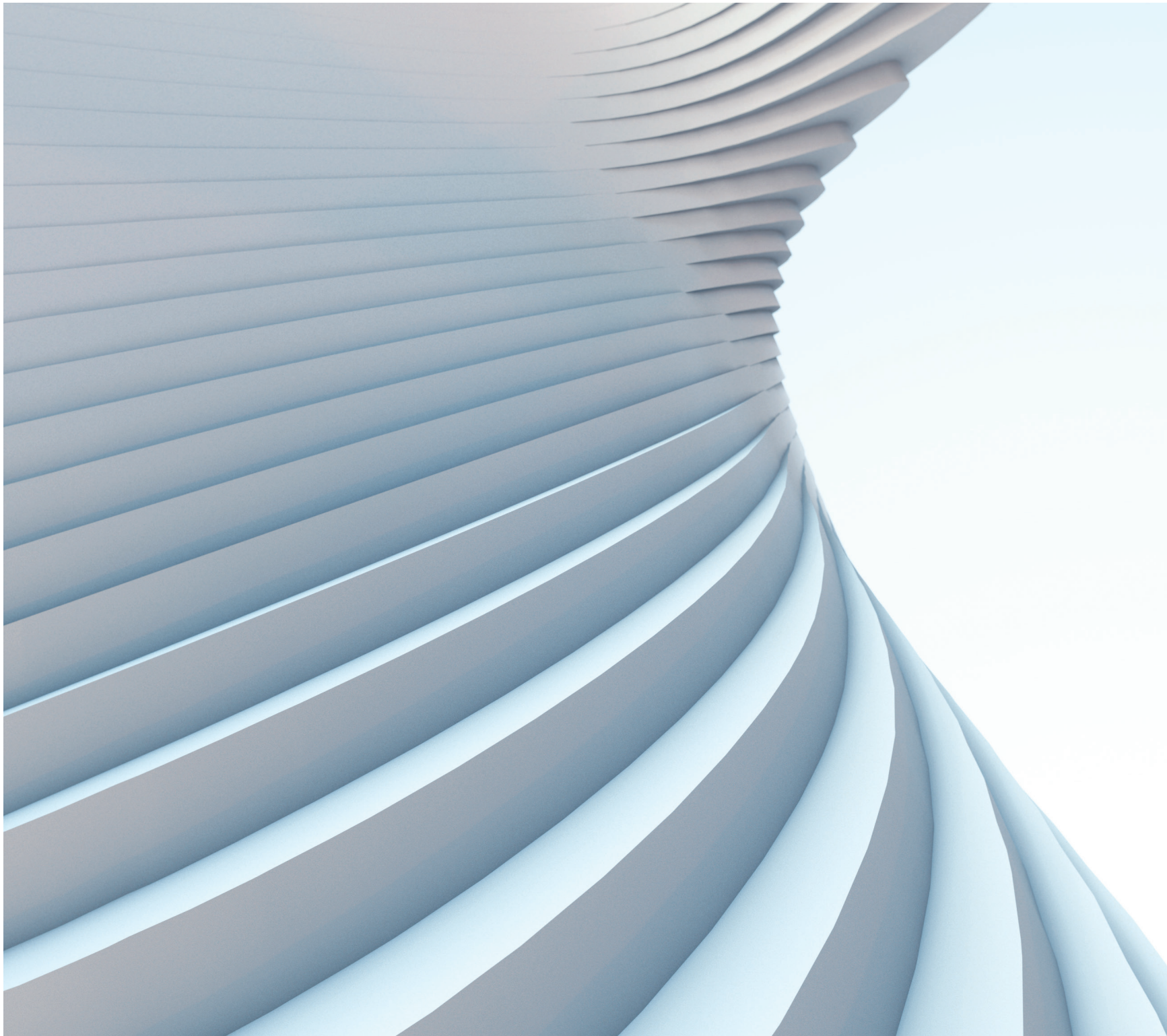
AVERAGE CREDIT QUALITY
 A1 (Moody's) /A+ (S&P)

DURATION **5.29**

YIELD TO MATURITY **3.52%**

NUMBER OF HOLDINGS **156**

** The 2018 Select Maturity Bond Fund matured on June 30, 2018. All remaining 2018 Fund balances automatically moved to the 2024 Fund.



EQUITY INDEX FUND

As of June 30, 2018

RETURN OBJECTIVE

To generate returns over time that equal those of its current benchmark, the Center for Research in Security Prices (CRSP*) U.S. Total Market Index (Index).

INVESTMENT STRATEGY

The Equity Index Fund, which is passively managed, replicates more than 80 percent of its Index and uses a sampling methodology to statistically track the remainder of the Index. The Equity Index Fund also selectively engages in securities lending, which seeks to generate incremental income for the Fund by lending a portion of its securities to qualified borrowers. All loans are collateralized, typically with cash, which is then reinvested in high-quality short-term fixed-income investments. Collateral is maintained at a level at least equal to the market value of the securities lent. Securities lending activities are subject to interest rate, credit and counterparty risks, meaning that a fund could experience a loss from this activity.

FUND MANAGER

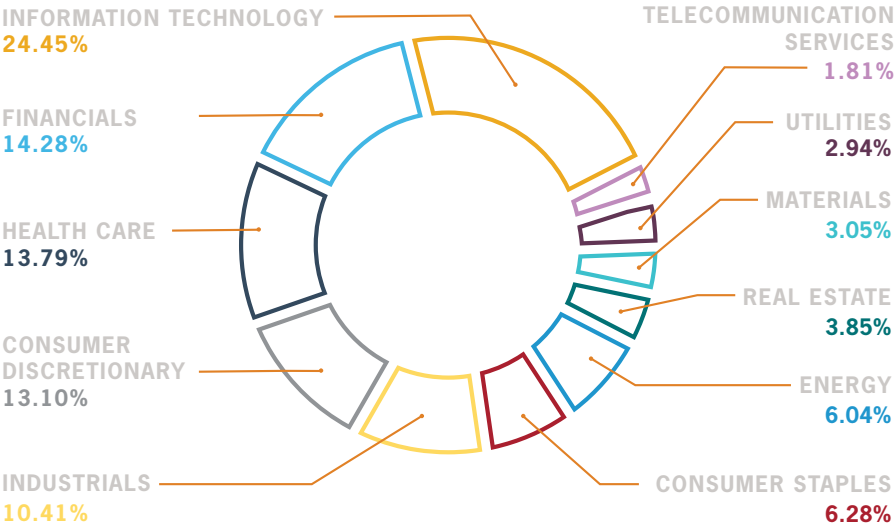
The Vanguard Group

FUND FEE

The Fund fee is 0.01 percent (1 basis point) or \$0.10 per \$1,000 of average daily balances.

* CRSP is affiliated with the University of Chicago's Booth School of Business.

SECTOR BREAKDOWN

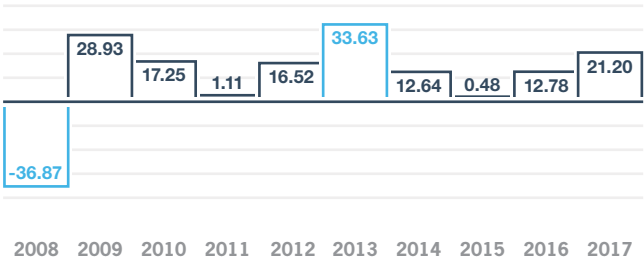


TOP TEN HOLDINGS

Apple Inc.	2.9	Berkshire Hathaway Inc.	1.3
Microsoft Corp.	2.7	JPMorgan Chase & Co.	1.3
Amazon.com Inc.	2.5	Exxon Mobil Corp.	1.3
Alphabet Inc.	2.4	Johnson & Johnson	1.2
Facebook	1.7	Bank of America Corp.	1.0

TEN-YEAR RANGE OF ANNUAL RETURNS

□ = Maximum and minimum returns during 10-year period



FUND CHARACTERISTICS

MEDIAN MARKET CAP	\$64.01 b
PRICE/EARNINGS RATIO	26.4x
PRICE/BOOK RATIO	3.0x
DIVIDEND YIELD	1.77%
NUMBER OF HOLDINGS	3,654

INTERNATIONAL EQUITY FUND

As of June 30, 2018

■ RETURN OBJECTIVE

To generate returns over time that equal the total returns of its international equity market benchmark, the Morgan Stanley Capital International (MSCI) World ex U.S. IMI.

■ INVESTMENT STRATEGY

The Fund, which is passively managed, replicates more than 80 percent of its Index and uses a sampling methodology to statistically track the remainder of the Index. The resulting portfolio is well-diversified by sector and industry. The countries that make up the Index can change over time if countries are reclassified by the Index sponsor (MSCI).

■ FUND MANAGER

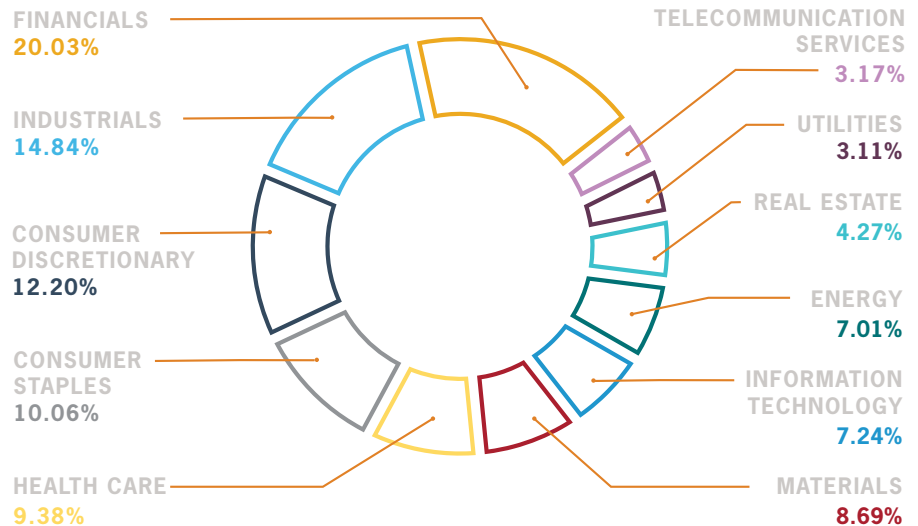
Northern Trust

■ FUND FEE*

The Fund fee is 0.05 percent (5 basis points) or \$0.50 per \$1,000 of average daily balances. The impact of trading costs (if any) resulting from participants' collective purchases or sales in the Fund is reflected in the Fund's unit value. This impact can be positive or negative depending upon trading cost impact of international equities on a given day.

*Reduced fee shown is as of Dec. 3, 2018.

SECTOR BREAKDOWN

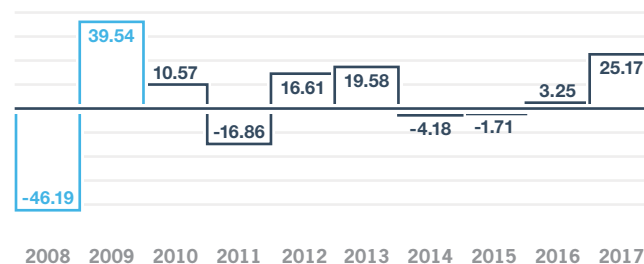


TOP TEN HOLDINGS

Nestle S.A.	1.30	BP PLC	0.82
HSBC Holdings PLC	1.02	Toyota Motor Corp.	0.80
Novartis AG	0.91	Total Sa	0.79
Royal Dutch Shell PLC	0.86	Royal Dutch Shell PLC	0.73
Roche Holdings Ltd Genusss	0.84	British American Tobacco	0.63

TEN-YEAR RANGE OF ANNUAL RETURNS

□ = Maximum and minimum returns during 10-year period



FUND CHARACTERISTICS

AVG MARKET CAP \$6.79 b
PRICE/EARNINGS RATIO 16.09x
PRICE/BOOK RATIO 1.71x
DIVIDEND YIELD 3.04%
NUMBER OF HOLDINGS 3,590

ALLOCATION BY COUNTRY (in percent)	
Japan	22.87
United Kingdom	16.53
France	8.91
Canada	8.80
Germany	8.19
Switzerland	6.65
Australia	6.35
Netherlands	3.21
Hong Kong	3.08
Spain	2.72
Sweden	2.69
Italy	2.38

ALLOCATION BY COUNTRY (in percent)	
Denmark	1.54
Singapore	1.20
Belgium	1.07
Finland	1.01
Norway	0.84
Israel	0.63
Ireland	0.53
Austria	0.30
New Zealand	0.29
Portugal	0.18
United States	0.02
Bermuda	0.01

SMALL COMPANY EQUITY FUND

As of June 30, 2018

RETURN OBJECTIVE

To generate returns over time that equal the total returns of its benchmark, the Standard & Poor's SmallCap 600 Index (S&P 600).

INVESTMENT STRATEGY

The Fund, which is passively managed, normally holds all stocks in the S&P 600 and in the same proportions. The resulting portfolio is well-diversified with sector, industry and security weightings closely matching the Index weights.

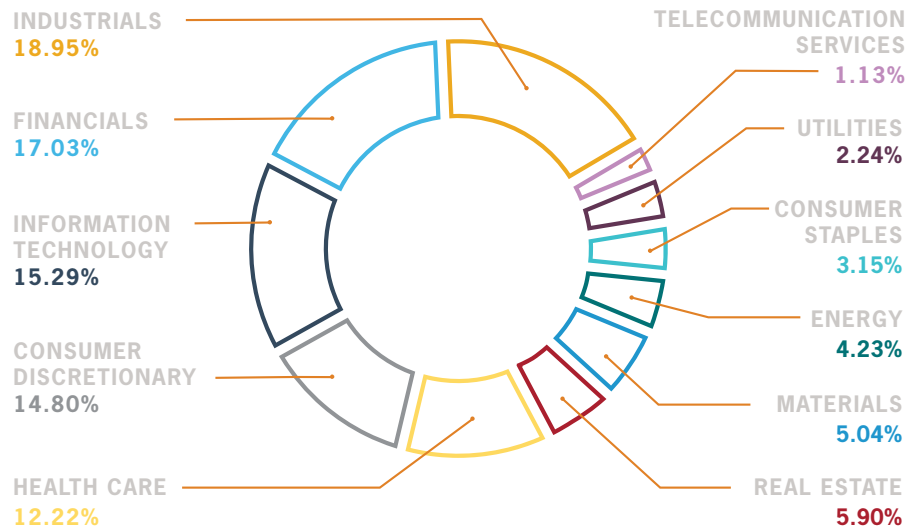
FUND MANAGER

Legal & General Investment
Management America

FUND FEE

The Fund fee is 0.01 percent (1 basis point) or \$0.10 per \$1,000 of average daily balances.

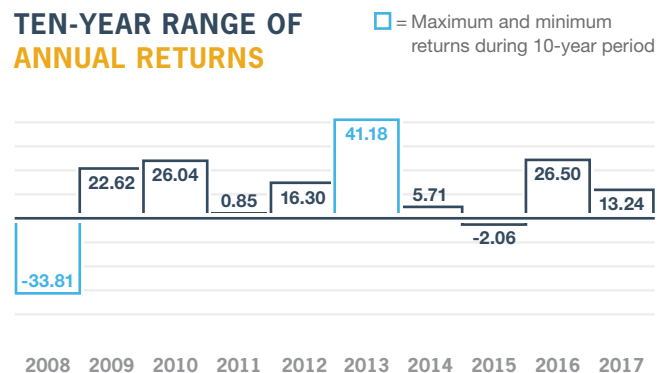
SECTOR BREAKDOWN



TOP TEN HOLDINGS

Ligand Pharmaceuticals Inc	0.54	PDC Energy Inc	0.49
CACI International Inc Class A	0.51	HealthEquity Inc	0.48
Stamps.com Inc	0.51	ASGN Inc	0.47
FirstCash Inc	0.50	Trex Co Inc	0.45
Neogen Corp	0.50	Axon Enterprise Inc	0.44

TEN-YEAR RANGE OF ANNUAL RETURNS



FUND CHARACTERISTICS

WTD. AVG
MARKET CAP **\$2.15 b**
PRICE/EARNINGS RATIO **21.88**
PRICE/BOOK RATIO **2.19**
DIVIDEND YIELD **1.35%**
NUMBER OF HOLDINGS **604**

REAL ESTATE INDEX FUND*

As of June 30, 2018

■ RETURN OBJECTIVE

To generate a high level of income and moderate long-term capital appreciation by tracking the performance of a benchmark index that measures the performance of publicly traded equity REITs and other real estate-related investments.

■ INVESTMENT STRATEGY

The Fund employs an indexing investment approach designed to track the performance of the MSCI US Investable Market Real Estate 25/50 Index**, which is made up of stocks of large, mid-size and small U.S. companies within the real estate sector, as classified under the Global Industry Classification Standard (GICS). This includes equity real estate investment trusts (REITs), and real estate management and development companies. The Fund attempts to replicate the Index by investing all, or substantially all, of its assets in the stocks that make up the Index, holding each stock in approximately the same proportion as its weighting in the Index.

■ FUND MANAGER

The Vanguard Group

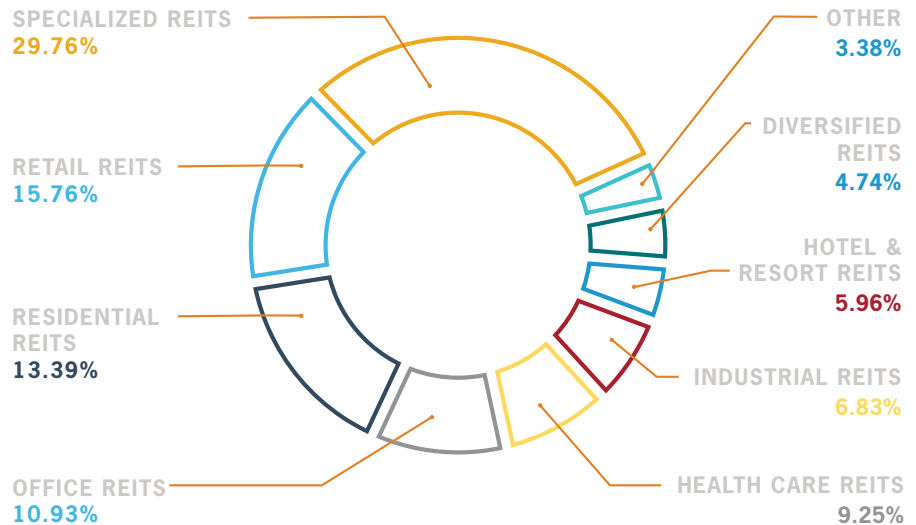
■ FUND FEE

The Fund fee is 0.10 percent (10 basis points) or \$1.00 per \$1,000 of average daily balances.

*As of Feb. 1, 2018, the Fund name changed from the REIT Index Fund to the Real Estate Index Fund. Its investment objective expanded to cover real estate investment trusts and real estate-related companies.

**On February 1, 2018, through July 24, 2018, the Real Estate Index Fund transitioned from the MSCI US REIT Index to the MSCI US Investable Market 25/50 Index. During this time, the Fund's benchmark was the MSCI US Investable Market 25/50 Transition Index. As of July 25, 2018, the Fund is benchmarked to the MSCI US Investable Market 25/50 Index.

SECTOR BREAKDOWN

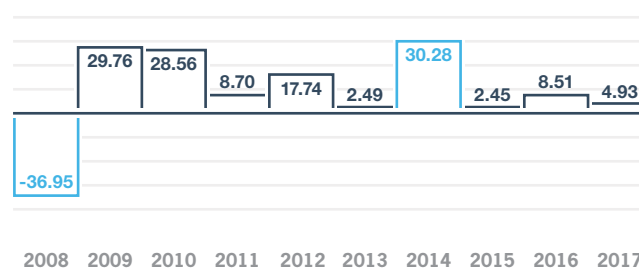


TOP TEN HOLDINGS

Vanguard Real Estate II Index Fund	10.7	Prologis Inc.	3.0
American Tower Corp.	4.6	Equinix Inc.	2.9
Simon Property Group Inc.	4.6	AvalonBay Communities Inc.	2.0
Crown Castle International Corp.	3.2	Weyerhaeuser Co.	2.0
Public Storage	3.0	Equity Residential	2.0

TEN-YEAR RANGE OF ANNUAL RETURNS

□ = Maximum and minimum returns during 10-year period



FUND CHARACTERISTICS

MEDIAN MARKET CAP	\$12.58 b
PRICE/EARNINGS RATIO	37.6x
PRICE/BOOK RATIO	2.4x
DIVIDEND YIELD	3.9%
NUMBER OF HOLDINGS	187

EMERGING MARKETS EQUITY FUND

As of June 30, 2018

■ RETURN OBJECTIVE

To generate returns that equal the total returns of the emerging markets equity market, as measured by the Morgan Stanley Capital International (MSCI) Emerging Markets IMI Index (Index).

■ INVESTMENT STRATEGY

The Emerging Markets Equity Fund, which is passively managed, replicates its Index by investing all, or substantially all, of its assets in the stocks that make up the Index, holding each stock in approximately the same proportion as its weighting. The countries that make up the Index can change over time if countries are reclassified by the Index sponsor (MSCI).

■ FUND MANAGER

Northern Trust

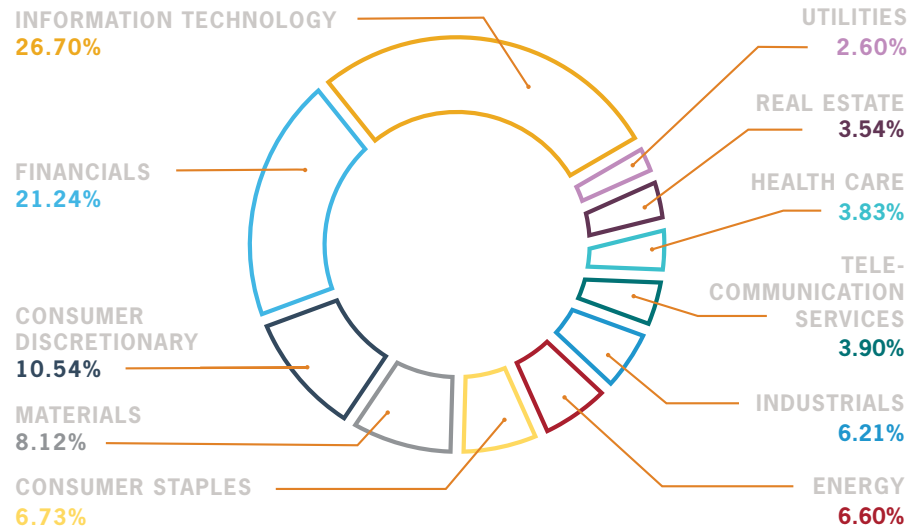
■ FUND FEE*

The Fund fee is 0.09 percent (9 basis points) or \$0.90 per \$1,000 of average daily balances. The impact of trading costs (if any) resulting from participants' collective purchases or sales in the Fund is reflected in the Fund's unit value. This impact can be positive or negative depending upon the trading cost impact of emerging markets stocks on a given day.

*Reduced fee shown is as of Dec. 3, 2018.

**Fund was introduced in 2012.

SECTOR BREAKDOWN

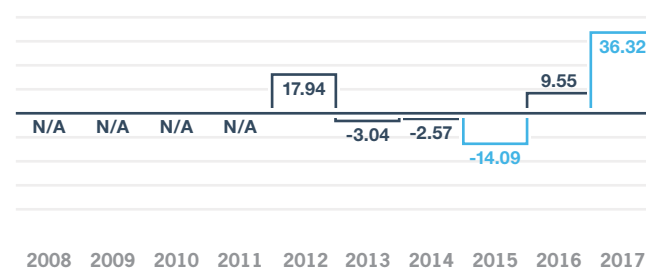


TOP TEN HOLDINGS

Tencent Holdings Ltd.	4.82	China Construction Bank Corp.	1.50
Alibaba Group Holding Ltd	3.61	Baidu, Inc. Sponsored ADR	1.13
Samsung Electronics Co. Ltd.	3.40	China Mobile Ltd.	0.92
Taiwan Semiconductor Manufacturing Co. Ltd	2.95	Industrial & Commercial Bank of China Ltd.	0.87
Naspers Limited Class N	1.88	Ping An Insurance Group	0.81

TEN-YEAR RANGE OF ANNUAL RETURNS**

□ = Maximum and minimum returns during 10-year period



FUND CHARACTERISTICS

AVG MARKET CAP \$5.52 b

PRICE/EARNINGS RATIO 13.71x

PRICE/BOOK RATIO 1.69x

DIVIDEND YIELD 2.56%

NUMBER OF HOLDINGS 2,780

ALLOCATION BY COUNTRY (in percent)	
China	30.50
Korea	15.07
Taiwan	12.63
India	9.38
South Africa	6.37
Brazil	5.74
Russia	3.19
Mexico	2.94
Malaysia	2.45
Thailand	2.32
Indonesia	1.96
Chile	1.16
Poland	1.09

ALLOCATION BY COUNTRY (in percent)	
Philippines	0.93
Qatar	0.82
Turkey	0.81
UAE	0.61
Colombia	0.47
Greece	0.38
Peru	0.38
Hungary	0.25
Egypt	0.20
Czech Republic	0.16
Pakistan	0.15
Hong Kong	0.03
Singapore	0.02

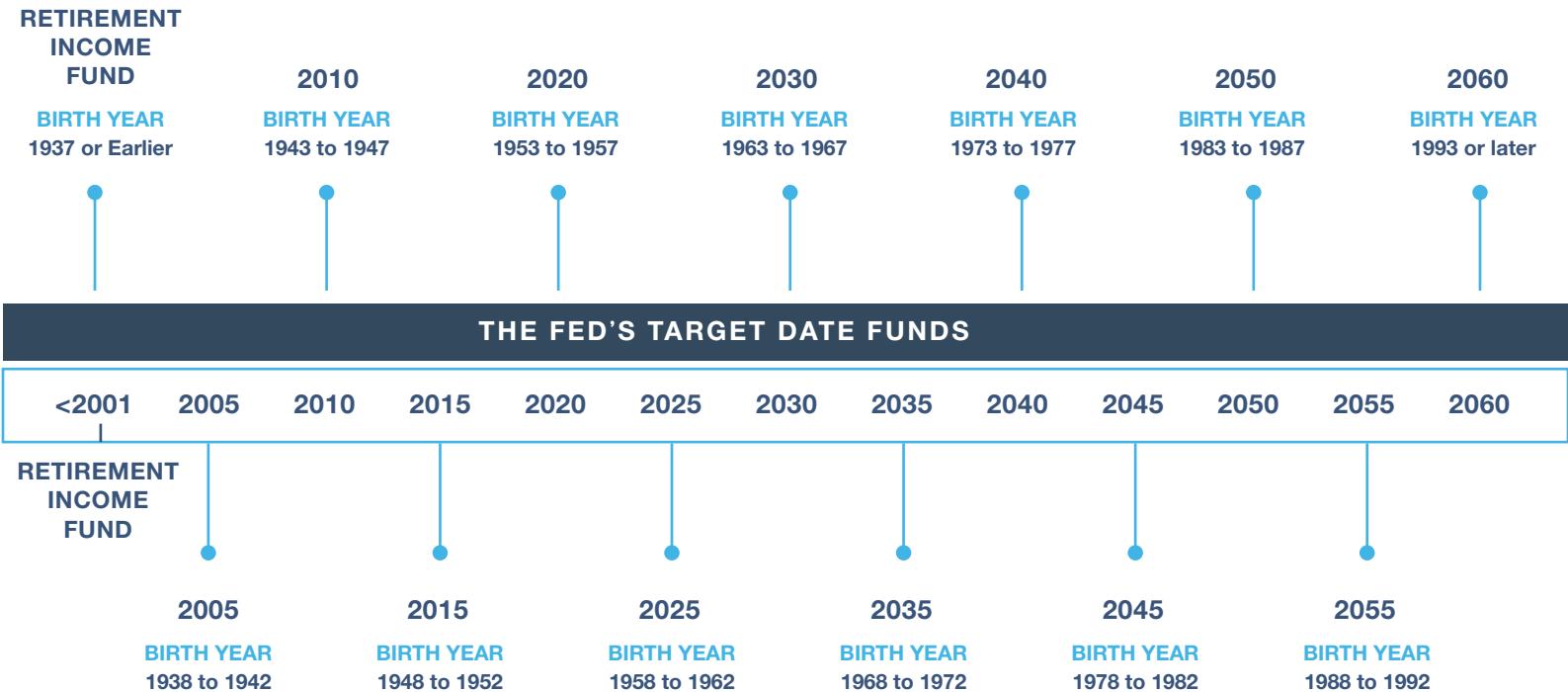
APPENDIX

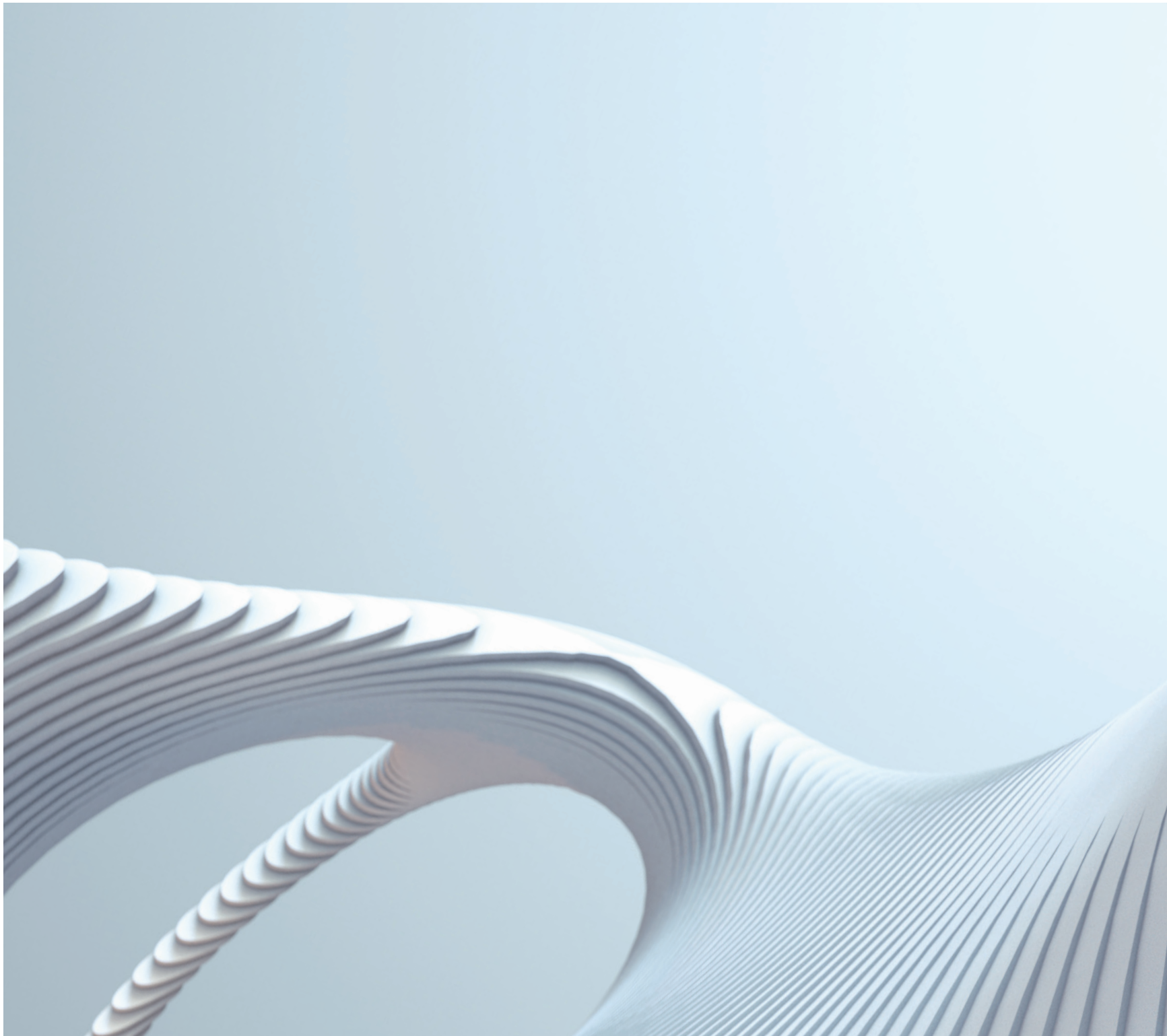
TARGET DATE FUNDS (TDFs)

On July 2, 2018, the Fed introduced a series of 13 TDFs (including the Retirement Income Fund). Those who had balances in an Asset Allocation Fund

were transferred to the TDF that most closely corresponded to the year they turn(ed) age 65. The farther out the “target date,” the more aggressive the

investment strategy. Generally, the target date for each fund indicates that it was designed for individuals who plan to retire in or around that specific year.







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