



# **Federal Retirement Thrift Investment Board Thrift Savings Plan**

**October 19, 2020**

# BlackRock Overview

# BlackRock at a glance

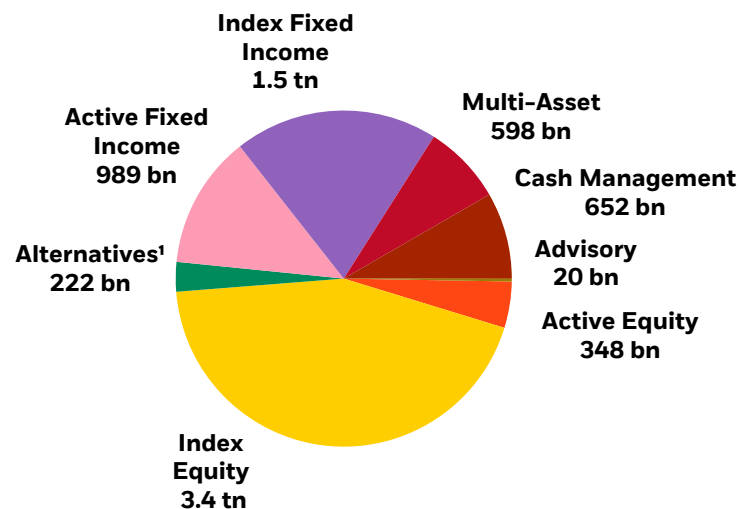
## BlackRock Purpose Statement

We help more and more people experience financial well-being

### BlackRock facts

- Established in 1988
- NYSE: BLK
- \$7.81 trillion assets under management
- Over 16,500 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 900 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

### \$7.81 trillion managed across asset classes



Assets as of 30 September 2020

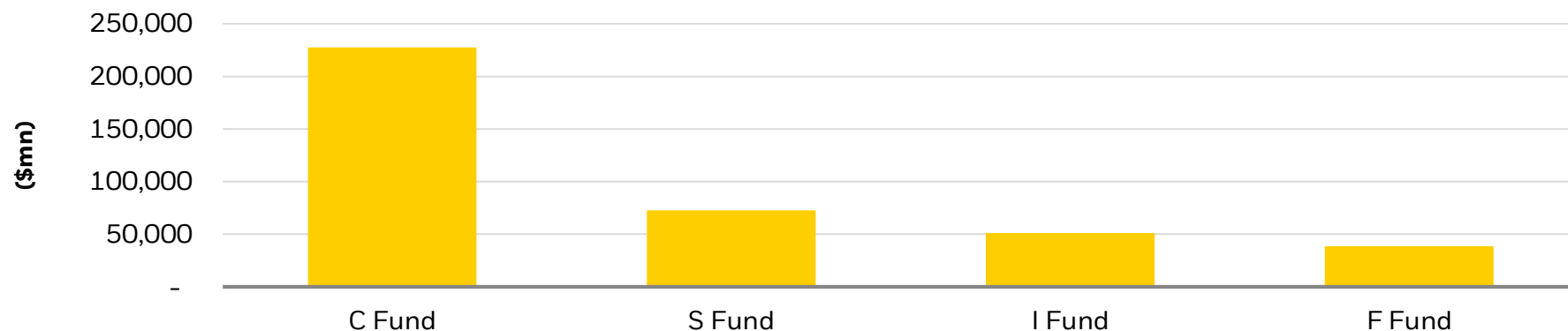
1. Includes commodity and currency mandates

Source: BlackRock. As of 30 September 2020. 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, 2020



Funds	Benchmark	AUM (\$) as of September 30, 2020
C Fund	S&P 500® Index	227,458,277,687
S Fund	Dow Jones U.S. Completion Total Stock Market Index	72,603,387,369
I Fund	MSCI EAFE Index	51,012,244,056
F Fund	Bloomberg Barclays U.S. Aggregate Bond Index	38,554,593,786
<b>Total</b>		<b>389,628,502,898</b>

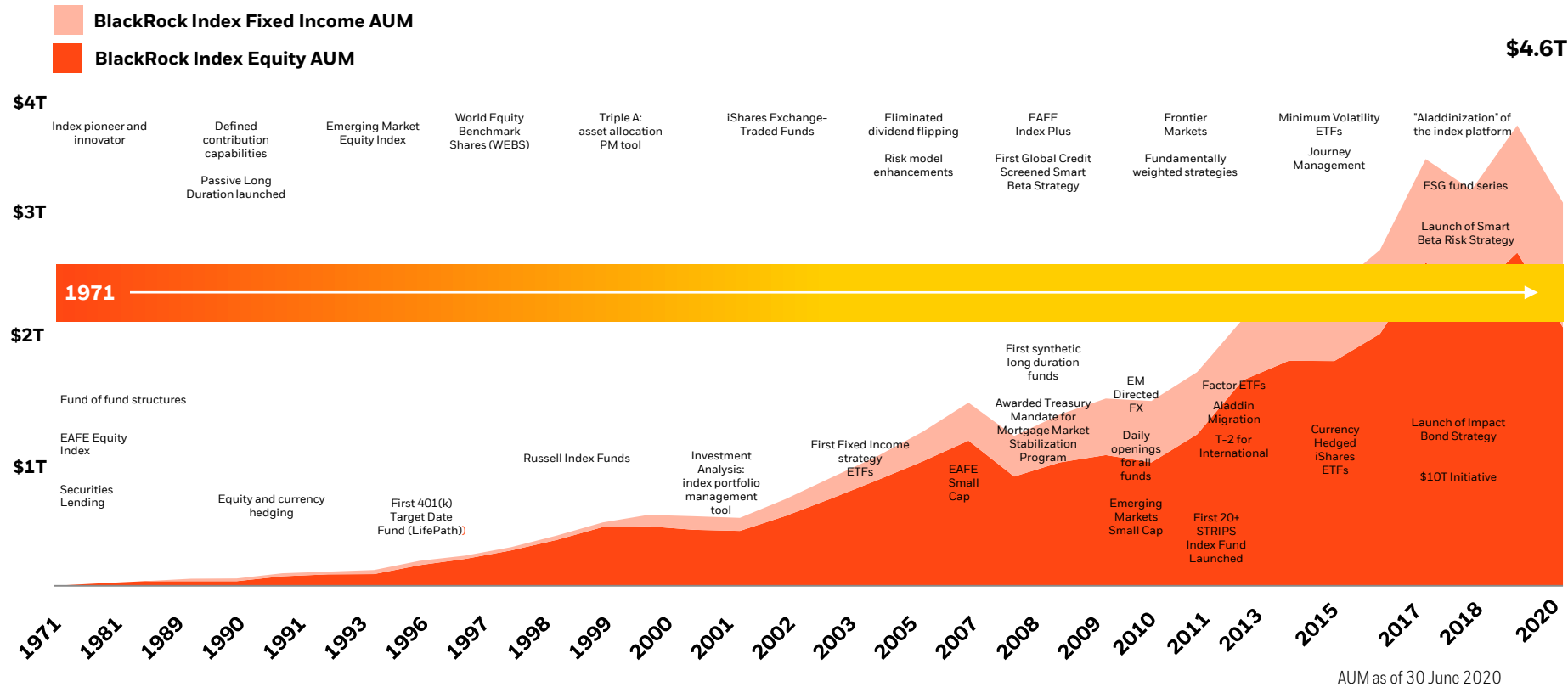
# Equity Index (C, S, and I Funds)

# 49 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 and depth of expertise
- ▶ Forge new ground for clients — a history of being first to market with new investment ideas
- ▶ 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

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



# 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



# 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 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
- Industry's largest internal marketplace for potential netting of client flows
- Focused trading research and systems
- **Aladdin Advantage:** Extensive global trading platform helps ensure low costs and optimal access to liquidity



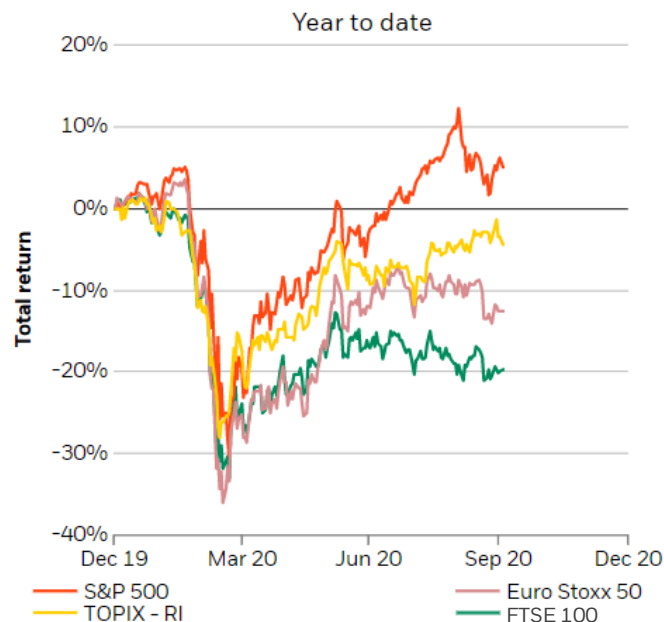
## Benchmark Knowledge

- 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 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 Advantage:** Custom 'Portfolio Construction' application built by our Portfolio Management Team designed specially for index management

# Equity Index: Managing through COVID-19



- ▶ Coronavirus pandemic becomes global
- ▶ Profound impact on equity markets as countries / economies virtually shut down to slow the spread of the virus
- ▶ Businesses globally forced to adjust to the new norm of working from home
- ▶ Market volatility increases significantly
- ▶ Trading costs increase / liquidity decreases
- ▶ Broker-dealers not using balance sheet to support markets, particularly short settlement
- ▶ Starting in late March, Central Bank and Government fiscal/policy stimulus efforts begin to calm markets. Volatility, prices, liquidity, and costs slowly begin to return to previous levels

## BlackRock Actions

- ▶ Adjusted cash balances in portfolios based on liquidity needs. In some cases BlackRock increased cash levels to facilitate unprecedented participant activity. Cash balances were subsequently reduced as markets stabilized
- ▶ In coordination with Risk and Quantitative Analytics team (RQA), monitored portfolio misweights and tightened where appropriate
- ▶ Provided input to index vendors with regards to regularly scheduled index rebalances
- ▶ Maintained tight collaboration with broker dealers on market stability and liquidity
- ▶ Dynamically adjusted trading strategies based on the market environment
- ▶ Firmwide market closure taskforce created and playbook established

# Thrift Savings Plan – performance

Performance relative to benchmarks – as of September 30, 2020

## Gross of fee returns\* (%)

■ YTD Fund Return

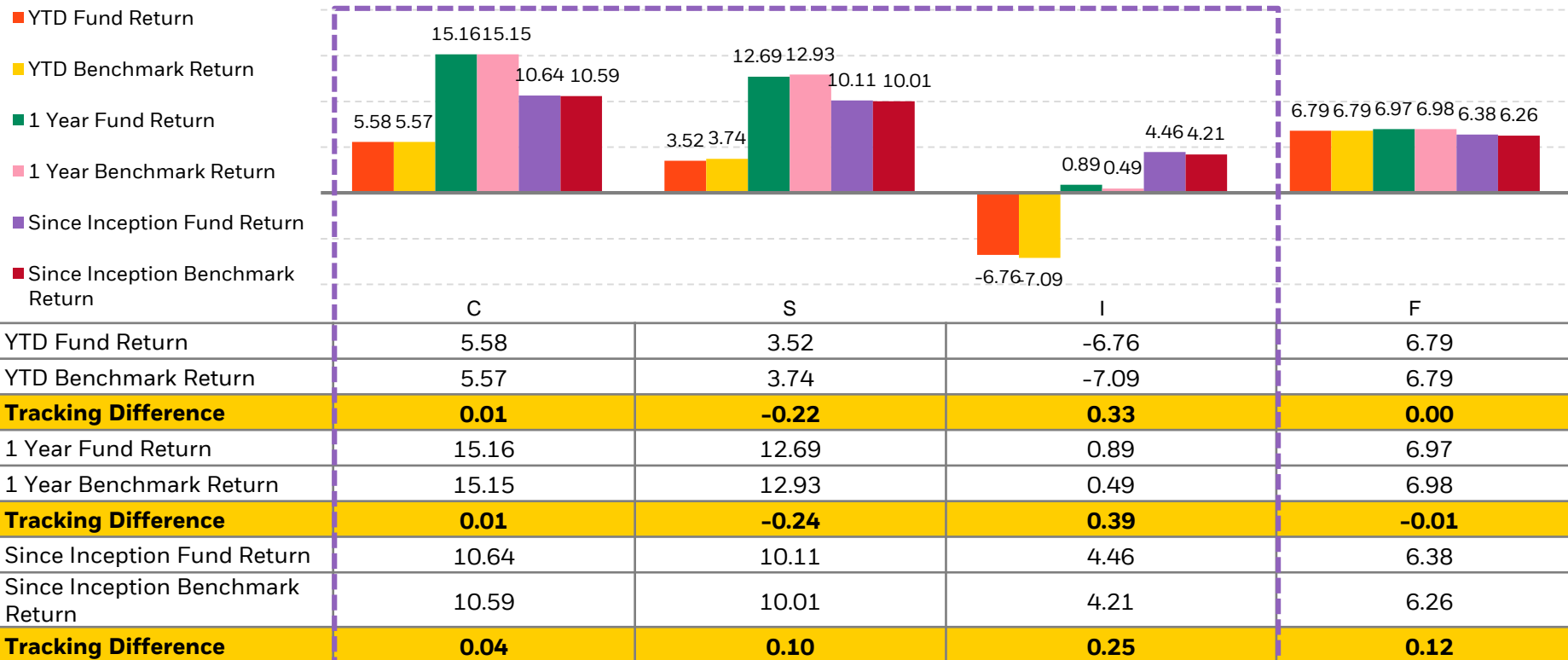
■ YTD Benchmark Return

■ 1 Year Fund Return

■ 1 Year Benchmark Return

■ Since Inception Fund Return

■ Since Inception Benchmark Return



\*Fund returns are unaudited, annualized, assume reinvestment of dividends, and are gross of investment management fees. 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). Note, some items may not sum due to rounding.

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, 2020; Source: BlackRock

# Thrift Savings Plan – 1 Year performance attribution

	C Fund	S Fund	I Fund	F Fund
1 Year Fund Return	15.16	12.69	0.89	6.97
1 Year Benchmark Return	15.15	12.93	0.49	6.98
<b>Tracking Difference</b>	<b>0.01</b>	<b>-0.24</b>	<b>0.39</b>	<b>-0.01</b>
Attribution Summary	Securities Lending	Futures Mistracking Securities Lending Security Sampling	Tax Advantage Securities Lending	Security Sampling

Gross of fee returns (%) as of September 30, 2020

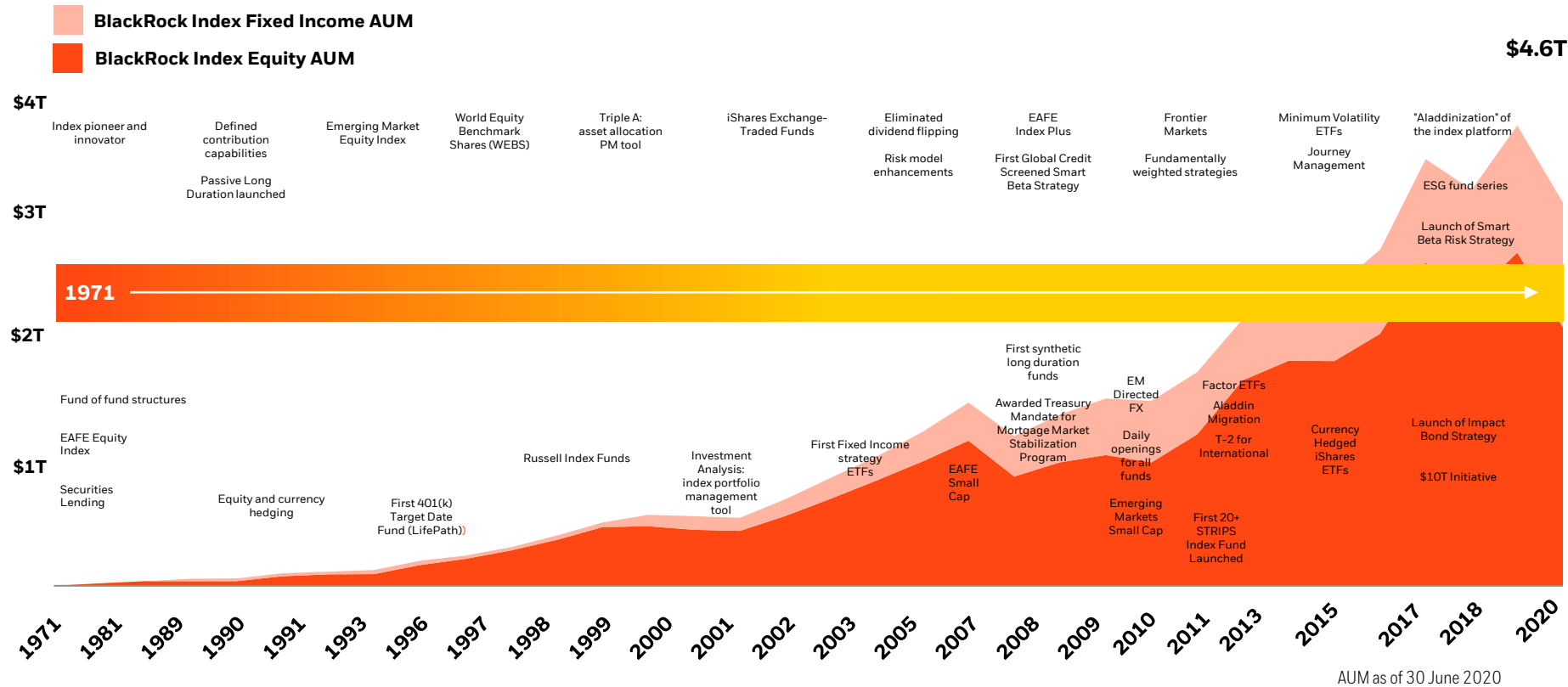
# **Fixed Income Index (F Fund)**

# 49 years of experience driving index forward

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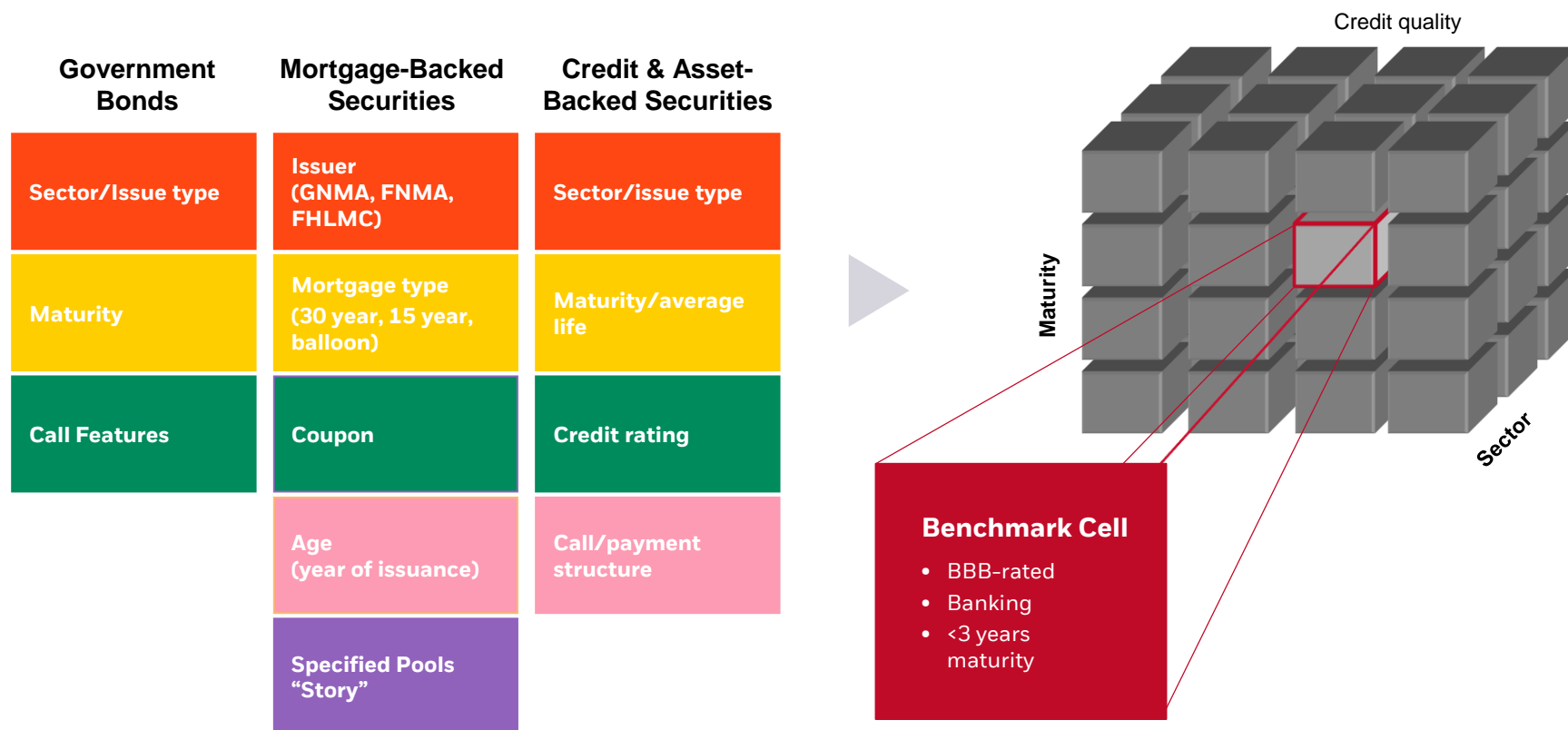
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## 49 years of Index Equity — Continual evolution of products, technology and capabilities



# 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**

Source: BlackRock. For illustrative purpose only and subject to change.

# Fixed Income: Managing Through COVID-19

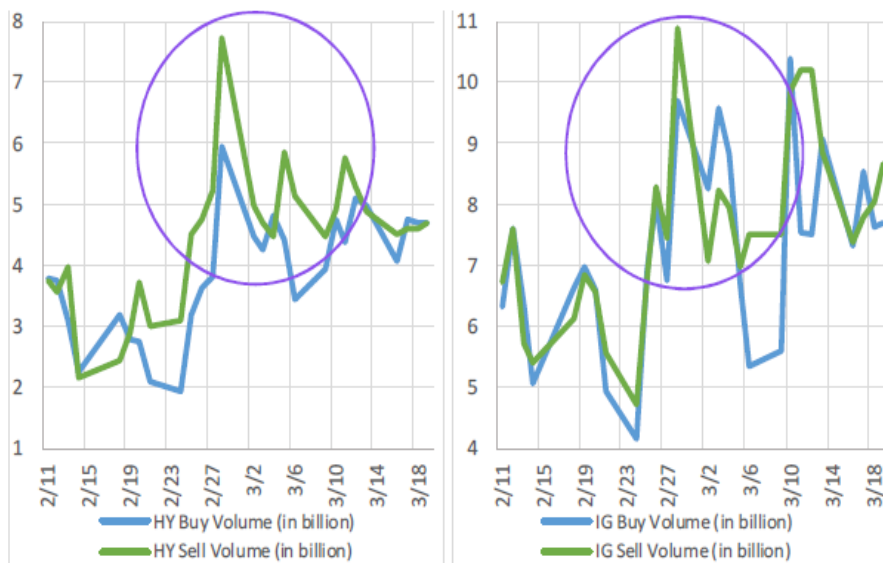
**Late February, noticeable selling pressure begins on both investment grade (IG) and high yield (HY) bonds**

- Creates strain on dealer balance sheets, which contributes to spread widening and investor rush to raise cash

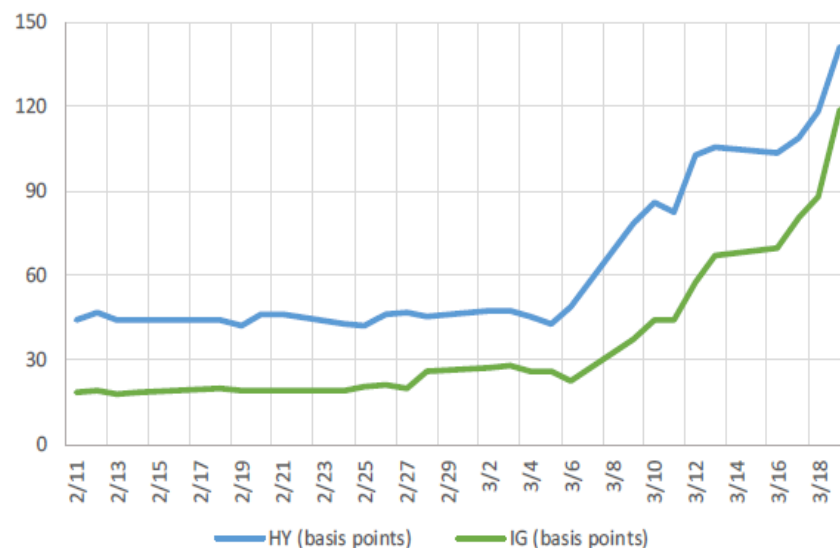
**BlackRock leverages the size and scale of its trading platform to meet client liquidity needs**

- Raise liquidity in more liquid, on-the-run securities while balancing tracking error minimization objective
- PM discretion granted to trade before or after index inclusion/exclusion events

## TRACE Volume: IG and HY Bonds



## Avg Bid-Ask Spread, BBG Barclays IG & HY Indices



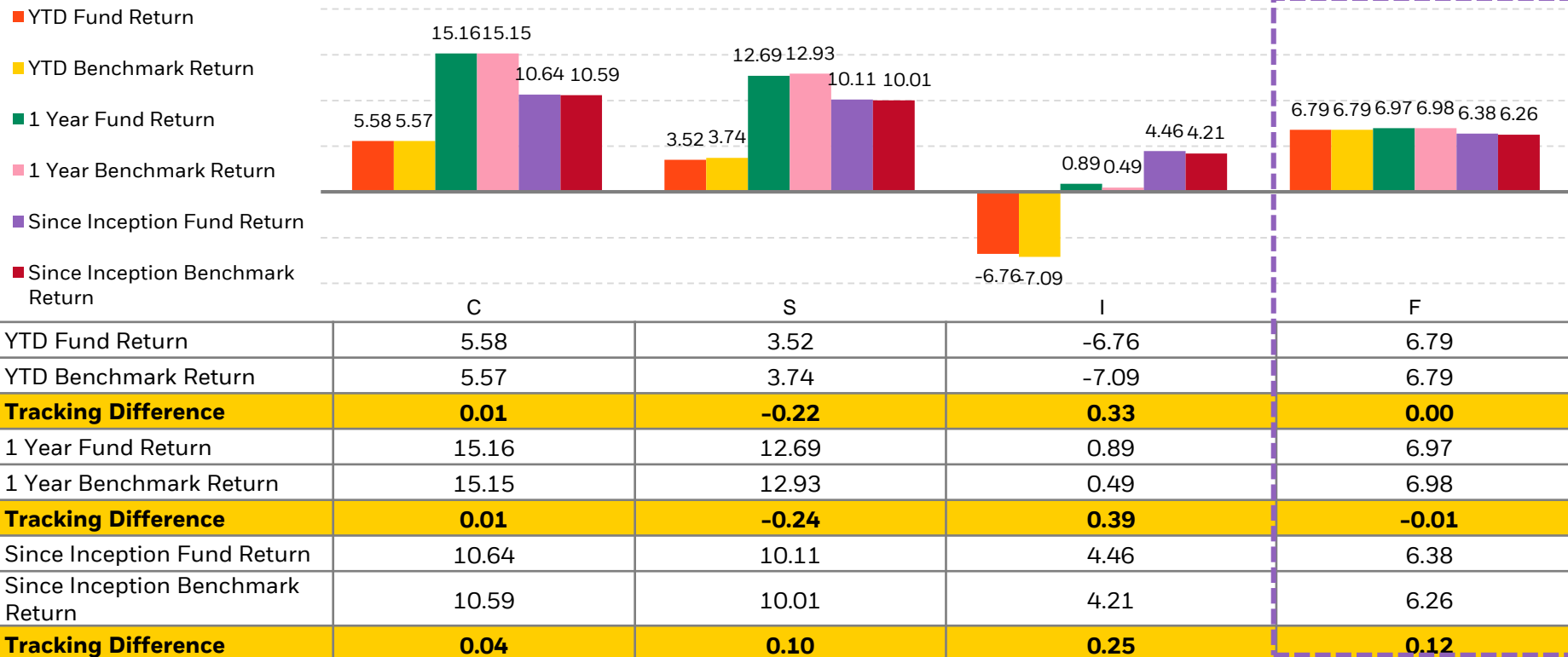
Source: TRACE, ICE, MarketAxess



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Performance relative to benchmarks – as of September 30, 2020

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Gross of fee returns (%) as of September 30, 2020

# **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 potentially benefit from the securities lending income in the form of better fund performance<sup>1</sup>
- Securities lending benefits the markets by providing increased price transparency, enhanced market liquidity and efficiency

1: Lending income is an additional source of return to the fund. This is reflected in the fund's NAV and attributes to performance.

# 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	Mid-Range Medium-Fee Loans	High-Demand High-Fee Loans
<p><b>Low-touch trading</b></p> <p>Automated trading of standard-fee loans liberates traders to focus on bespoke loans and perfecting trading models.</p> 	<p><b>Pricing Signals</b></p> <p>BlackRock's proprietary pricing signals and technological capabilities facilitate trading non-standard loans with little, if any, manual touch.</p> 	<p><b>High-touch trading</b></p> <p>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.</p> 

## 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.

# Securities Lending: Managing Through COVID-19

## Trading

- Volatility in financial markets and the uncertain economic outlook as a result of COVID-19 led to new borrowing demand across equities, treasuries and credit.
- Securities lending trading activity was robust, with new daily loan volumes at BlackRock increasing as much as 50% in March and April compared with trailing three month average loan volumes.
- Steeper interest rate curves created new opportunities to lend U.S. fixed income assets resulting in increases in both lending balances and spreads.
- Electronic trading functionality was a key tool that enabled seamless transaction capabilities between the TSP's funds and borrowing counterparties.

## Connectivity and Operational Risks

- The vast majority of employees who manage the lending program on behalf of the TSP began working from remote locations in March. In support of that, traders and portfolio managers had work stations installed at their remote locations, and key processes and functions were managed in multiple locations and time zones to ensure business continuity.
- Increased the frequency of intraday collaboration and multimedia based meetings between all groups in Securities Lending, Cash Management and Business Operations to proactively take advantage of trading opportunities, maintain proper cash collateral management and reduce potential sources of operational risks.
- Actively engaged with TSP staff, providing additional real-time commentary on lending and cash markets and risks, and highlighting expected future activity and trading opportunities
- Frequent engagement with borrowing counterparties at every level of the organization to ensure trading activity remained robust and on-loan cash balances remained consistent.

Source: Bloomberg and BlackRock data, as of 9/30/2020

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.

# Market Update: Trends in equity and fixed income

## Fixed Income trends:

- The Federal Open Market Committee (Fed) slashed the Federal Funds Target rate by 150 basis points in March to cushion the US economy from the global health crisis. In addition, the Fed announced a series of historical measures in an effort to ensure that funding markets, money markets, and other markets continue to be strong and liquid. As a result, funding markets have been operating smoothly since March, with ample amounts of liquidity in the money markets and robust demand to borrow high quality assets such as U.S. Treasuries.
- The cash collateral reinvestment environment has become more attractive this year as interest rate cuts have steepened the yield curve in the U.S. Borrowing demand for U.S. Treasury securities has increased substantially, due largely to a notable increase in assets within government money funds.
- Demand to borrow credit assets increased in March and April, however, as credit spreads quickly stabilized, shorting demand did not persist.

## Equity trends:

- Demand to borrow U.S. equities has been robust. Throughout early to mid-March, when market volatility was at its peak, new loan volumes increased significantly. Demand to borrow was particularly high in sectors most impacted by COVID-19 related shutdowns such as Health Care, Energy, Transportation and Consumer Discretionary.
- For U.S. equities, Health Care has been the highlight, with demand to borrow coming from corporate action activity and in pharmaceutical companies working on COVID-19 treatments or vaccines. Outside of Health Care, airlines, cruise ships and retail operators were in demand from borrowers.
- While demand to borrow International equities was negatively impacted by factors such as dividend cancellations and temporary short selling bans in various European and Asian markets, corporate action activity remained robust throughout 2020.

Source: Bloomberg and BlackRock data, as of 9/30/2020

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# Fund performance update

## C Fund

- Following the COVID-19 pandemic that occurred in March, securities lending returns for large-cap equities increased significantly, due to an increase in demand to borrow shares of companies most impacted by COVID-19 shutdowns. Demand also stemmed from several corporate actions, index rebalances and an attractive cash reinvestment environment, which was driven by changes in the interest rate environment.
- Demand to borrow was particularly high in sectors such as Health Care, Industrials (airlines), Consumer Discretionary (hotels/resorts), and Information Technology (data processing), making up almost 60% of the C Fund's income.

## S Fund

- Consistent with previous years, small and mid-cap U.S. equity securities have been in greater demand from borrowers than large-cap, with the majority of the TSP's lending income coming from the S Fund. Overall utilization has remained fairly steady, with lending spreads increasing notably compared with 2019.
- Over the period, the Consumer Discretionary, Health Care and Information Technology sectors have been the most in demand, accounting for almost 60% of the S Fund's income. Within the Health Care sector, the Biotechnology, Pharmaceutical, and Health Care Equipment industries have been especially attractive, accounting for approximately 25% of the S Fund's income.
- The S Fund benefitted from multiple high-value corporate action opportunities during the second quarter.

## I Fund

- Corporate action driven loans are typically the primary source of income. While demand to borrow securities was negatively impacted by dividend cancellations and short-sale bans, France continued to be the largest income generating market.
- Beyond France, there has also been ample demand to borrow in the German, United Kingdom and Asian markets, especially after some temporary short selling bans expired in the second quarter.

## F Fund

- Borrowing demand for U.S. Treasury securities has increased, leading to increased fixed income lending returns. While demand to borrow credit securities temporarily increased early in the year, U.S. Treasury securities continue to be the primary source of borrower demand in the F Fund.
- Fixed income securities lending returns are heavily influenced by the interest rate environment and the unexpected shift in Fed Policy has led to substantially higher income over the period when compared to 2019.

Source: BlackRock data, as of 9/30/2020

Past performance is no guarantee of future results. 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.

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# Important notes (cont.)

## 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.

## 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.

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