



Federal Retirement Thrift Investment Board Thrift Savings Plan

22 October 2018



BLACKROCK®

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BlackRock Overview

BlackRock at a glance

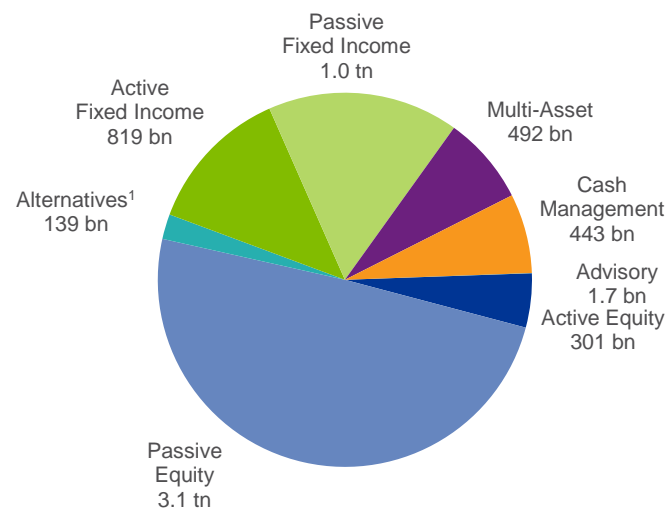
BlackRock Mission Statement

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

BlackRock facts

- Established in 1988
- NYSE: BLK
- \$6.44 trillion assets under management
- More than 13,500 employees
- More than 2,000 investment professionals
- Offices in over 34 countries
- 25 primary investment centers globally
- Clients in over 100 countries
- Over 850 iShares® ETFs Globally
- Through BlackRock Solutions, the Firm provides risk management and enterprise investment services for over 200 clients
- Financial Markets Advisory business managed or advised on over \$8 trillion in asset and derivative portfolios
- Transition Management team partners with clients to save costs and reduce risks when changing investment exposures

\$6.44 trillion managed across asset classes



Assets as of 30 September 2018

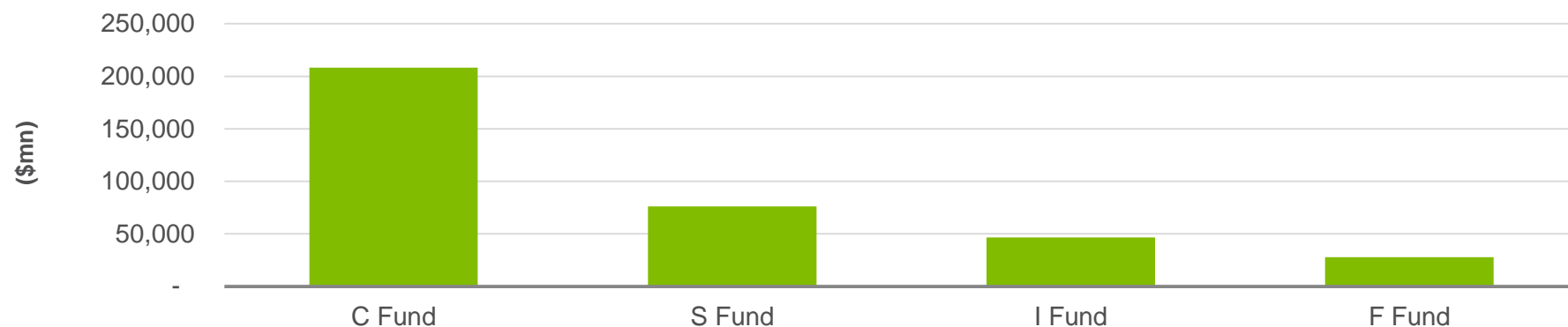
¹ Includes commodity and currency mandates

As of 30 September 2018. All figures are represented in USD.

C, S, I, and F Funds Summary

Thrift Savings Plan – assets under management

Participants' AUM (\$) as of September 30, 2018



Funds	Benchmark	AUM (\$) as of September 30, 2018
C Fund	S&P 500® Index	208,123,501,806
S Fund	Dow Jones U.S. Completion Total Stock Market Index	76,066,431,614
I Fund	MSCI EAFE Index	46,619,242,601
F Fund	Bloomberg Barclays U.S. Aggregate Bond Index	27,691,936,033
Total		358,228,474,294

BlackRock equity indexing platform

ETF and Index Investments Business

Manish Mehta

Global Head of Investments, Products, and Markets

Americas Portfolio Management

Alan Mason

Head of Americas Portfolio Management

Global Research

Ananth Madhavan

Global Head of ETF and Index Investment Research

Global Strategy

Jessica Irschick

Global Head of Index Product Strategy

Head of Trading, Liquidity and Investments Platform

Richard Prager

Risk & Quantitative Analysis (RQA) Group

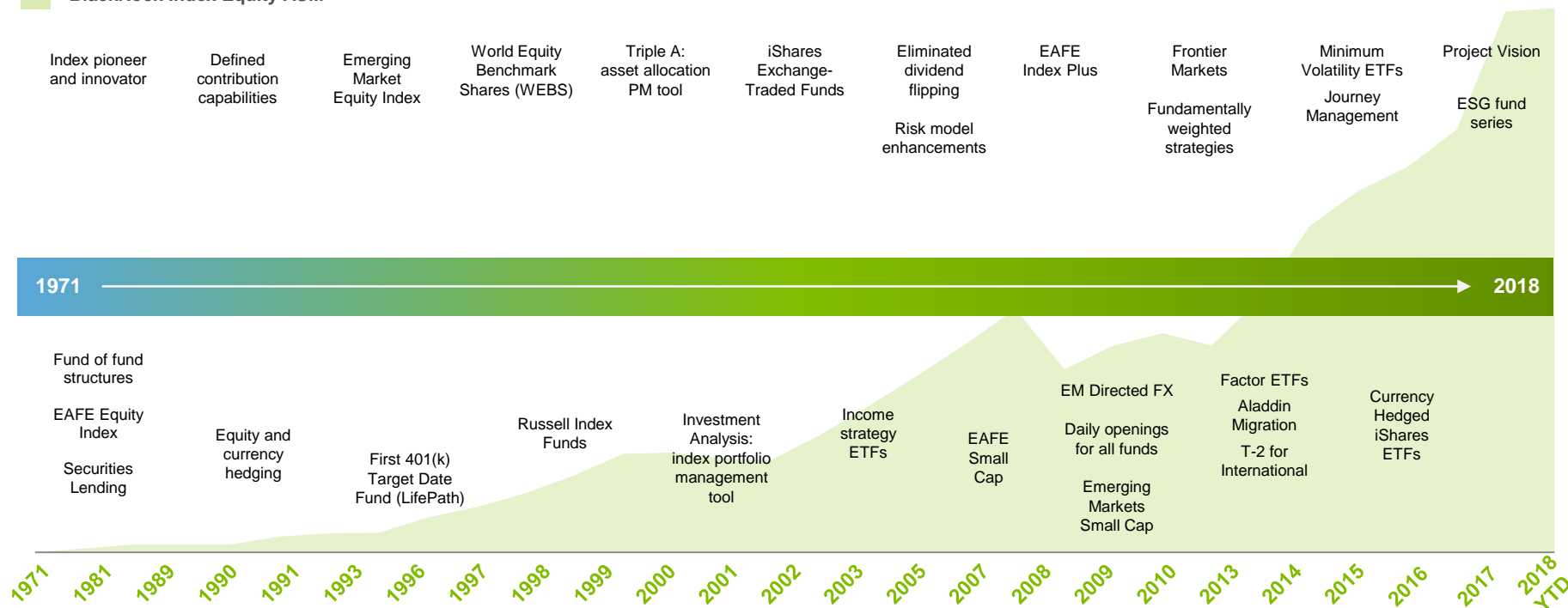
47 years of experience driving index forward

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, emerging, and frontier markets
- ▶ Evolve capabilities to continuously deliver on emerging trends — smart beta, global benchmarking, factor 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

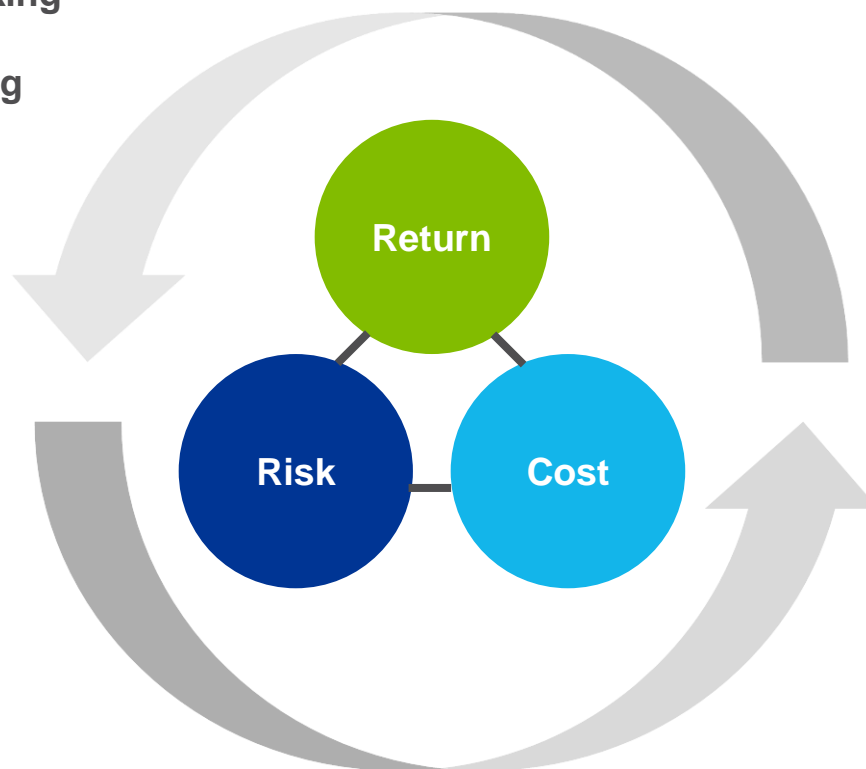
BlackRock Index Equity AUM



Philosophy

An approach that seeks to deliver efficient investment outcomes

BlackRock's disciplined, pragmatic and adaptable approach to index tracking is focused on optimally managing and balancing return, risk and cost.



Total Performance Management

Consistent Return

- ▶ Seeks to deliver consistent and reliable returns in line with the benchmark
- ▶ Deep knowledge of financial markets and indices
- ▶ Track record of enhanced returns from stock lending

Risk Management

- ▶ Risk managed process that seeks to consistently deliver optimal tracking outcomes
- ▶ Market leading risk analytics and investment tools provided by our Aladdin® platform

Cost Efficiency

- ▶ Preserve value for clients through our intelligent approach to index events
- ▶ Extensive global trading platform helps ensure cost are low and we have optimal access to liquidity

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

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



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

Portfolio Construction

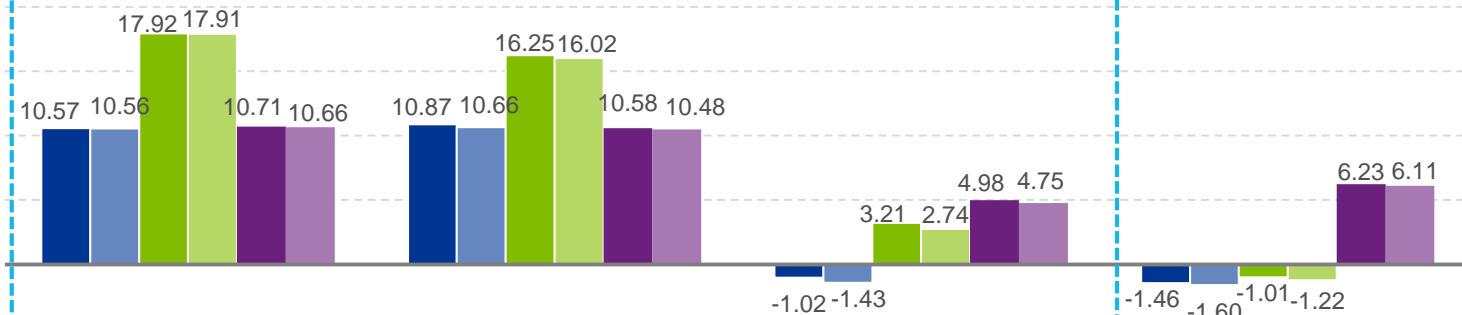
- Significant investment in technology
- Market leading portfolio and risk tools provided by our Aladdin® platform
- Integrated cost and liquidity analysis
- Knowledge of optimisation challenges

Thrift Savings Plan – performance

Performance relative to benchmarks – as September 30, 2018

Gross of fee returns* (%)

■ YTD Fund
 ■ YTD Benchmark
 ■ 1 Year Fund
 ■ 1 Year Benchmark
 ■ Since Inception Fund
 ■ Since Inception Benchmark



	C Fund	S Fund	I Fund	F Fund
YTD Fund Return	10.57	10.87	-1.02	-1.46
YTD Benchmark Return	10.56	10.66	-1.43	-1.60
Tracking	0.01	0.21	0.41	0.14
1 Year Fund Return	17.92	16.25	3.21	-1.01
1 Year Benchmark Return	17.91	16.02	2.74	-1.22
Tracking	0.01	0.23	0.47	0.21
Since Inception Fund Return	10.71	10.58	4.98	6.23
Since Inception Benchmark Return	10.66	10.48	4.75	6.11
Tracking	0.05	0.10	0.23	0.12

Fund returns are unaudited, annualized, assume reinvestment of dividends, and are gross of all fees and expenses. Deduction of fees will reduce return.

A DC Fund's performance may differ from that of its benchmark for various reasons, including, but not limited to, investment strategy and/or, in the case of an index fund, equitization of cash (e.g., by investing in futures or other instruments that serve as a proxy for index exposure). A DC Fund's performance may differ from the performance of its benchmark more dramatically than a fund offered only to defined benefit plan investors due to several factors that are specific to funds sold to DC plan investors, including but not limited to Fair Value Pricing. In the event that current market valuations are not readily available or such valuations do not reflect current market values, the affected investments will be valued using fair values determined in good faith. The frequency with which the fund's investments are valued using fair values is primarily a function of the types of securities and other assets in which the fund invests pursuant to its investment objective, strategies and limitations. Fair values may differ from closing prices, which are the prices on which index performance is based. Consequently, valuing the fund's investments using fair values ("fair values") may result in a difference between the fund's performance (based on the value of the fund's investments) and the performance of the underlying index (based on closing prices).

Since Inception dates: C Fund – 4/30/1988; S Fund – 5/2/2001; I Fund – 5/2/2001; F Fund – 4/30/1988

Benchmarks: C Fund (S&P 500 Index), S Fund (Dow Jones U.S. Completion Total Stock Market Index), I Fund (MSCI EAFE Index), F Fund (Bloomberg Barclays U.S. Aggregate Bond Index)

Past performance is no guarantee of future results

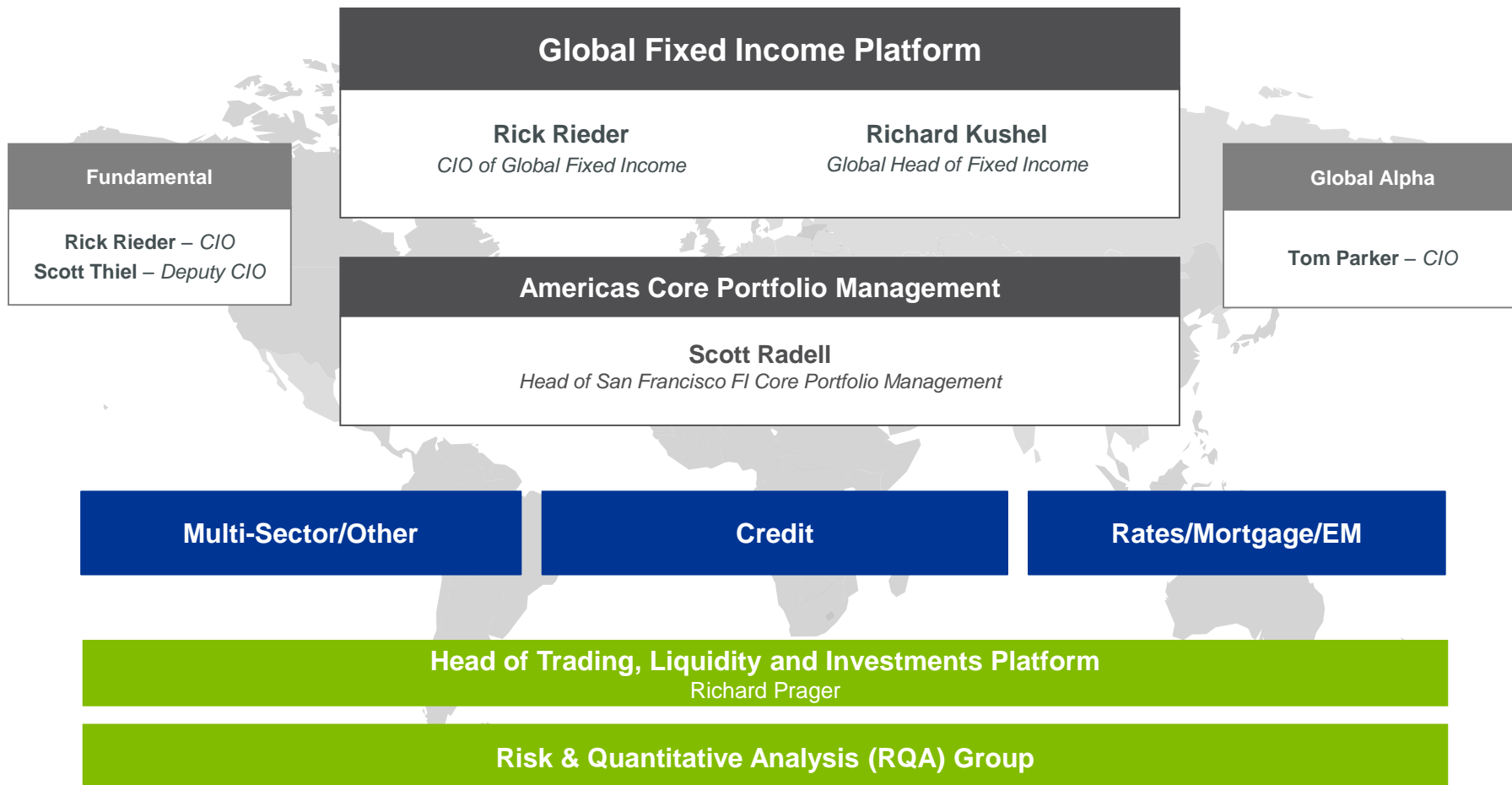
As of September 30, 2018; Source: BlackRock

Thrift Savings Plan – 1 Year performance attribution

	C Fund	S Fund	I Fund	F Fund
1 Year Fund Return	17.92	16.25	3.21	-1.01
1 Year Benchmark Return	17.91	16.02	2.74	-1.22
Tracking	0.01	0.23	0.47	0.21
Attribution Summary	Securities Lending	Securities Lending Security Sampling	Tax Advantage Securities Lending	Securities Lending Security Sampling

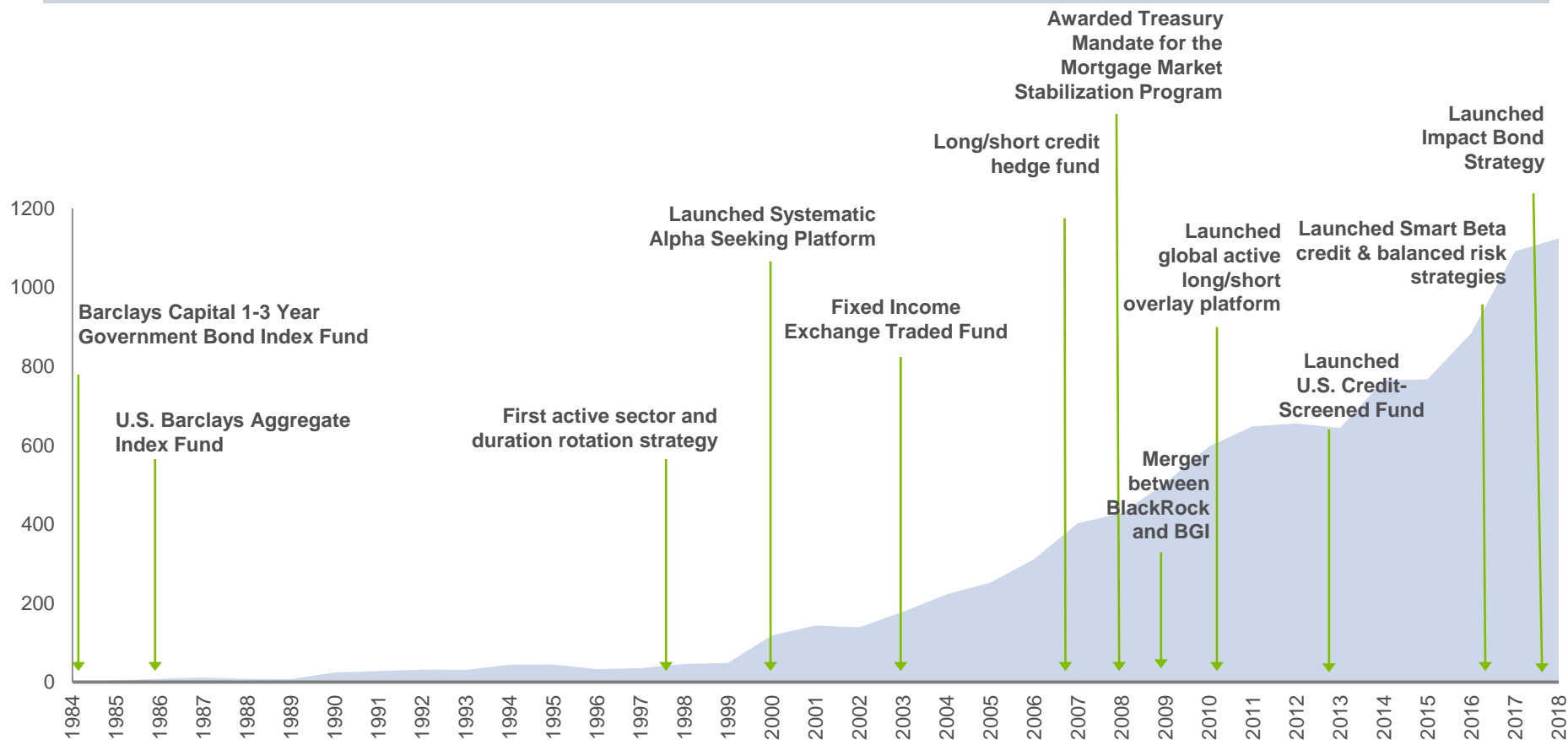
As of September 30, 2018

BlackRock fixed income platform



BlackRock is the global leader in fixed income indexing — Largest fixed income index and ETF manager globally**

30 years of index and model-based fixed income management

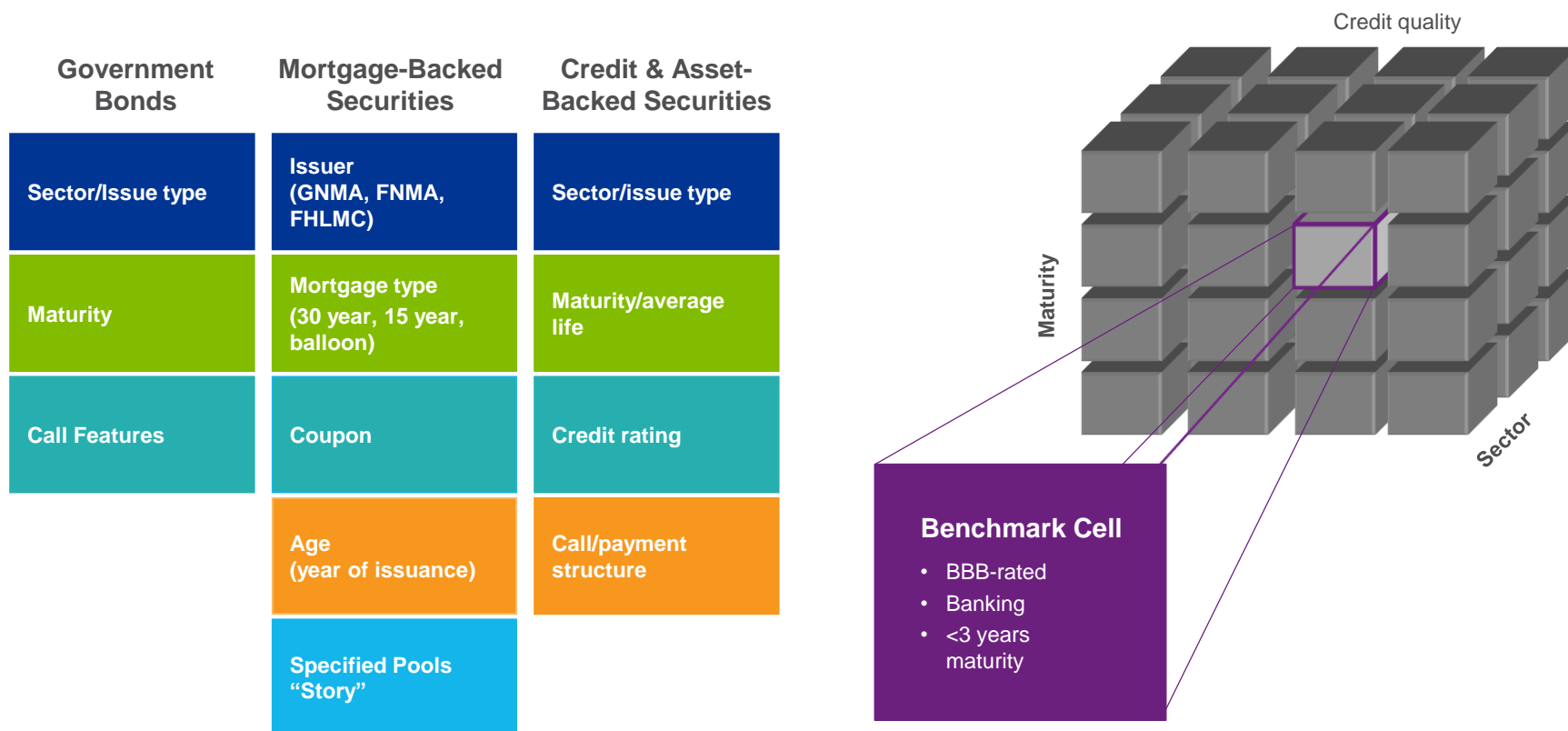


Source: BlackRock, as of June 2018

** Source: Pension & Investments as of 30 June 2017

Portfolio construction

Stratified sampling: Dividing the various indexes into subsets (cells) based upon relative parameters



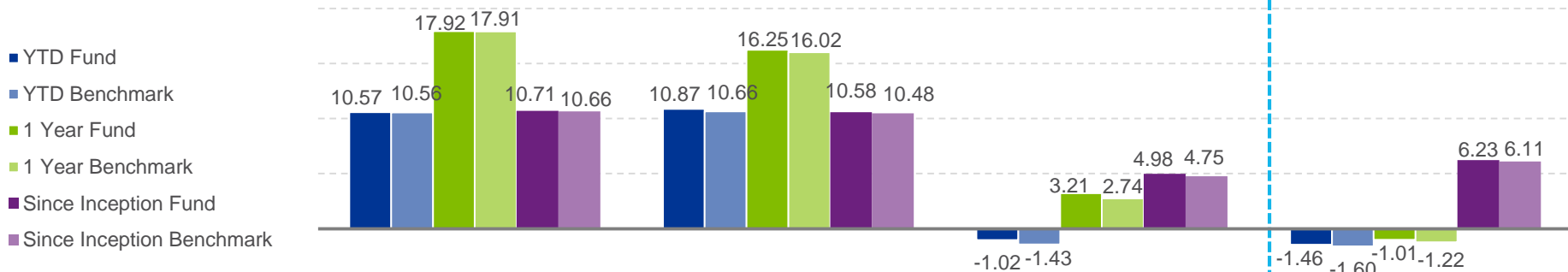
Portfolios are constructed by sampling bonds from each index cell

For illustrative purpose only

Thrift Savings Plan – performance

Performance relative to benchmarks – as September 30, 2018

Gross of fee returns* (%)



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As of September 30, 2018

Securities Lending Review

Benefits of securities lending

- Securities lending is a well-established practice whereby an asset owner makes short-term loans of stocks or bonds to banks or broker dealers who often on-lend those securities to other end users
- Loans are over-collateralized with cash or other securities; collateralization levels are mark-to-market daily
- Investors, particularly long-term (e.g. pension and retirement plan) investors, can benefit from the securities lending income in the form of better fund performance
- Securities lending benefits the markets by providing increased price transparency, enhanced market liquidity and efficiency

BlackRock securities lending & cash collateral management platform

Trading, Liquidity and Investments Platform

Richie Prager

Head of Trading, Liquidity and Investments Platform

Cash Management

Thomas Callahan

Head of Global Cash Management

Global Head of Portfolio Management

Rich Mezzak

Securities Lending

Roland Villacorta

Global Head of Securities Lending

Global Head of Product Strategy

Jason Stros

Global Head of Trading

James Templeman

Global COO

Sara Lo

Head of U.S. Trading

Patricia Hostin

Head of Intl Trading

Yoshihiko Aoyama

Risk & Quantitative Analysis (RQA) Group

As of September 30th, 2018

A Focus on Technology and Analytics

Technology is core to who BlackRock is as a firm:

- For over 30 years, BlackRock has been at the forefront of technological innovation, using technology to provide efficiencies and insights that provide better outcomes for clients.
- The firm continues to drive innovation, recently accelerating investment in the data science and artificial intelligence space.
- Securities lending is a data rich, OTC market where significant opportunity to enhance efficiency in the trading process exists.
- A focus on innovative technology, trading tools and data allow traders to focus solely on activities where human touch adds unique value.

Standard Low-Fee Loans

Low-touch trading

Automated trading of standard-fee loans liberates traders to focus on bespoke loans and perfecting trading models.



Mid-Range Medium-Fee Loans

Pricing Signals

BlackRock's proprietary pricing signals and technological capabilities facilitate trading non-standard loans with little, if any, manual touch.



High-Demand High-Fee Loans

High-touch trading

Our high-touch traders leverage proprietary technology, analytics and coordination with other investment teams with the aim to outperform the market in high-value trades.



Seeking to provide superior client outcomes:

- For clients, this may result in better performance outcomes, including more optimal trading of individual securities and the opportunity to generate higher risk-adjusted securities lending returns.

RISK: With securities lending there is a risk of loss should the borrower default before the securities are returned, and due to market movements the value of collateral held has fallen and/or the value of the securities on loan has risen.

Market Update: Trends in equity and fixed income

Fixed Income trends:

- As part of ongoing policy normalization, the Federal Reserve increased the target range of the federal funds rate three times in 2018. In combination with higher short-end interest rates, a significantly flatter Treasury yield curve has led investors to favor shorter duration fixed income instruments.
- While there have been few U.S. Treasury specials, borrowing demand has remained robust in 2018. The need for high quality liquid asset collateral has been the primary source of demand.
- Demand to borrow High grade U.S. dollar-denominated credit securities has remained steady in 2018, largely related to market making activities. Supranational issuers, Financials, Information Technology and Communications have been the sectors highest in demand.

Equity trends:

- Equity returns in the U.S. have remained solid in 2018, lead by a combination of earnings expansion, robust economic activity, and continued momentum effects.
- Borrowing demand for US equities has remained steady in 2018, with increased shorting activities in certain sectors, particularly in Consumer Discretionary, Information Technology, Biotechnology and Communication sectors.
- The annual Russell Reconstitution at the end of June proved to be particularly profitable. Heavy borrower demand richened spreads on a number of illiquid securities
- Corporate action activity in various equity markets around the globe has been a significant source of borrower demand in 2018, most notably in France and the United States

This material represents an assessment of the market environment at a specific time and is subject to change. This is not intended to be a forecast of future events or a guarantee of future results. This information should not be relied upon by the reader as research or investment advice regarding the funds, strategy or any security in particular.

Fund performance update

C Fund

- Utilization of large cap equities increased marginally in 2018, but overall continues to be low due to ample supply of securities in the lending market, increased interest from borrowers to post non-cash collateral, and strong outright equity market performance.
- Over the period (January 1, 2018 – September 30, 2018), Fortive Corporation, Microchip Technology Inc, Omnicom Group Inc, and Visa Inc were the largest income earners, combining to generate \$3.6mm in lending income.

S Fund

- Relative to large cap equities, small and mid-cap U.S. equity securities have been in greater demand from borrowers. Overall utilization remained steady compared with 2017, although spreads have increased.
- The Consumer Discretionary, Health Care, and Information Technology sectors have been the most in demand, accounting for approximately 55% of the S Fund income in the period.
- Over the period (January 1, 2018 – September 30, 2018), Tesla Inc, Sirius XM Holdings Inc, Ubiquiti Networks Inc, Energous Corp and Cracker Barrel Old Country Store Inc earned \$17.9mm in lending income.

I Fund

- Corporate action focused loans are typically the primary source of income. The largest corporate action contributors to lending income were Total S.A., Kering S.A, and Danone S.A., combining for \$3.8mm over the period.
- Specials activity was most noticeable in the Asia, with Sharp Corporation, Kingston Financial Group LTD, and Cyberdyne Inc generating \$1.9mm in lending income over the period
- France is the largest income generating market earning accounting for approximately 53% of I Fund income.

F Fund

- While U.S. Treasury securities account for approximately 85% of the lending income, demand to borrow credit securities continues to grow driven by market making and shorting activities.
- The primary source of lending return for fixed income securities continues to be attributed to cash collateral reinvestment.

The above commentary is representative of individual securities and markets of which demand exists to borrow securities from FRTIB's portfolios. There are no detractors to securities lending revenue, instead just securities with little to no demand to borrow from market participants. References to any security and/or particular issuer shall not constitute a recommendation to buy or sell.

Appendix

Important notes

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Securities Lending Returns

BlackRock retains a portion of securities lending returns in exchange for managing the program. This fee reflects risk management, as well as the technology and personnel costs of maintaining the lending platform. In addition, BlackRock receives a fee for the management of cash collateral. Actual lending yields and fees for strategies represented may vary. Please note, other administrative costs, including but not limited to, accounting, custody and audit fees, may vary. Investors may receive 50% of securities lending returns and BlackRock retains 50%, except in cases where a client may negotiate a different compensation arrangement. BlackRock may negotiate different securities lending compensation arrangements with our clients depending on a variety of factors, including, but not limited to, the nature and size of the investment and the overall relationship with, and services delivered to, a particular client. Asset spread income is defined as the interest income earned in cash reinvestment funds on collateral balances less the Federal Funds Open Rate. Liability spread income is defined as the difference between the Federal Funds Open Rate and the rebate rate negotiated with the borrower.

Forward Looking Information

This material may contain "forward-looking" information that is not purely historical in nature. Such information may include, among other things, projections, forecasts, estimates of yields or returns, and proposed or expected portfolio composition. Moreover, where certain historical performance information of other investment vehicles or composite accounts managed by BlackRock, Inc. and/or its subsidiaries (together, "BlackRock") has been included in this material and such performance information is presented by way of example only. No representation is made that the performance presented will be achieved, or that every assumption made in achieving, calculating or presenting either the forward-looking information or the historical performance information herein has been considered or stated in preparing this material. Any changes to assumptions that may have been made in preparing this material could have a material impact on the investment returns that are presented herein by way of example.

Forecast

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No Recommendation

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Money Market Fund

Although a money market fund seeks to preserve the value of one's investment at \$1.00 per share, it is possible to lose money by investing in a money market fund. Investment in a money market fund is not similar to making a bank deposit. This investment is not insured or guaranteed by the Federal Deposit Insurance Corporation or by any bank or governmental agency.

Important notes

Risk

Securities lending involves exposure to certain risks, including cash collateral investment risk (i.e., risk that cash collateral investments, whether in Cash Collateral Funds or otherwise, may not achieve their investment objective, including suffering realized or unrealized loss due to investment performance), “gap” risk (i.e., risk that the return on cash collateral investments is insufficient to pay the rebate fees the Lending Fund or Lending Account has committed to pay to borrowers), liquidity risk (i.e., risk that the cash collateral is invested, directly or through the Cash Collateral Funds, in securities and other instruments that are less liquid than the Lending Fund or Lending Account, which could limit the liquidity available to the Lending Fund or Lending Account for ordinary course transactions), operational risk (i.e., risk of losses resulting from problems in the settlement and accounting process), foreign exchange risk (i.e., risk of a shortfall at default when a cash collateral investment is denominated in a currency other than the currency of the assets being loaned due to movements in foreign exchange rates), and credit, legal, counterparty and market risks. At any particular point in time, investments in the Cash Collateral Funds could comprise a material portion of a Lending Fund's assets.

Investing involves risk, including possible loss of principal. Asset allocation and diversification strategies do not assure a profit and may not protect against loss or effects of market or other economic conditions on asset classes. Diversification among investment options and asset classes may help to reduce overall volatility.

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