



PROSPECTUS

MFS[®] Total Return Bond Series

The investment objective of the fund is to seek total return with an emphasis on current income, but also considering capital appreciation.

| CLASS | TICKER SYMBOL |
|---------------|---------------|
| Initial Class | N/A |
| Service Class | N/A |

Beginning on January 1, 2021, as permitted by regulations adopted by the U.S. Securities and Exchange Commission, the insurance company that offers your contract may determine that it will no longer send you paper copies of the fund's annual and semiannual shareholder reports unless you specifically request paper copies from the insurance company or from your financial intermediary. Instead, the shareholder reports will be made available on a Web site (insurancefunds.mfs.com or other Web site of which you will be notified), and the insurance company will notify you by mail each time a report is posted and provide you with a Web site link to access the report. Instructions for requesting paper copies will be provided by your insurance company or financial intermediary.

If you already elected to receive shareholder reports by email, you will not be affected by this change and you need not take any action. If your insurance company or financial intermediary offers electronic delivery, you may elect to receive shareholder reports and other communications from the insurance company or financial intermediary by email by following the instructions provided by the insurance company or financial intermediary.

Beginning on January 1, 2019, you may elect to receive all future reports in paper free of charge from the insurance company or financial intermediary. You can inform the insurance company or financial intermediary that you wish to continue receiving paper copies of your shareholder reports by contacting your insurance company or financial intermediary. Your election to receive reports in paper will apply to all funds held in your account with your insurance company or financial intermediary.

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The Securities and Exchange Commission has not approved or disapproved the fund's shares or determined whether this prospectus is accurate or complete. Anyone who tells you otherwise is committing a crime.

MFS Total Return Bond Series

Summary of Key Information

Investment Objective

The fund's investment objective is to seek total return with an emphasis on current income, but also considering capital appreciation.

Fees and Expenses

This table describes the fees and expenses that you may pay when you hold shares of the fund. If the fees and expenses imposed by the insurance company that issued your variable contracts or other eligible investor through which the fund is offered were included, your expenses would be higher.

Annual Fund Operating Expenses (expenses that you pay each year as a percentage of the value of your investment):

| | Initial Class | Service Class |
|--|---------------|---------------|
| Management Fee | 0.50% | 0.50% |
| Distribution and/or Service (12b-1) Fees | None | 0.25% |
| Other Expenses | <u>0.04%</u> | <u>0.04%</u> |
| Total Annual Fund Operating Expenses | 0.54% | 0.79% |

Example

This example is intended to help you compare the cost of investing in the fund with the cost of investing in other mutual funds. If the fees and expenses imposed by the insurance company that issued your variable contracts or other eligible investor through which an investment in the fund is made were included, your expenses would be higher.

The example assumes that: you invest \$10,000 in the fund for the time periods indicated and you redeem your shares at the end of the time periods; your investment has a 5% return each year; and the fund's operating expenses remain the same.

Although your actual costs will likely be higher or lower, under these assumptions your costs would be:

| | 1 YEAR | 3 YEARS | 5 YEARS | 10 YEARS |
|----------------------|--------|---------|---------|----------|
| Initial Class Shares | \$55 | \$173 | \$302 | \$677 |
| Service Class Shares | \$81 | \$252 | \$439 | \$978 |

Portfolio Turnover

The fund pays transaction costs, such as commissions, when it buys and sells securities (or "turns over" its portfolio). A higher portfolio turnover rate may indicate higher transaction costs. These transaction costs, which are not reflected in "Annual Fund Operating Expenses" or in the "Example," affect the fund's performance. During the most recent fiscal year, the fund's portfolio turnover rate was 79% of the average value of its portfolio.

Principal Investment Strategies

MFS (Massachusetts Financial Services Company, the fund's investment adviser) normally invests at least 80% of the fund's net assets in debt instruments. Debt instruments include corporate bonds, U.S. Government securities, foreign government securities, securitized instruments, municipal instruments, and other obligations to repay money borrowed.

MFS primarily invests the fund's assets in investment grade quality debt instruments, but may also invest in below investment grade quality debt instruments.

MFS may purchase or sell securities for the fund on a when-issued, delayed delivery, or forward commitment basis.

MFS may invest the fund's assets in foreign securities.

MFS normally invests the fund's assets across different industries and sectors, but MFS may invest a significant percentage of the fund's assets in issuers in a single industry or sector.

While MFS may use derivatives for any investment purpose, to the extent MFS uses derivatives, MFS expects to use derivatives primarily to increase or decrease exposure to a particular market, segment of the market, or security, to increase or decrease interest rate exposure, or as alternatives to direct investments. Derivatives include futures, forward contracts, options, swaps, and certain complex structured securities.

In conjunction with a team of investment research analysts, the portfolio managers select investments for the fund.

MFS uses an active bottom-up investment approach to buying and selling investments for the fund. Investments are selected primarily based on fundamental analysis of individual instruments and their issuers. Quantitative screening tools that systematically evaluate instruments may also be considered. In structuring the fund, MFS also considers top-down factors.

For purposes of the fund's 80% policy, net assets include the amount of any borrowings for investment purposes.

Principal Risks

As with any mutual fund, the fund may not achieve its objective and/or you could lose money on your investment in the fund. An investment in the fund is not a bank deposit and is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other governmental agency.

The principal risks of investing in the fund are:

Investment Selection Risk: MFS' investment analysis and its selection of investments may not produce the intended results and/or can lead to an investment focus that results in the fund underperforming other funds with similar investment strategies and/or underperforming the markets in which the fund invests.

Debt Market Risk: Debt markets can be volatile and can decline significantly in response to, or investor perceptions of, issuer, market, economic, industry, political, regulatory, geopolitical, environmental, public health, and other conditions. These conditions can affect a single instrument, issuer, or borrower, a particular type of instrument, issuer, or borrower, a segment of the debt markets or the debt markets generally. Certain events can have a dramatic adverse effect on debt markets and may lead to periods of high volatility and reduced liquidity in a debt market or segment of a debt market.

Interest Rate Risk: In general, the price of a debt instrument falls when interest rates rise and rises when interest rates fall. Interest rate risk is generally greater for instruments with longer maturities, or that do not pay current interest.

Credit Risk: The price of a debt instrument depends, in part, on the credit quality of the issuer, borrower, counterparty, or other entity responsible for payment, or underlying collateral or assets and the terms of the instrument. The price of a debt instrument can decline in response to changes in, or perceptions of, the financial condition of the issuer, borrower, counterparty, or other entity, or underlying collateral or assets, or changes in, or perceptions of, specific or general market, economic, industry, political, regulatory, geopolitical, environmental, public health, and other conditions.

Below investment grade quality debt instruments (commonly referred to as "high yield securities" or "junk bonds") can involve a substantially greater risk of default or can already be in default, and their values can decline significantly. Below investment grade quality debt instruments are regarded as having predominantly speculative characteristics. Below investment grade quality debt instruments tend to be more sensitive to adverse news about the issuer, or the market or economy in general, than higher quality debt instruments.

Foreign Risk: Exposure to foreign markets through issuers or currencies can involve additional risks relating to market, economic, industry, political, regulatory, geopolitical, environmental, public health, and other conditions. These factors can make foreign investments, especially those tied economically to emerging and frontier markets, more volatile and less liquid than U.S. investments. In addition, foreign markets can react differently to these conditions than the U.S. market.

Focus Risk: Issuers in a single industry, sector, country, or region can react similarly to market, currency, political, economic, regulatory, geopolitical, environmental, public health, and other conditions, and the fund's performance will be affected by the conditions in the industries, sectors, countries and regions to which the fund is exposed.

Prepayment/Extension Risk: Instruments subject to prepayment and/or extension can reduce the potential for gain for the

instrument's holders if the instrument is prepaid and increase the potential for loss if the maturity of the instrument is extended.

Municipal Risk: The price of a municipal instrument can be volatile and significantly affected by adverse tax changes or court rulings, legislative or political changes, changes in specific or general market and economic conditions, and the financial condition of municipal issuers and insurers. Because many municipal instruments are issued to finance similar projects, conditions in certain industries can significantly affect the fund and the overall municipal market.

Derivatives Risk: Derivatives can be highly volatile and involve risks in addition to the risks of the underlying indicator(s) on which the derivative is based. Gains or losses from derivatives can be substantially greater than the derivatives' original cost. Derivatives can involve leverage.

Leveraging Risk: Leverage involves investment exposure in an amount exceeding the initial investment. Leverage can cause increased volatility by magnifying gains or losses.

Counterparty and Third Party Risk: Transactions involving a counterparty or third party other than the issuer of the instrument are subject to the credit risk of the counterparty or third party, and to the counterparty's or third party's ability or willingness to perform in accordance with the terms of the transaction.

Liquidity Risk: It may be difficult to value, and it may not be possible to sell, certain investments, types of investments, and/or investments in certain segments of the market, and the fund may have to sell certain of these investments at prices or times that are not advantageous in order to meet redemptions or other cash needs.

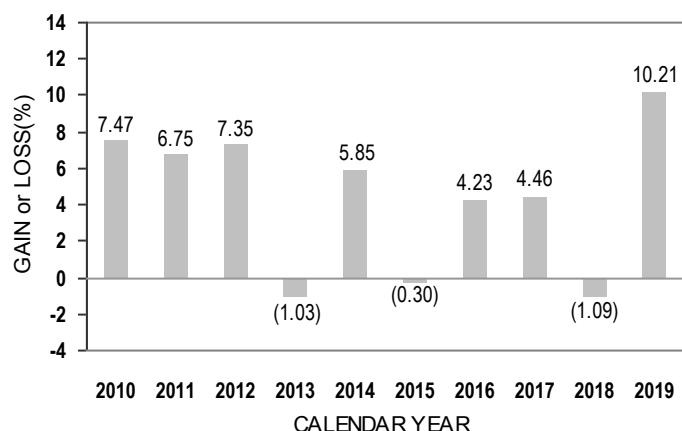
Large Shareholder Risk: From time to time, shareholders of the fund (which may include institutional investors, financial intermediaries, or other MFS funds) may make relatively large redemptions or purchases of fund shares. These transactions may cause the fund to sell securities or invest additional cash, as the case may be, at disadvantageous prices. Redemptions of a large number of shares also may increase transaction costs or have adverse tax consequences for shareholders of the fund by requiring a sale of portfolio securities.

Performance Information

The bar chart and performance table below are intended to provide some indication of the risks of investing in the fund by showing changes in the fund's performance over time and how the fund's performance over time compares with that of a broad measure of market performance.

The fund's past performance does not necessarily indicate how the fund will perform in the future. Updated performance is available at mfs.com or by calling 1-877-411-3325. If the fees and expenses imposed by the insurance company that issued your variable contracts or other eligible investor through which an investment in the fund is made were included, they would reduce the returns shown.

Initial Class Bar Chart.



The total return for the three-month period ended March 31, 2020, was (2.45)%. During the period(s) shown in the bar chart, the highest quarterly return was 3.79% (for the calendar quarter ended March 31, 2019) and the lowest quarterly return was (2.46)% (for the calendar quarter ended December 31, 2016).

Performance Table.

Average Annual Total Returns

(For the Periods Ended December 31, 2019)

| | 1 YEAR | 5 YEARS | 10 YEARS |
|---|--------|---------|----------|
| Initial Class Shares | 10.21% | 3.42% | 4.32% |
| Service Class Shares | 9.92% | 3.16% | 4.06% |
| Index Comparison (Reflects no deduction for fees, expenses, or taxes) | | | |
| Bloomberg Barclays U.S. Aggregate Bond Index | 8.72% | 3.05% | 3.75% |

Investment Adviser

MFS serves as the investment adviser for the fund.

Portfolio Manager(s)

| Portfolio Manager | Since | Title |
|-------------------|---------------|---------------------------|
| Alexander Mackey | December 2019 | Investment Officer of MFS |
| Joshua Marston | 2009 | Investment Officer of MFS |
| Robert Persons | 2006 | Investment Officer of MFS |

Purchase and Sale of Fund Shares

You should consult with the insurance company that issued your variable contract, or other eligible investor through which your investment in the fund is made, for minimum investment requirements and redemption procedures.

Taxes

You should consult with the insurance company that issued your variable contract, or other eligible investor through which your investment in the fund is made, to understand the tax treatment of your investment.

Payments to Financial Intermediaries

The fund, MFS, and/or its affiliates may make payments to insurance companies, other financial intermediaries, and all of their affiliates, for distribution and/or other services. These payments may create a conflict of interest for the insurance company or other financial intermediary to include the fund as an investment option in its product or to recommend the fund over another investment option. Ask your financial intermediary or insurance company, or visit your financial intermediary's or insurance company's Web site, for more information.

Investment Objective, Strategies, and Risks

Investment Objective

The fund's investment objective is to seek total return with an emphasis on current income, but also considering capital appreciation. The fund's objective may be changed without shareholder approval.

Principal Investment Strategies

MFS normally invests at least 80% of the fund's net assets in debt instruments.

MFS primarily invests the fund's assets in investment grade quality debt instruments, but may also invest in below investment grade quality debt instruments.

MFS may purchase or sell securities for the fund on a when-issued, delayed delivery, or forward commitment basis. When MFS sells securities for the fund on a when-issued, delayed delivery, or forward commitment basis, the fund typically owns or has the right to acquire securities equivalent in kind and amount to the deliverable securities.

MFS may invest the fund's assets in foreign securities.

MFS normally invests the fund's assets across different industries and sectors, but MFS may invest a significant percentage of the fund's assets in issuers in a single industry or sector.

While MFS may use derivatives for any investment purpose, to the extent MFS uses derivatives, MFS expects to use derivatives primarily to increase or decrease exposure to a particular market, segment of the market, or security, to increase or decrease interest rate exposure, or as alternatives to direct investments.

In conjunction with a team of investment research analysts, the portfolio managers select investments for the fund.

MFS uses an active bottom-up investment approach to buying and selling investments for the fund. Investments are selected primarily based on fundamental analysis of individual instruments and their issuers in light of the issuers' financial condition and market, economic, political, and regulatory conditions. Factors considered may include the instrument's credit quality and terms, any underlying assets and their credit quality, and the issuer's management ability, capital structure, leverage, and ability to meet its current obligations. MFS may also consider environmental, social, and governance (ESG) factors in its fundamental investment analysis. Quantitative screening tools that systematically evaluate the structure of a debt instrument and its features may also be considered. In structuring the fund, MFS also considers top-down factors, including sector allocations, yield curve positioning, duration, macroeconomic factors, and risk management factors.

For purposes of the fund's 80% policy, net assets include the amount of any borrowings for investment purposes.

Principal Investment Types

The principal investment types in which the fund may invest are:

Debt Instruments: Debt instruments represent obligations of corporations, governments, and other entities to repay money borrowed, or other instruments believed to have debt-like characteristics. The issuer or borrower usually pays a fixed, variable, or floating rate of interest, and must repay the amount borrowed, usually at the maturity of the instrument. Debt instruments generally trade in the over-the-counter market and can be less liquid than other types of investments, particularly during adverse market and economic conditions. During certain market conditions, debt instruments in some or many segments of the debt market can trade at a negative interest rate (i.e., the price to purchase the debt instrument is more than the present value of expected interest payments and principal due at the maturity of the instrument). Some debt instruments, such as zero coupon bonds or payment-in-kind bonds, do not pay current interest. Other debt instruments, such as certain mortgage-backed securities and other securitized instruments, make periodic payments of interest and/or principal. Some debt instruments are partially or fully secured by collateral supporting the payment of interest and principal.

Corporate Bonds: Corporate bonds are debt instruments issued by corporations or similar entities.

U.S. Government Securities: U.S. Government securities are securities issued or guaranteed as to the payment of principal and interest by the U.S. Treasury, by an agency or instrumentality of the U.S. Government, or by a U.S. Government-sponsored entity. Certain U.S. Government securities are not supported as to the payment of principal and interest by the full faith and credit of the U.S. Treasury or the ability to borrow from the U.S. Treasury. Some U.S. Government securities are supported as to the payment of principal and interest only by the credit of the entity issuing or guaranteeing the security. U.S. Government securities include mortgage-backed securities and other types of securitized instruments guaranteed by the U.S. Treasury, by an agency or instrumentality of the U.S. Government, or by a U.S. Government-sponsored entity.

Foreign Government Securities: Foreign government securities are debt instruments issued, guaranteed, or supported, as to the payment of principal and interest, by foreign governments, foreign government agencies, foreign semi-governmental entities or supranational entities, or debt instruments issued by entities organized and operated for the purpose of restructuring outstanding foreign government securities. Foreign government securities may not be supported as to the payment of principal and interest by the full faith and credit of the foreign government.

Securitized Instruments: Securitized instruments are debt instruments that generally provide payments of principal and interest based on the terms of the instrument and cash flows generated by the underlying assets. Underlying assets include residential and commercial mortgages, debt instruments, loans, leases, and receivables. Securitized instruments are issued by trusts or other special purpose entities that hold the underlying assets. Certain securitized instruments offer multiple classes that differ in terms of their priority to receive principal and/or interest payments under the terms of the instrument. Securitized instruments include mortgage-backed securities, collateralized debt obligations, and other asset-backed securities. Certain mortgage-backed securities are issued on a delayed delivery or forward commitment basis where payment and delivery take place at a future date.

When-Issued, Delayed Delivery, and Forward Commitment Transactions: When-issued, delayed delivery, and forward commitment transactions, including securities purchased or sold in the to be announced (TBA) market, involve a commitment to purchase or sell a specific security at a predetermined price or yield at which payment and delivery take place after the customary

settlement period for that type of security. Typically, no interest accrues to the purchaser until the security is delivered. When purchasing or selling securities pursuant to one of these transactions, payment for the securities is not required until the delivery date. However, the purchaser assumes the rights and risks of ownership, including the risks of price and yield fluctuations and the risk that the security will not be issued or delivered as anticipated, and the seller loses the opportunity to benefit if the price of the security rises. When-issued, delayed delivery, and forward commitment transactions can involve leverage.

Municipal Instruments: Municipal instruments are issued by or for states, territories, or possessions of the United States or by their political subdivisions, agencies, authorities, or other government entities, to raise money for a variety of public and private purposes, including general financing for state and local governments, or financing for a specific project or public facility. Municipal instruments include general obligation bonds of municipalities, state or local governments, project or revenue-specific bonds, municipal lease obligations, and prerefunded or escrowed bonds. Municipal instruments may be fully or partially supported by the state or local governments, by the credit of a private issuer, by the current or anticipated revenues from a specific project or assets, by the issuer's pledge to make annual appropriations for lease payments, or by domestic or foreign entities providing credit support, such as insurance, letters of credit, or guarantees. Many municipal instruments are supported by insurance, which typically guarantees the timely payment of all principal and interest due on the underlying municipal instrument.

Derivatives: Derivatives are financial contracts whose value is based on the value of one or more underlying indicators or the difference between underlying indicators. Underlying indicators may include a security or other financial instrument, asset, currency, interest rate, credit rating, commodity, volatility measure, or index. Derivatives often involve a counterparty to the transaction. Derivatives include futures, forward contracts, options, swaps, and certain complex structured securities.

Principal Risks

The yield and share price of the fund will change daily based on changes in interest rates and market, economic, industry, political, regulatory, geopolitical, environmental, public health, and other conditions. As with any mutual fund, the fund may not achieve its objective and/or you could lose money on your investment in the fund. An investment in the fund is not a bank deposit and is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other governmental agency.

The principal risks of investing in the fund are:

Investment Selection Risk: MFS' investment analysis and its selection of investments may not produce the intended results and/or can lead to an investment focus that results in the fund underperforming other funds with similar investment strategies and/or underperforming the markets in which the fund invests. In addition, MFS or the fund's other service providers may experience disruptions or operating errors that could negatively impact the fund.

Debt Market Risk: Debt markets can be volatile and can decline significantly in response to, or investor perceptions of, issuer, market, economic, industry, political, regulatory, geopolitical, environmental, public health, and other conditions. These conditions can affect a single instrument, issuer, or borrower, a particular type of instrument, issuer, or borrower, a segment of the debt markets, or debt markets generally. Certain changes or events, such as political, social, or economic developments, including increasing and negative interest rates or the U.S. government's

inability at times to agree on a long-term budget and deficit reduction plan (which has in the past resulted and may in the future result in a government shutdown); government or regulatory actions, including the imposition of tariffs or other protectionist actions and changes in fiscal, monetary, or tax policies; natural disasters; outbreaks of pandemic and epidemic diseases; terrorist attacks; war; and other geopolitical changes or events can have a dramatic adverse effect on debt markets and may lead to periods of high volatility and reduced liquidity in a debt market or a segment of a debt market.

Certain of the fund's investments may be based on reference interest rates, such as the London Interbank Offered Rate ("LIBOR"). The regulatory authority that oversees financial services firms in the United Kingdom has announced plans to transition away from LIBOR by the end of 2021. There remains uncertainty regarding the future utilization of LIBOR as a reference rate and the nature of any replacement rate. The potential effects of the transition from LIBOR on the fund, or on certain instruments in which the fund invests, are not known. The transition from LIBOR may result in, among other things, an increase in volatility or illiquidity of markets for instruments that currently rely on LIBOR to determine interest rates. Any such effects could have an adverse impact on the fund's performance.

Interest Rate Risk: The price of a debt instrument typically changes in response to interest rate changes. Interest rates can change in response to the supply and demand for credit, government and/or central bank monetary policy and action, inflation rates, and other factors. In general, the price of a debt instrument falls when interest rates rise and rises when interest rates fall. Interest rate risk is generally greater for instruments with longer maturities, or that do not pay current interest. In addition, short-term and long-term interest rates, and interest rates in different countries, do not necessarily move in the same direction or by the same amount. An instrument's reaction to interest rate changes depends on the timing of its interest and principal payments and the current interest rate for each of those time periods. Instruments with floating interest rates can be less sensitive to interest rate changes. The price of an instrument trading at a negative interest rate responds to interest rate changes like other debt instruments; however, an instrument purchased at a negative interest rate is expected to produce a negative return if held to maturity. Changes in government and/or central bank monetary policy may affect the level of interest rates.

Credit Risk: The price of a debt instrument depends, in part, on the issuer's or borrower's credit quality or ability to pay principal and interest when due. The price of a debt instrument is likely to fall if an issuer or borrower defaults on its obligation to pay principal or interest, if the instrument's credit rating is downgraded by a credit rating agency, or based on other changes in, or perceptions of, the financial condition of the issuer or borrower. For certain types of instruments, including derivatives, the price of the instrument depends in part on the credit quality of the counterparty to the transaction. For other types of debt instruments, including securitized instruments, the price of the debt instrument also depends on the credit quality and adequacy of the underlying assets or collateral as well as whether there is a security interest in the underlying assets or collateral. Enforcing rights, if any, against the underlying assets or collateral may be difficult.

Below investment grade quality debt instruments can involve a substantially greater risk of default or can already be in default, and their values can decline significantly over short periods of time. Below investment grade quality debt instruments are regarded as having predominantly speculative characteristics with respect to capacity to pay interest and principal. Below investment grade quality debt instruments tend to be more sensitive to adverse news

about the issuer, or the market or economy in general, than higher quality debt instruments. The market for below investment grade quality debt instruments can be less liquid, especially during periods of recession or general market decline.

Foreign Risk: Investments in securities of foreign issuers, securities of companies with significant foreign exposure, and foreign currencies can involve additional risks relating to market, economic, industry, political, regulatory, geopolitical, environmental, public health, and other conditions. Political, social, diplomatic, and economic developments, U.S. and foreign government action such as the imposition of currency or capital blockages, controls, or tariffs, economic and trade sanctions or embargoes, security suspensions, entering or exiting trade or other intergovernmental agreements, or the expropriation or nationalization of assets in a particular country, can cause dramatic declines in certain or all securities with exposure to that country and other countries. In the event of nationalization, expropriation, or other confiscation, the fund could lose its entire foreign investment in a particular country. Economies and financial markets are interconnected, which increases the likelihood that conditions in one country or region can adversely impact issuers in different countries and regions. Less stringent regulatory, accounting, auditing, and disclosure requirements for issuers and markets are more common in certain foreign countries. Enforcing legal rights can be difficult, costly, and slow in certain foreign countries, and can be particularly difficult against foreign governments. Changes in currency exchange rates can significantly impact the financial condition of a company or other issuer with exposure to multiple countries as well as affect the U.S. dollar value of foreign currency investments and investments denominated in foreign currencies. Additional risks of foreign investments include trading, settlement, custodial, and other operational risks, and withholding and other taxes. These factors can make foreign investments, especially those tied economically to emerging and frontier markets (emerging markets that are early in their development), more volatile and less liquid than U.S. investments. In addition, foreign markets can react differently to market, economic, industry, political, regulatory, geopolitical, environmental, public health, and other conditions than the U.S. market.

Focus Risk: Issuers in a single industry, sector, country, or region can react similarly to market, currency, political, economic, regulatory, geopolitical, environmental, public health, and other conditions. These conditions include business environment changes; economic factors such as fiscal, monetary, and tax policies; inflation and unemployment rates; and government and regulatory changes. The fund's performance will be affected by the conditions in the industries, sectors, countries and regions to which the fund is exposed.

Prepayment/Extension Risk: Many types of debt instruments, including mortgage-backed securities, securitized instruments, certain corporate bonds, and municipal housing bonds, and certain derivatives, are subject to the risk of prepayment and/or extension. Prepayment occurs when unscheduled payments of principal are made or the instrument is called or redeemed prior to an instrument's maturity. When interest rates decline, the instrument is called, or for other reasons, these debt instruments may be repaid more quickly than expected. As a result, the holder of the debt instrument may not be able to reinvest the proceeds at the same interest rate or on the same terms, reducing the potential for gain. When interest rates increase or for other reasons, these debt instruments may be repaid more slowly than expected, increasing the potential for loss. In addition, prepayment rates are difficult to predict and the potential impact of prepayment on the price of a debt instrument depends on the terms of the instrument.

Municipal Risk: The price of a municipal instrument can be volatile and significantly affected by adverse tax changes or court rulings, legislative or political changes, market and economic conditions, issuer, industry-specific and other conditions. Municipal instruments can be less liquid than other types of investments and there may be less publicly available information about the issuers of municipal instruments compared to other issuers. If the Internal Revenue Service or a state taxing authority determines that an issuer of a municipal instrument has not complied with applicable tax requirements, interest from the instrument could become taxable (including retroactively) and the instrument could decline significantly in price. Because many municipal instruments are issued to finance similar projects, especially those relating to education, health care, housing, utilities, and water and sewer, conditions in these industries can significantly affect the fund and the overall municipal market. In addition, changes in the financial condition of an individual municipal insurer can affect the overall municipal market.

Derivatives Risk: Derivatives can be highly volatile and involve risks in addition to, and potentially greater than, the risks of the underlying indicator(s). Gains or losses from derivatives can be substantially greater than the derivatives' original cost and can sometimes be unlimited. Derivatives can involve leverage. Derivatives can be complex instruments and can involve analysis and processing that differs from that required for other investment types used by the fund. If the value of a derivative does not change as expected relative to the value of the market or other indicator to which the derivative is intended to provide exposure, the derivative may not have the effect intended. Derivatives can also reduce the opportunity for gains or result in losses by offsetting positive returns in other investments. Derivatives can be less liquid than other types of investments.

Leveraging Risk: Certain transactions and investment strategies can result in leverage. Leverage involves investment exposure in an amount exceeding the initial investment. In transactions involving leverage, a relatively small change in an underlying indicator can lead to significantly larger losses to the fund. Leverage can cause increased volatility by magnifying gains or losses.

Counterparty and Third Party Risk: Transactions involving a counterparty other than the issuer of the instrument, including clearing organizations, or a third party responsible for servicing the instrument or effecting the transaction, are subject to the credit risk of the counterparty or third party, and to the counterparty's or third party's ability or willingness to perform in accordance with the terms of the transaction. If a counterparty or third party fails to meet its contractual obligations, goes bankrupt, or otherwise experiences a business interruption, the fund could miss investment opportunities, lose value on its investments, or otherwise hold investments it would prefer to sell, resulting in losses for the fund.

Liquidity Risk: Certain investments and types of investments are subject to restrictions on resale, may trade in the over-the-counter market, or may not have an active trading market due to adverse market, economic, industry, political, regulatory, geopolitical, environmental, public health, and other conditions, including investors trying to sell large quantities of a particular investment or type of investment, or lack of market makers or other buyers for a particular investment or type of investment. At times, all or a significant portion of a market may not have an active trading market. Without an active trading market, it may be difficult to value, and it may not be possible to sell, these investments and the fund could miss other investment opportunities and hold investments it would prefer to sell, resulting in losses for the fund. In addition, the fund may have to sell certain of these investments at prices or times that are not advantageous in order to meet

redemptions or other cash needs, which could result in dilution of remaining investors' interests in the fund. The prices of illiquid securities may be more volatile than more liquid investments.

Large Shareholder Risk: From time to time, shareholders of the fund (which may include institutional investors, financial intermediaries, or other MFS funds) may make relatively large redemptions or purchases of fund shares. These transactions may cause the fund to sell securities or invest additional cash, as the case may be, at disadvantageous prices. While it is impossible to predict the overall impact of these transactions over time, there could be adverse effects on the fund's performance to the extent that the fund may be required to sell securities or invest cash at times it would not otherwise do so. Redemptions of a large number of shares also may increase transaction costs or have adverse tax consequences for shareholders of the fund by requiring a sale of portfolio securities. In addition, a large redemption could result in the fund's current expenses being allocated over a smaller asset base, leading to an increase in the fund's expense ratio.

Other Investment Strategies and Risks

Active and Frequent Trading: MFS may engage in active and frequent trading in pursuing the fund's principal investment strategies. Frequent trading increases transaction costs, which can reduce the fund's return.

Temporary Defensive Strategy: In response to adverse market, economic, industry, political, or other conditions, MFS may depart from the fund's principal investment strategies by temporarily investing for defensive purposes. When MFS invests defensively, different factors could affect the fund's performance and the fund may not achieve its investment objective. In addition, the defensive strategy may not work as intended.

Further Information on Investment Strategies, Types, and Risks: Information about investment strategies and investment types not described in the prospectus and the risks associated with those investment strategies and investment types are described in the fund's Statement of Additional Information (SAI).

Management of the Fund

Investment Adviser

MFS, located at 111 Huntington Avenue, Boston, Massachusetts 02199, serves as the investment adviser for the fund. Subject to the supervision of the fund's Board of Trustees, MFS is responsible for managing the fund's investments, executing transactions, and providing related administrative services and facilities under an Investment Advisory Agreement between the fund and MFS.

For the fiscal year ended December 31, 2019, the fund paid MFS an effective management fee equal to 0.49% of the fund's average daily net assets.

The management fee set forth in the Investment Advisory Agreement is 0.50% of the fund's average daily net assets annually up to \$2.5 billion; 0.45% of the fund's average daily net assets annually in excess of \$2.5 billion and up to \$5 billion; and 0.40% of the fund's average daily net assets annually in excess of \$5 billion.

MFS has agreed in writing to reduce its management fee by a specified amount if certain MFS mutual fund assets exceed thresholds agreed to by MFS and the fund's Board of Trustees. For the fiscal year ended December 31, 2019, this management fee reduction amounted to less than 0.01% of the fund's average daily net assets.

A discussion regarding the basis for the Board of Trustees' approval of the Investment Advisory Agreement is available in the fund's annual report for the one-year period ended December 31, 2019.

MFS is America's oldest mutual fund organization. MFS and its predecessor organizations have a history of money management dating from 1924 and the founding of the first mutual fund, Massachusetts Investors Trust. Net assets under the management of the MFS organization were approximately \$494 billion as of February 29, 2020.

Disclosure of Portfolio Holdings. The fund has established a policy with respect to the disclosure of fund portfolio holdings. A description of this policy is provided in the SAI.

The following information is generally available to you at mfs.com/vit1 by choosing the fund's name:

| Information | Approximate Date of Posting |
|---|-----------------------------|
| Fund's top 10 holdings as of each month's end | 11 days after month end |
| Fund's full holdings as of each month's end | 19 days after month end |

Holdings also include short positions, if any. Top 10 holdings exclude cash, cash equivalents, short-term investments, currency derivatives, and the cash portion of other derivatives. For purposes of full holdings, cash, cash equivalents, and short-term investments are aggregated and currency derivatives and the cash portion of other derivatives are aggregated.

Note that the fund or MFS may suspend the posting of this information or modify the elements of this Web posting policy without notice to shareholders. Once posted, the above information will generally remain available on mfs.com until at least the date on which the fund files a Form N-CSR or Form N-PORT for the period that includes the date as of which the mfs.com information is current.

Portfolio Manager(s)

Information regarding the portfolio manager(s) of the fund is set forth below. Further information regarding the portfolio manager(s), including other accounts managed, compensation, ownership of fund shares, and possible conflicts of interest, is available in the fund's SAI.

| Portfolio Manager | Primary Role | Five Year History |
|-------------------|-------------------|---|
| Alexander Mackey | Portfolio Manager | Employed in the investment area of MFS since 2001 |
| Joshua Marston | Portfolio Manager | Employed in the investment area of MFS since 1999 |
| Robert Persons | Portfolio Manager | Employed in the investment area of MFS since 2000 |

Administrator

MFS provides the fund with certain financial, legal, and other administrative services under a Master Administrative Services Agreement between the fund and MFS. Under the Agreement, MFS is paid an annual fee for providing these services.

Distributor

MFS Fund Distributors, Inc. (MFD), a wholly-owned subsidiary of MFS, is the distributor of shares of the fund.

Shareholder Servicing Agent

MFS Service Center, Inc. (MFSC), a wholly-owned subsidiary of MFS, provides dividend and distribution disbursing and transfer agent and recordkeeping functions in connection with the issuance, transfer, and redemption of each class of shares of the fund under a Shareholder Servicing Agent Agreement. MFSC receives a fee based on the costs it incurs in providing these services and a target profit margin. In addition, MFSC is reimbursed for out-of-pocket expenses.

Description of Share Classes

The fund offers Initial Class and Service Class shares through this prospectus. All classes of the fund have the same investment objective and investments, but each class has its own expense structure.

The fund offers Initial Class and Service Class shares to separate accounts established by insurance companies to serve as investment vehicles for variable annuity and variable life insurance contracts and to any other investor permitted to hold shares of the fund without affecting the ability of insurance company separate accounts whose contracts are funded by the fund to satisfy the diversification requirements of Section 817(h) of the Internal Revenue Code (the "Code") (e.g., qualified pension and retirement plans and certain fund-of-funds).

Distribution and Service Fees

The fund has adopted a plan in accordance with Rule 12b-1 under the Investment Company Act of 1940, as amended (the "Distribution Plan"). Under the Distribution Plan, Service Class shares pay distribution and/or service fees to support the sale and distribution of Service Class shares as well as shareholder servicing and account maintenance activities. These distribution and/or service fees equal on an annual basis up to 0.25% of average daily net assets of the class. These fees are paid out of fund assets of the Service Class shares. Because these fees are an ongoing expense of the fund, they increase the cost of your investment over time and may cost you more than other types of sales charges.

The fund has not adopted a Rule 12b-1 plan with respect to its Initial Class shares.

Financial Intermediary Compensation

Insurance companies that issue variable contracts and other eligible investors to whom shares of the fund are offered (collectively, together with their affiliates, "Financial Intermediaries") receive various forms of compensation in connection with the sale of shares of the fund and/or the servicing of accounts. Financial Intermediaries may receive such compensation (i) in the form of ongoing asset-based compensation paid by MFD based on Distribution Plan distribution and service payments received by MFD from the fund (as described under "Description of Share Classes-Distribution and Service Fees"), and (ii) in the form of payments paid by MFD and/or one or more of its affiliates (for purposes of this section only, collectively, "MFD") from MFD's own additional resources.

In addition, Financial Intermediaries may receive payments from MFD from MFD's own additional resources as incentives to market the MFS funds, to cooperate with MFD's promotional efforts and/or in recognition of their marketing, administrative services and/or transaction processing support. This compensation from MFD is not reflected in the fees and expenses listed in the fee table section of the fund's prospectus. MFD compensates Financial Intermediaries based on criteria established by MFD from time to time that consider, among other factors, the distribution potential of the

Financial Intermediary, the types of products and programs offered by the Financial Intermediary, the level and/or type of marketing and administrative support provided by the Financial Intermediary, the level of assets attributable to and/or sales by the Financial Intermediary, and the quality of the overall relationship with the Financial Intermediary.

The types of payments described above are not exclusive and such payments can be significant to the Financial Intermediary. In addition, the compensation that Financial Intermediaries receive may vary by class of shares sold and among Financial Intermediaries. Depending upon the arrangements in place at any particular time, Financial Intermediaries may have a financial incentive to recommend a particular investment vehicle that makes the fund available or recommend a particular fund or share class.

You can find further details in the SAI about the payments made by MFD and the services provided by Financial Intermediaries. Financial Intermediaries may charge you additional fees and/or commissions other than those disclosed in this prospectus. You can ask your Financial Intermediary for information about any payments it receives from MFD and any services it provides, as well as about any fees and/or commissions it charges. Financial Intermediaries that market the funds may also act as, or be affiliated with, a broker/dealer in connection with a fund's purchase or sale of portfolio securities. However, the fund and MFS do not consider Financial Intermediaries' purchases of shares of the fund as a factor when choosing brokers/dealers to effect portfolio transactions for the fund.

How to Purchase, Redeem, and Exchange Shares

All purchases, redemptions, and exchanges of shares are made through insurance company separate accounts and other eligible investors that are the record owners of the shares. Contract holders and other eligible investors seeking to purchase, redeem, or exchange interests in the fund's shares should consult with the insurance company or other eligible investor through which their investment in the fund is made. The fund may reject for any reason any purchase orders.

Insurance companies and other eligible investors are the designees of the fund for receipt of purchase, exchange, and redemption orders from contract holders and plan beneficiaries. An order submitted to the fund's designee will receive the net asset value next calculated after the order is received by the fund's designee, provided that the fund receives notice of the order generally by 11:00 a.m., Eastern time, on the next day on which the New York Stock Exchange (the NYSE) is open for trading. A purchase or redemption order by an MFS fund is treated as received by the fund when the MFS fund's designee receives the order to be allocated to the fund. The fund typically processes redemption proceeds to insurance company separate accounts or other eligible investors by the end of the next business day, except that the fund typically pays redemption proceeds to MFS funds by the end of the second business day. However, the fund may delay processing your redemption request for up to seven days. Under unusual circumstances, such as when the NYSE is closed, trading on the NYSE is restricted, or as permitted by the Securities and Exchange Commission (the SEC), the fund may suspend redemptions or postpone payment for more than seven days.

The fund typically expects to meet redemption requests by holding cash and/or cash equivalents, selling investments, and using overdraft provisions or lines of credit. The fund may also meet redemption requests by redeeming shares in kind for large redemptions or during stressed market conditions. If MFS

determines it to be feasible and appropriate, the fund may pay the redemption by a distribution in kind of portfolio securities (redemption in kind). In the event that the fund makes a redemption in kind, you should expect to incur brokerage and other transaction charges when converting the securities to cash, and the securities will likely increase or decrease in value before you sell them.

How to Exchange Shares

An exchange involves the redemption of shares of one fund and the purchase of shares of another fund. You can exchange your shares of the fund for shares of the same class of another fund at their respective net asset values if shares of that fund are available for purchase by the insurance company separate account or other eligible investor through which your investment in the fund is made. See the prospectus or other materials for the investment vehicle through which your investment in the fund is made for a further discussion of the exchange privilege. You should read the prospectus of the fund into which you are exchanging and consider the differences in investment objectives, policies, and risks, and in fees and expenses, before making an exchange.

Disruptive Trading

Purchase and Exchange Limitation Policy. The MFS funds reserve the right to restrict or reject, without any prior notice, any purchase or exchange order, including transactions believed to represent frequent or other disruptive trading activity. In the event that MFSC rejects an exchange request, neither the redemption nor the purchase side of the exchange will be processed. Each MFS fund reserves the right to delay for one business day the processing of exchange requests in the event that, in MFSC's judgment, in consultation with MFS, as appropriate, such delay would be in the fund's best interest, in which case both the redemption and purchase side of the exchange will receive the funds' net asset values at the conclusion of the delay period.

Disruptive Trading Risks. To the extent that the MFS funds or their agents are unable to curtail disruptive trading practices in a fund (e.g., frequent trading) or to the extent there are large or frequent redemptions in a fund, these purchases and/or redemptions can interfere with the efficient management of the fund's portfolio, may result in increased transaction and administrative costs, and may adversely impact the fund's performance.

In addition, to the extent that the fund invests in foreign securities, the interests of long-term shareholders may be diluted as a result of time-zone arbitrage, a short-term trading practice that seeks to exploit changes in the value of the fund's investments that result from events occurring after the close of the foreign markets on which the investments trade, but prior to the time the fund determines its net asset value. The fund's use of fair valuation can serve to reduce arbitrage opportunities available to short-term traders, but there is no assurance that the fund's fair valuation policies and procedures will prevent dilution of the fund's net asset value by short-term traders.

To the extent that the fund invests in securities that trade infrequently or are difficult to value, such as the securities of smaller companies, high yield debt instruments, and floating rate loans, the interests of long-term shareholders may be diluted as a result of price arbitrage, a short-term trading strategy that seeks to exploit perceived pricing inefficiencies in the fund's investments. Such short-term trading strategies may interfere with efficient management of the fund's portfolio to a greater degree than funds that invest in more frequently traded or liquid securities, in part because the fund may have difficulty selling these portfolio

securities at advantageous times or prices to satisfy large and/or frequent redemption requests. Any successful price arbitrage may also cause dilution in the value of fund shares held by other shareholders.

Insurance Contract or other Investment Vehicle

Requirements and Limitations. The terms of a particular insurance contract or other eligible investment vehicle may also limit the ability of the insurance company or other eligible investor to prohibit transactions that MFSC might consider to be disruptive trading. Please refer to your insurance company variable contract or other material for the investment vehicle through which your investment in the fund is made regarding any restrictions on trading.

Frequent Trading. The fund is not intended to serve as a vehicle for frequent trading. The Board of Trustees of the fund has adopted the purchase and exchange limitation policy described above, which it believes is reasonably designed to discourage frequent fund share transactions. MFSC seeks to monitor and enforce this policy, subject to oversight by the Board of Trustees. The fund may alter its policies at any time without notice to shareholders.

Financial Intermediaries are required to reject any purchase or exchange orders in the fund if they believe the orders represent frequent trading activity unless they notify MFSC or an affiliate in writing that they do not monitor for frequent trading ("Waived Financial Intermediaries"). With respect to Waived Financial Intermediaries, MFSC will take action reasonably designed to discourage frequent trading that is not in the best interests of the fund by the customers of such Waived Financial Intermediary, including requesting underlying shareholder account data more frequently than from other Financial Intermediaries.

Certain Financial Intermediaries may use procedures to restrict frequent trading by their customers who invest in the fund while others may not employ any procedures to restrict frequent trading. Such procedures, if any, may be less restrictive than the fund's purchase and exchange limitation policy, may permit transactions not permitted by the fund's purchase and exchange limitation policy, and/or may prohibit transactions not subject to the fund's purchase and exchange limitation policy.

There is no assurance that MFSC will be able to detect or prevent frequent trading. Shareholders seeking to engage in frequent trading practices may deploy a variety of strategies to avoid detection, and MFSC is generally not able to identify trading by a particular underlying shareholder within an omnibus account, which makes it difficult or impossible to determine if a particular underlying shareholder is engaged in frequent trading. Omnibus accounts, in which shares are held in the name of a Financial Intermediary on behalf of multiple underlying shareholders, are a common form of holding shares among insurance companies offering insurance products.

MFSC reviews trading activity to detect trading activity that may be indicative of frequent trading based on its internal parameters for detecting frequent trading, including reviewing transactions that exceed a certain dollar amount, transactions involving similar dollar amounts, or transactions that occur close in time to other transactions in the same account or in multiple accounts that are under common ownership or influence. Any or all of these parameters (including those not listed) may change at any time. If MFSC detects suspicious trading activity at the omnibus account level, it will contact the Financial Intermediary to request underlying shareholder level activity to determine whether there is underlying shareholder level frequent trading. MFSC does not review the trading

activity by other MFS funds that invest in the fund. However, the underlying shareholder data received may not reflect information about the ultimate underlying shareholders because there may be multiple layers of omnibus accounts. If frequent trading is identified, MFSC will take appropriate action, such as requesting the Financial Intermediary to prohibit purchases into the account by the underlying shareholder, requiring purchases by the underlying shareholder to be submitted only by mail, or prohibiting purchases from the Financial Intermediary.

MFSC's ability to monitor and deter frequent trading in omnibus accounts depends on, among other factors, the frequency with which MFSC requests underlying shareholder account data from omnibus accounts. MFSC expects to request underlying shareholder data based on its assessment of the likelihood of frequent trading by underlying shareholders, among other factors. MFSC expects to request underlying shareholder data from Waived Financial Intermediaries more frequently than from other Financial Intermediaries. There is no assurance that MFSC will request data with sufficient frequency to detect or prevent frequent trading in omnibus accounts effectively.

Other Considerations

Reservation of Other Rights. In addition to the rights expressly stated elsewhere in this prospectus, subject to applicable rules, laws and regulations, MFSC reserves the right to: 1) alter, add, or discontinue any conditions of purchase, redemption, service, or privilege at any time without notice; 2) freeze any account or suspend account services when MFSC has received reasonable notice (written or otherwise) of a dispute between registered or beneficial account owners or when MFSC believes a fraudulent transaction may occur or has occurred; and 3) change, impose, discontinue, or waive any fee it charges.

Anti-Money Laundering Restrictions. Federal law requires the fund to implement policies and procedures reasonably designed to prevent, detect and report money laundering and other illegal activity. The fund, consistent with applicable federal law, may redeem your shares and close your account; suspend, restrict or cancel purchase and redemption orders; process redemption requests and withhold your proceeds; and take other action if it is unable to verify your identity within a reasonable time or conduct required due diligence on your account or as otherwise permitted by its anti-money laundering policies and procedures.

Potential Conflicts. Shares of the fund are offered to the separate accounts of insurance companies that may be affiliated or unaffiliated with MFS and each other and may serve as the underlying investments for both variable annuity and variable life insurance contracts. Due to differences in tax treatment or other considerations, the interests of various contract owners might at some time be in conflict. The Board of Trustees which oversees the fund will monitor events in order to identify any material irreconcilable conflicts which may possibly arise and to determine what action, if any, should be taken in response. If such a conflict were to occur, one or more separate accounts of the insurance companies might be required to withdraw its investments in the fund. This might force the fund to sell securities at disadvantageous prices.

Other Information

Valuation

The price of each class of the fund's shares is based on its net asset value. The net asset value of each class of shares is determined each day the NYSE is open for trading as of the close of regular trading

on the NYSE (generally 4:00 p.m. Eastern time). However, net asset value may be calculated earlier in emergency situations or as otherwise permitted by the SEC. Current net asset values per share are provided each business day to insurance companies, plan sponsors and other shareholders. To receive current net asset values per share each business day, shareholders should call MFSC at 1-877-411-3325. Net asset value per share is computed by dividing the net assets allocated to each share class by the number of shares outstanding for that class. On days when the NYSE is closed (such as weekends and holidays), net asset value is not calculated, and the fund does not transact purchase and redemption orders. To the extent the fund's assets are traded in other markets on days when the fund does not price its shares, the value of the fund's assets will likely change when you will not be able to purchase or redeem shares of the fund.

To determine net asset value, the fund's investments for which reliable market quotations are readily available are valued at market value, and funds in which the fund invests are generally valued at their net asset value per share. Certain short term debt instruments may be valued at amortized cost.

The Board of Trustees has delegated primary responsibility for determining or causing to be determined the value of the fund's investments (including any fair valuation) to MFS pursuant to valuation policies and procedures approved by the Board of Trustees. If MFS determines that reliable market quotations are not readily available, investments are valued at fair value as determined in good faith by MFS in accordance with such procedures under the oversight of the Board of Trustees.

Under the fund's valuation policies and procedures, market quotations are not considered to be readily available for most types of debt instruments and many types of derivatives. These investments are generally valued at fair value based on information from third-party pricing services. These valuations can be based on both transaction data and market information such as yield, quality, coupon rate, maturity, type of issue, trading characteristics, and other market data.

In addition, investments may be valued at fair value if MFS determines that an investment's value has been materially affected by events occurring after the close of the exchange or market on which the investment is principally traded (such as a foreign exchange or market) and prior to the determination of the fund's net asset value, or after the halting of trading of a specific security where trading does not resume prior to the close of the exchange or market on which the security is principally traded. MFS generally relies on third-party pricing services or other information (such as the correlation with price movements of similar securities in the same or other markets; the type, cost and investment characteristics of the security; the business and financial condition of the issuer; and trading and other market data) to assist in determining whether to fair value and at what value to fair value an investment.

The value of an investment for purposes of calculating the fund's net asset value can differ depending on the source and method used to determine value. When fair valuation is used, the value of an investment used to determine the fund's net asset value may differ from quoted or published prices for the same investment. There can be no assurance that the fund could obtain the fair value assigned to an investment if it were to sell the investment at the same time at which the fund determines its net asset value per share.

Distributions

The fund intends to declare and pay any dividends to shareholders at least annually.

Any capital gains are distributed at least annually.

Distribution Options

Dividends and capital gain distributions are automatically reinvested in additional shares of the fund.

Tax Considerations

The following discussion is very general. You are urged to consult your tax adviser regarding the effect that an investment in the fund may have on your particular tax situation, including possible foreign, state, and local taxes.

The fund is treated as a separate corporation for federal income tax purposes. As long as the fund qualifies for treatment as a regulated investment company (which the fund has done in the past and intends to do in the future), it pays no federal income or excise taxes on the net earnings and net realized gains it timely distributes to shareholders. In addition, the fund intends to continue to diversify its assets to satisfy the federal tax diversification rules applicable to separate accounts that fund variable insurance and annuity contracts.

Shares of the fund are offered to insurance company separate accounts and other eligible investors. You should consult with the insurance company that issued your variable contract or other eligible investor through which your investment in the fund is made to understand the tax treatment of your investment.

Information about the Summary Prospectus, Prospectus, and SAI

The summary prospectus, prospectus, and SAI for a fund provide information concerning the fund. The summary prospectus, prospectus, and SAI are updated at least annually and any information provided in a summary prospectus, prospectus, or SAI can be changed without a shareholder vote unless specifically stated otherwise. The summary prospectus, prospectus, and SAI are not contracts between the fund and its shareholders and do not give rise to any contractual rights or obligations or any shareholder rights other than any rights conferred explicitly by federal or state securities laws that may not be waived.

Additional Information on Fees and Expenses and Performance

Fees and Expenses

The annual fund operating expenses shown in “Fees and Expenses” are based on annualized expenses reported during the fund’s most recently completed fiscal year expressed as a percentage of a class’ average net assets during the period. Annual fund operating expenses have not been adjusted to reflect the fund’s current asset size. In general, annual fund operating expenses, expressed as a percentage of a class’ average net assets, increase as the fund’s assets decrease. Annual fund operating expenses will likely vary from year to year.

Performance Information

All performance information shown in the “Initial Class Bar Chart” and the “Performance Table” reflects any applicable fee reductions and waivers and expense reimbursements in effect during the periods shown; without these, the performance would have been lower.

From time to time, the fund may receive proceeds from litigation settlements, without which performance would be lower.

Financial Highlights

The financial highlights are intended to help you understand the fund's financial performance for the past five years. Certain information reflects financial results for a single fund share. The total returns in the financial highlights represent the rate by which an investor would have earned (or lost) on an investment in the fund (assuming reinvestment of all distributions) held for the entire period. The returns shown do not reflect fees and expenses imposed by the investment vehicle through which an investment in the fund is made. If these fees and expenses were included, they would reduce returns. This information has been audited by the fund's independent registered public accounting firm, whose report, together with the fund's financial statements, is included in the fund's Annual Report to shareholders. The fund's Annual Report is available upon request by contacting MFSC (please see back cover for address and telephone number). The fund's independent registered public accounting firm is Deloitte & Touche LLP.

| Initial Class | Year ended | | | | |
|--|------------|-----------|-----------|-----------|-------------|
| | 12/31/19 | 12/31/18 | 12/31/17 | 12/31/16 | 12/31/15 |
| Net asset value, beginning of period | \$12.65 | \$13.22 | \$13.09 | \$13.00 | \$13.50 |
| Income (loss) from investment operations | | | | | |
| Net investment income (loss) (d) | \$0.42 | \$0.39 | \$0.36 | \$0.40(c) | \$0.38 |
| Net realized and unrealized gain (loss) | 0.87 | (0.53) | 0.22 | 0.16 | (0.42) |
| Total from investment operations | \$1.29 | \$(0.14) | \$0.58 | \$0.56 | \$(0.04) |
| Less distributions declared to shareholders | | | | | |
| From net investment income | \$(0.46) | \$(0.43) | \$(0.45) | \$(0.47) | \$(0.46) |
| Net asset value, end of period (x) | \$13.48 | \$12.65 | \$13.22 | \$13.09 | \$13.00 |
| Total return (%) (k)(r)(s)(x) | 10.21 | (1.09) | 4.46 | 4.23(c) | (0.30) |
| Ratios (%) (to average net assets) and Supplemental data: | | | | | |
| Expenses before expense reductions (f) | 0.54 | 0.54 | 0.54 | 0.53(c) | 0.54 |
| Expenses after expense reductions (f) | 0.53 | 0.53 | 0.53 | 0.52(c) | 0.53 |
| Net investment income (loss) | 3.14 | 3.04 | 2.70 | 2.98(c) | 2.83 |
| Portfolio turnover | 79 | 48 | 47 | 37 | 62 |
| Net assets at end of period (000 omitted) | \$939,179 | \$862,752 | \$997,415 | \$986,877 | \$1,030,563 |

| Service Class | Year ended | | | | |
|--|-------------|-------------|-------------|-------------|-------------|
| | 12/31/19 | 12/31/18 | 12/31/17 | 12/31/16 | 12/31/15 |
| Net asset value, beginning of period | \$12.43 | \$12.99 | \$12.87 | \$12.78 | \$13.28 |
| Income (loss) from investment operations | | | | | |
| Net investment income (loss) (d) | \$0.38 | \$0.35 | \$0.32 | \$0.36(c) | \$0.34 |
| Net realized and unrealized gain (loss) | 0.85 | (0.52) | 0.22 | 0.16 | (0.41) |
| Total from investment operations | \$1.23 | \$(0.17) | \$0.54 | \$0.52 | \$(0.07) |
| Less distributions declared to shareholders | | | | | |
| From net investment income | \$(0.42) | \$(0.39) | \$(0.42) | \$(0.43) | \$(0.43) |
| Net asset value, end of period (x) | \$13.24 | \$12.43 | \$12.99 | \$12.87 | \$12.78 |
| Total return (%) (k)(r)(s)(x) | 9.92 | (1.33) | 4.18 | 4.01(c) | (0.58) |
| Ratios (%) (to average net assets) and Supplemental data: | | | | | |
| Expenses before expense reductions (f) | 0.79 | 0.79 | 0.79 | 0.78(c) | 0.79 |
| Expenses after expense reductions (f) | 0.78 | 0.78 | 0.78 | 0.77(c) | 0.78 |
| Net investment income (loss) | 2.89 | 2.79 | 2.45 | 2.73(c) | 2.58 |
| Portfolio turnover | 79 | 48 | 47 | 37 | 62 |
| Net assets at end of period (000 omitted) | \$1,105,005 | \$1,137,033 | \$1,449,260 | \$1,457,118 | \$1,539,194 |

- (c) Amount reflects a one-time reimbursement of expenses by the custodian (or former custodian) without which net investment income and performance would be lower and expenses would be higher.
- (d) Per share data is based on average shares outstanding.
- (f) Ratios do not reflect reductions from fees paid indirectly, if applicable.
- (k) The total return does not reflect expenses that apply to separate accounts. Inclusion of these charges would reduce the total return figures for all periods shown.
- (r) Certain expenses have been reduced without which performance would have been lower.
- (s) From time to time the fund may receive proceeds from litigation settlements, without which performance would be lower.
- (x) The net asset values and total returns have been calculated on net assets which include adjustments made in accordance with U.S. generally accepted accounting principles required at period end for financial reporting purposes.

MFS Total Return Bond Series

Shareholder Communications with the Board of Trustees. Shareholders may mail written communications to the Board of Trustees to the attention of the Board of Trustees, [fund name], Massachusetts Financial Services Company, 111 Huntington Avenue, Boston, MA 02199, Attention: Fund Secretary. Shareholder communications must (i) be in writing and be signed by the shareholder, (ii) identify the MFS fund to which they relate and (iii) identify the class and number of shares held by the shareholder.

If you want more information about MFS Total Return Bond Series, the following documents are available free upon request:

Annual/Semiannual Reports. These reports contain information about the fund's actual investments. Annual reports discuss the effect of recent market conditions and investment strategies on the fund's performance during its last fiscal year.

Statement of Additional Information (SAI). The SAI, dated April 29, 2020, as may be amended or supplemented from time to time, provides more detailed information about the fund and is incorporated into this prospectus by reference.

You can get free copies of the annual/semiannual reports, the SAI and other information about the fund, and make inquiries about the fund, by contacting:

MFS Service Center, Inc.

P.O. Box 219341

Kansas City, MO 64121-9341

Telephone: 1-877-411-3325

Internet: insurancefunds.mfs.com

Reports and other information about the fund are available on the EDGAR Database on the Commission's Internet Web site at

<http://www.sec.gov>, and copies of this information may be obtained, upon payment of a duplicating fee, by electronic request at the following e-mail address: publicinfo@sec.gov.

The fund's Investment Company Act file number is 811-8326.