Annual Report December 31, 2022



MFS[®] Massachusetts Investors Growth Stock Portfolio

MFS® Variable Insurance Trust II

MFS® Massachusetts Investors Growth Stock Portfolio

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The report is prepared for the general information of shareholders. It is authorized for distribution to prospective investors only when preceded or accompanied by a current prospectus.

NOT FDIC INSURED • MAY LOSE VALUE • NO BANK OR CREDIT UNION GUARANTEE • NOT A DEPOSIT • NOT INSURED BY ANY FEDERAL GOVERNMENT AGENCY OR NCUA/NCUSIF

LETTER FROM THE CHAIR AND CEO



Dear Shareholders:

Signs of peaking inflation, hopes that monetary policy tightening cycles may be nearing an end and a rapid reopening of China's economy in late-2022 and early-2023 have combined to bolster investor sentiment in recent months. Markets have largely adjusted to the challenges posed by Russia's invasion of Ukraine, thanks in part to mild European winter weather which has alleviated concerns over potential shortages of natural gas. Resilient labor markets in much of the developed world have further contributed to a brighter-than-expected economic backdrop. However, many investors are mindful that the lagged effects of ongoing policy tightening have yet to work their way through the global economy.

Tighter global financial conditions have been a particular headwind for richly valued growth equities and interest rate-sensitive parts of the economy, such as housing. Over the near term, companies may face a challenging earnings backdrop as they are forced to absorb higher input and labor costs at a time of dwindling pricing power. For fixed income, the rise in interest rates has made bonds more attractive than they have been in years, which may provide balance to an overall portfolio.

During times of market transition, it is important to have a deep understanding of company fundamentals, and we have built our unique global research platform to do just that.

At MFS®, we put our clients' assets to work responsibly by carefully navigating increasingly complex global capital markets. Our investment team is guided by a commitment to long-term fundamental investing. Our global investment platform — combining collective expertise, long-term discipline, and thoughtful risk management — seeks to uncover what we believe are the best, most durable investment ideas in markets around the world, enabling us to potentially create value for investors.

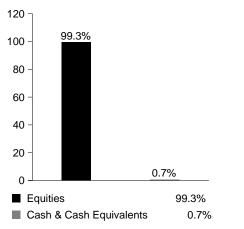
Respectfully,

Michael W. Roberge Chair and Chief Executive Officer MFS Investment Management

February 15, 2023

PORTFOLIO COMPOSITION

Portfolio structure



Top ten holdings

| Microsoft Corp. | 10.6% |
|----------------------------|--------------|
| Alphabet, Inc., "A" | 6.2% |
| Apple, Inc. | 4.8% |
| Visa, Inc., "A" | 4.0% |
| Accenture PLC, "A" | 3.4% |
| Church & Dwight Co., Inc. | 2.7% |
| | |
| Aon PLC | 2.6% |
| Aon PLC NIKE, Inc., "B" | 2.6% 2.5% |
| | |

| GICS equity sectors (g) Information Technology | 39.0% |
|---|-------|
| Health Care | 15.2% |
| Communication Services | 9.7% |
| Consumer Discretionary | 9.7% |
| Consumer Staples | 7.9% |
| Financials | 7.2% |
| Industrials | 6.8% |
| Real Estate | 1.6% |
| Materials | 1.2% |
| Utilities | 1.0% |

(g) The Global Industry Classification Standard (GIOSvas developed by and/or is the exclusive property of MSCI, Inc. and S&P Global Market Intelligence Inc.

MANAGEMENT REVIEW

Summary of Results

For the twelve months ended December 31, 2022, Initial Class shares of the MFS Massachusetts Investors Growth Stock Portfolio (fund) provided a total return of -19.26%, while Service Class shares of the fund provided a total return of -19.45%. These compare with a return of -29.14% over the same period for the fund's benchmark, the Russell 1000 Growth Index.

Market Environment

During the reporting period, markets continued to grapple with the strongest global inflationary pressures in decades along with signs of slowing economic growth. Intermittent coronavirus flareups, particularly in China, where home-grown vaccines have proved less effective than elsewhere, kept supply chains stretched for a considerable period. At the same time, the reopening of the economy in the parts of the world where the virus has been better contained has led to a shift in consumption patterns in favor of services, straining already tight labor markets in most developed economies, while reducing demand for manufactured goods, primarily from Asia. As a result of Russia's invasion of Ukraine, geopolitical considerations, such as sanctions and trade bans, have resulted in additional supply chain disruptions and volatile global energy prices. Taken together, these factors have contributed to market volatility.

The ripple effects from the Russian invasion further complicated the mission central banks must undertake to rein in surging inflation. Energy shocks have historically resulted in global growth slowdowns, if not pullbacks, so policymakers will find themselves in the difficult position of trying to restrain inflation without tipping economies into recession. Despite the challenging macroeconomic and geopolitical environment, policymakers remained focused on controlling inflation, although investors appeared to have expected varying degrees of action from the central banks. The Fed has been among the most aggressive developed market central banks, tightening policy at the fastest rate in decades, although it slowed its hiking pace at the end of the period, as did the European Central Bank. After remaining on the monetary sidelines for much of the period, the Bank of Japan widened its Yield Curve Control

MFS Massachusetts Investors Growth Stock Portfolio

Management Review - continued

Not owning stocks in the strong-performing energy sector also held back relative returns. However, there were no individual stocks within this sector, either in the fund or in the benchmark, that were among the fund's largest relative detractors during the period.

Elsewhere, not owning shares of pharmaceutical companies, Abbvie and Eli Lilly, beverage maker Coca-Cola, health insurance and Medicare/Medicaid provider UnitedHealth Group and biotechnology firm Amgen weakened relative performance. The share price of Abbvie advanced during the reporting period as the company reported strong revenue growth led by its Botox and Juvederm segments. Additionally, the fund's position in sportswear and sports equipment manufacturer Adidas(b)(h) (Germany), and an overweight position in technology company Alphabet, further hindered relative returns. The share price of Adidas came under pressure as the company reported a significant decline in sales in China due to supply chain disruptions and COVID-19 restrictions. Additionally, shares of Adidas suffered from a combination of its operations in Russia and Ukraine and the termination of its contract with YE, following months of disagreements between Kanye West and Adidas.

Respectfully,

Portfolio Manager(s)

Jeffrey Constantino and Joseph Skorski

- (b) Security is not a benchmark constituent.
- (h) Security was not held in the portfolio at period end.

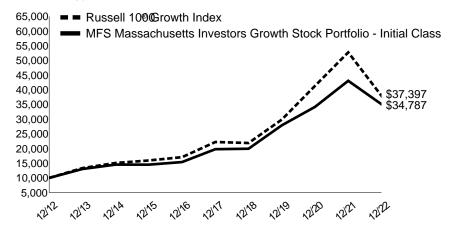
The views expressed in this report are those of the portfolio manager(s) only through the end of the period of the report as stated on the cover and do not necessarily reflect the views of MFS or any other person in the MFS organization. These views are subject to change at any time based on market or other conditions, and MFS disclaims any responsibility to update such views. These views may not be relied upon as investment advice or an indication before a intent on behalf of any MFS portfolio. References to specific securities are not recommendations of such securities, and may not be representative of MFS portfolio's current or future investments.

PERFORMANCE SUMMARY THROUGH 12/31/22

The following chart illustrates the historical performance of the fund in comparison to its benchmark(s). Benchmarks are unmanaged and may not be invested in directly. Benchmark returns do not reflect any fees or expenses. The performance of other share classes will be greater than or less than that of the class depicted below. (See Notes to Performance Summary.)

Performance data shown represents past performance and is no guarantee of future results. Investment return and principal value fluctuate so your shares, when sold, may be worth more or less than the original cost; current performance may be lower or higher than quoted. The performance shown does not reflect the deduction of taxes, if any, that a shareholder would pay on fund distributions or the redemption of fund shares. The returns for the fund shown also do not reflect the deduction of expenses associated with variable products, such as mortality and expense risk charges, separate account charges, and sales charges imposed by the insurance company separate accounts. Such expenses would reduce the overall returns shown.

Growth of a Hypothetical \$10,000 Investment



Total Returns through 12/31/22

Average annual total returns

| Share Class | Class Inception Date | 1-yr | 5-yr | 10-yr |
|------------------------------|----------------------|----------|--------|--------|
| Initial Class | 5/06/98 | (19.26)% | 11.95% | 13.28% |
| Service Class | 8/24/01 | (19.45)% | 11.67% | 13.01% |
| Comparative benchmark(s) | | | | |
| Russell 1060Growth Index (f) | | (29.14)% | 10.96% | 14.10% |

(f) Source: FactSet Research Systems Inc.

Benchmark Definition(s)

Russell 100[®] Growth Index^(h) – constructed to provide a comprehensive barometer for growth securities in the large-cap segment of the U.S. equity universe. Companies in this index generally have higher price-to-book ratios and higher forecasted growth values.

It is not possible to invest directly in an index.

(h) Frank Russell Company ("Russell") is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes!"Risssel trademark of Frank Russell Company. Neither Russell nor its licensors accept any liability for any errors or omissions in the Russell Indexes ansdadr R ratings or underlying data and no party may rely on any Russell Indexes and/or Russell ratings and/or underlying data contained in this document. No further distribution of Russell Data is permitted without Russell's express written consent. Russell does not promote, sponsor, or endorse theeroingf this document.

MFS Massachusetts Investors Growth Stock Portfolio

Performance Summary ... continued

Notes to Performance Summary

Average annual total return represents the average annual change in value for each share class for the periods presented.

Performance results reflect any applicable expense subsidies and waivers in effect during the periods shown. Without such subsidies and waivers the fund's performance results would be less favorable. Please see the prospectus and financial statements for complete details. All results are historical and assume the reinvestment of any dividends and capital gains distributions.

Performance results do not include adjustments made for financial reporting purposes in accordance with U.S. generally accepted accounting principles and may differ from amounts reported in the financial highlights.

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

EXPENSE TABLE

Fund expenses borne by the shareholders during the period, July 1, 2022 through December 31, 2022

As a shareholder of the fund, you incur ongoing costs, including management fees; distribution and/or service (12b-1) fees; and other fund expenses. This example is intended to help you understand your ongoing costs (in dollars) of investing in the fund and to compare these costs with the ongoing costs of investing in other mutual funds.

The example is based on an investment of \$1,000 invested at the beginning of the period and held for the entire period July 1, 2022 through December 31, 2022.

Actual Expenses

The first line for each share class in the following table provides information about actual account values and actual expenses. You may use the information in this line, together with the amount you invested, to estimate the expenses that you paid over the period. Simply divide your account value by \$1,000 (for example, an \$8,600 account value divided by \$1,000 = 8.6), then multiply the result by the number in the first line under the heading entitled "Expenses Paid During Period" to estimate the expenses you paid on your account during this period.

Hypseexample forperiod. yo77.8(estimate)-277.8(the)-20od.

PORTFOLIO OF INVESTMENTS Š 12/31/22

The Portfolio of Investments is a complete list of all securities owned by your fund. It is categorized by broad-based asset classes. Issuer

| Issuer | Shares/Par | Value (\$) |
|---|------------|------------|
| Common Stocks – continued | | |
| Food & Beverages – 3.1% | | |
| McCormick & Co., Inc. | 173,630 \$ | 14,392,191 |
| PepsiCo, Inc. | 68,913 | 12,449,822 |
| | \$ | 26,842,013 |
| Health Maintenance Organizations – 0.8% | | |
| Cigna Corp. | 21,085 \$ | 6,986,304 |
| Insurance – 3.8% | | |
| Aon PLC | 75,508 \$ | 22,662,971 |
| Marsh & McLennan Cos., Inc. | 67,177 | 11,116,450 |
| | \$ | 33,779,421 |
| Internet – 8.2% | | |
| Alphabet, Inc., "A" (a) | 620,550 \$ | 54,751,127 |
| Gartner, Inc. (a) | 21,268 | 7,149,026 |
| Tencent Holdings Ltd. | 238,700 | 10,145,276 |
| | \$ | 72,045,429 |
| Leisure & Toys – 2.3% | | |
| Electronic Arts, Inc. | 164,446 \$ | 20,092,012 |
| | | |
| | | |



FINANCIAL STATEMENTS STATEMENT OF ASSETS AND LIABILITIES

This statement represents your fund's balance sheet, which details the assets and liabilities comprising the total value of the fund.

| Assets | | | |
|---|---------------|-------------|-----------------|
| nvestments in unaffiliated issuers, at value (identified cost, \$481,894,462) | | | \$873,0 |
| nvestments in affiliated issuers, at value (identified cost, \$6,194,894) | | | 6,195,245 |
| Receivables for | | | |
| Investments sold | | | 66,201 |
| Fund shares sold | | | 98,327 |
| Dividends | | | 705,290 |
| Dther assets | | | 4,477 |
| Total assets | | | \$880,149,374 |
| iabilities | | | |
| Payables for | | | |
| Fund shares reacquired | | | \$812,434 |
| Payable to affiliates | | | |
| Investment adviser | | | 926 |
| Administrative services fee | | | 1,082 |
| Shareholder servicing costs | | | 114 |
| Distribution and/or service fees | | | 7,421 |
| Accrued expenses and other liabilities | | | 158,894 |
| Total liabilities | | | \$980,871 |
| Net assets | | | \$879,168,503 |
| Net assets consist of | | | |
| Paid-in capital | | | \$439,627,622 |
| Fotal distributable earnings (loss) | | | 439,540,881 |
| Vet assets | | | \$879,168,503 |
| Shares of beneficial interest outstanding | | | 46,002,074 |
| | | Shares | Net asset value |
| | Net assets | outstanding | per share |
| nitial Class | \$517,838,921 | 26,844,774 | \$19.2 |
| Service Class | 361,329,582 | 19,157,300 | 18.8 |

See Notes to Financial Statements

FINANCIAL STATEMENTS STATEMENT OF OPERATIONS

This statement describes how much your fund earned in investment income and accrued in expenses. It also describes any gains and/or losses generated by fund operations.

Year ended 12/31/22

| Income | |
|------------------------------------|--------------|
| Dividends | \$10,148,544 |
| Dividends from affiliated issuers | 73,126 |
| Other | 126 |
| Foreign taxes withheld | (109,840) |
| Total investment income | \$10,111,956 |
| Expenses | |
| Management fee | \$7,256,764 |
| Distribution and/or service fees | 982,305 |
| Shareholder servicing costs | 29,030 |
| Administrative services fee | 158,678 |
| Independent Trustees' compensation | 16,021 |
| Custodian fee | 58,628 |
| Shareholder communications | 30,030 |
| Audit and tax fees | 63,702 |
| Legal fees | 4,383 |
| Miscellaneous | 38,181 |
| Total expenses | xpensesisio |

FINANCIAL STATEMENTS STATEMENTS OF CHANGES IN NET ASSETS

These statements describe the increases and/or decreases in net assets resulting from operations, any distributions, and any shareholder tiansact

| | Year ended | |
|---|-----------------|-----------------|
| | 12/31/22 | 12/31/21 |
| Change in net assets | | |
| From operations | | |
| Net investment income (loss) | \$1,808,305 | \$571,880 |
| Net realized gain (loss) | 47,829,305 | 131,578,854 |
| Net unrealized gain (loss) | (274,946,289) | 126,850,492 |
| Change in net assets from operations | \$(225,308,679) | \$259,001,226 |
| Total distributions to shareholders | \$(131,637,497) | \$(148,535,842) |
| Change in net assets from fund share transactions | \$46,113 | ,579 \$9,979, |
| Total change in net assets | \$(310,832,597) | \$120,445,325 |
| Net assets | | |
| At beginning of period | 1,190,001,100 | 1,069,555,775 |
| At end of period | \$879,168,503 | \$1,190,001,100 |
| See Notes to Financial Statements | | |

FINANCIAL STATEMENTS FINANCIAL HIGHLIGHTS

The financial highlights table is intended to help you understand the fund's financial performance for the past 5 years. Certain information reflect financial results for a single fund share. The total returns in the table represent the rate that an investor would have earned (or lost) on an investment in the fund share class (assuming reinvestment of all distributions) held for the entire period.

| • | | | |
|------------|---|---|--|
| Year ended | | | |
| | | | 12/31/18 |
| \$27.57 | \$25.06 | \$22.58 | \$17.60 |
| | | | |
| \$0.06 | \$0.04 | \$0.06 | \$0.11 |
| (5.14) | 6.24 | 4.80 | 6.71 |
| \$(5.08) | \$6.28 | \$4.86 | \$6.82 |
| | | | |
| \$(0.02) | \$(0.07) | \$(0.11) | \$(0.13) |
| (3.18) | (3.70) | (2.27) | (1.71) |
| \$(3.20) | \$(3.77) | \$(2.38) | \$(1.84) |
| \$19.29 | \$27.57 | \$25.06 | \$22.58 |
| (19.26) | 25.97 | 22.53 | 39.95 |
| | | | |
| 0.79 | 0.78 | 0.79 | 0.79 |
| 0.76 | 0.76 | 0.78 | 0.78 |
| | | | 0.51 |
| | | | 22 \$603,369 |
| ψυτι,ουυ | φιιτ,σει | φ0+1,201 | φυυσ,σου |
| | | | |
| | | | 12/31/18 ¢17.29 |
| φ21.01 | \$∠4.0 <i>ι</i> | \$22.21 | \$17.38 |
| | | | |
| \$0.01 | \$(0.03) | \$0.00(w) | \$0.05 |
| | | | 6.62 |
| \$(5.03) | \$6.11 | \$4.72 | \$6.67 |
| | | | |
| \$— | \$(0.01) | \$(0.05) | \$(0.07) |
| (3.18) | (3.70) | (2.27) | (1.71) |
| \$(3.18) | \$(3.71) | \$(2.32) | \$(1.78) |
| \$18.86 | \$27.07 | \$24.67 | \$22.27 |
| (19.45) | 25.66 | 22.20 | 39.58 |
| | | | |
| | | | 1.04 |
| 1.04 | 1.03 | 1.04 | |
| 1.01 | 1.01 | 1.03 | 1.03 |
| | | | |
| | \$27.57 \$0.06 (5.14) \$(5.08) \$(0.02) (3.18) \$(3.20) \$19.29 (19.26) 0.79 0.76 0.29 17 \$517,839 12/31/22 12/31/ \$27.07 \$0.01 (5.04) \$(5.03) \$(5.03) \$(5.03) \$(3.18) \$(3.18) \$18.86 | $\begin{array}{c ccccccccccccccccccccccccccccccccccc$ | $\begin{array}{ c c c c c c c c c c c c c c c c c c c$ |

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Financial Highlights - continued

- (d) Per share data is based on average shares outstanding.
- (k) The total return does not reflect expenses that apply to separate accounts. Inclusion of these charges would reduce the total return figures for al 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.
- (w) Per share amount was less than \$0.01.
- (x) The net asset values and total returns have been calculated on net assets which include adjustments made in accordance with U.S. generally adcepte accounting principles required at period end for financial reporting purposes.

See Notes to Financial Statements

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.

Various inputs are used in determining the value of the fund's assets or liabilities. These inputs are categorized into three broad levels. In certain cases, the inputs used to measure fair value may fall into different levels of the fair value hierarchy. In such cases, an investment's level within the fair value hierarchy is based on the lowest level of input that is significant to the fair value measurement. The fund's assessment of the significance of a particular input to the fair value measurement in its entirety requires judgment, and considers factors specific to the investment. Level 1 includes unadjusted quoted prices in active markets for identical assets or liabilities. Level 2 includes other significant observable market-based inputs (including quoted prices for similar securities, interest rates, prepayment speed, and credit risk). Level 3 includes significant unobservable inputs, which may include the adviser's own assumptions in determining the fair value of investments. The following is a summary of the levels used as of December 31, 2022 in valuing the fund's assets and liabilities:

| Financial Instruments | Level 1 | Level 2 | Level 3 | Total |
|-----------------------|---------------|--------------|---------|---------------|
| Equity Securities: | . | | | • |
| United States | \$835,239,654 | \$— | \$— | \$835,239,654 |
| Canada | 12,419,608 | — | _ | 12,419,608 |
| China | _ | 10,145,276 | _ | 10,145,276 |
| France | — | 8,992,661 | — | 8,992,661 |
| Taiwan | 6,282,635 | — | — | 6,282,635 |
| Mutual Funds | 6,195,245 | | | 6,195,245 |
| Total | \$860,137,142 | \$19,137,937 | \$— | \$879,275,079 |

For further information regarding security characteristics, see the Portfolio of Investments.

Foreign Currency Translation

Distributions to shareholders are recorded on the ex-dividend date. Income and capital gain distributions are determined in accordance with income tax regulations, which may differ from U.S. generally accepted accounting principles. Certain capital accounts in the financial statements are periodically adjusted for permanent differences in order to reflect their tax character. These

Notes to Financial Statements - continued

For the period from January 1, 2022 through July 31, 2022, the investment adviser had agreed in writing to pay a portion of the fund's total annual operating expenses, excluding interest, taxes, extraordinary expenses, brokerage and transaction costs, certain tax reclaim recovery expenses (including contingency fees and closing agreement expenses), and investment-related expenses, such that total annual operating expenses did not exceed 0.82% of average daily net assets for the Initial Class shares and 1.07% of average daily net assets for the Service Class shares. This written agreement terminated on July 31, 2022. For the period from January 1, 2022 through July 31, 2022, the fund's actual operating expenses did not exceed the limit and therefore, the investment adviser did not pay any portion of the fund's expenses related to this agreement.

Effective August 1, 2022, the investment adviser has agreed in writing to pay a portion of the fund's total annual operating expenses, excluding interest, taxes, extraordinary expenses, brokerage and transaction costs, certain tax reclaim recovery expenses (including contingency fees and closing agreement expenses), and investment-related expenses, such that total annual operating expenses do not exceed 0.73% of average daily net assets for the Initial Class shares and 0.98% of average daily net assets for the Service Class shares. This written agreement will continue until modified by the fund's Board of Trustees, but such agreement will continue at least until April 30, 2024. For the period from August 1, 2022 through December 31, 2022, this reduction amounted to \$199,355, which is included in the reduction of total expenses in the Statement of Operations.

Distributor — MFS Fund Distributors, Inc. (MFD), a wholly-owned subsidiary of MFS, is the distributor of shares of the fund. The Trustees have adopted a distribution plan for the Service Class shares pursuant to Rule 12b-1 under the Investment Company Act of 1940.

The fund's distribution plan provides that the fund will pay MFD distribution and/or service fees equal to 0.25% per annum of its average daily net assets attributable to Service Class shares as partial consideration for services performed and expenses incurred by MFD and financial intermediaries (including participating insurance companies that invest in the fund to fund variable annuity and variable life insurance contracts, sponsors of qualified retirement and pension plans that invest in the fund, and affiliates of these participating insurance companies and plan sponsors) in connection with the sale and distribution of the Service Class shares. MFD may subsequently pay all, or a portion, of the distribution and/or service fees to financial intermediaries.

Shareholder Servicing Agent — MFS Service Center, Inc. (MFSC), a wholly-owned subsidiary of MFS, receives a fee from the fund for its services as shareholder servicing agent. For the year ended December 31, 2022, the fee was \$27,592, which equated to 0.0029% annually of the fund's average daily net assets. MFSC also receives reimbursement from the fund for out-of-pocket expenses paid by MFSC on behalf of the fund. For the year ended December 31, 2022, these costs amounted to \$1,438.

Administrator — MFS provides certain financial, legal, shareholder communications, compliance, and other administrative services to the fund. Under an administrative services agreement, the fund reimburses MFS the costs incurred to provide these services. The fund is charged an annual fixed amount of \$17,500 plus a fee based on average daily net assets. The administrative services fee incurred for the year ended December 31, 2022 was equivalent to an annual effective rate of 0.0164% of the fund's average daily net assets.

Trustees' and Officers' Compensation — The fund pays compensation to independent Trustees in the form of a retainer, attendance fees, and additional compensation to Board and Committee chairpersons. The fund does not pay compensation directly to Trustees or officers of the fund who are also officers of the investment adviser, all of whom receive remuneration from MFS for their services to the fund. Certain officers and Trustees of the fund are officers or directors of MFS, MFD, and MFSC.

Other — The fund invests in the MFS Institutional Money Market Portfolio which is managed by MFS and seeks current income consistent with preservation of capital and liquidity. This money market fund does not pay a management fee to MFS but does incur investment and operating costs.

The fund is permitted to engage in purchase and sale transactions with funds and accounts for which MFS serves as investment adviser or sub-adviser ("cross-trades") pursuant to a policy adopted by the Board of Trustees. This policy has been designed to ensure that cross-trades conducted by the fund comply with Rule 17a-7 under the Investment Company Act of 1940. During the year ended December 31, 2022, the fund engaged in sale transactions pursuant to this policy, which amounted to \$1,172,223. The sales transactions resulted in net realized gains (losses) of \$(153,148).

(4) Portfolio Securities

For the year ended December 31, 2022, purchases and sales of investments, other than short-term obligations, aggregated \$166,481,132 and \$252,260,001, respectively.

(5) Shares of Beneficial Interest

The fund's Declaration of Trust permits the Trustees to issue an unlimited number of full and fractional shares of beneficial interest. Transactions in fund shares were as follows:

| | | Year ended 12/31/22 | | ded 21 |
|---|-------------|------------------------|---------------|------------------|
| | Shares | Amount | Shares A | mount |
| Shares sold | | | | |
| Initial Class | 389,377 | \$8,711,128 | 301,917 | \$8,152,931 |
| Service Class | 1,467,695 | 32,214,023 | 638,576 | 16,756,952 |
| | 1,857,072 | \$40,925,151 | 940,493 | \$24,909,883 |
| Shares issued to shareholders in reinvestment of distributions | | | | |
| Initial Class | 3,722,210 | \$77,533,633 | 3,431,643 | \$89,257,028 |
| Service Class | 2,654,753 | 54,103,864 | 2,318,295 | 59,278,814 |
| | 6,376,963 | \$131,637,497 | 5,749,938 | \$148,535,842 |
| Shares reacquired | | | | |
| Initial Class | (3,184,423) | \$(71,137,383 |) (3,409,834) |) \$(91,134,490) |
| Service Class | (2,526,752) | (55,311,686) |) (2,755,500) |) (72,331,294) |
| | (5,711,175) | \$(126,449,069 |) (6,165,334) |) \$(163,465,784 |
| Net change | | | | |
| Initial Class | 927,164 | \$15,107,378 | 323,726 | \$6,275,469 |
| Service Class | 1,595,696 | 31,006,201 | 201,371 | 3,704,472 |
| | 2,522,860 | \$46,113,579 | 525,097 | \$9,979,941 |

(6) Line of Credit

(8) LIBOR Transition

Certain of the fund's investments, including investments in certain debt instruments and derivatives (if any), as well as borrowings by

REPORT OF INDEPENDENT REGISTERED PUBLIC ACCOUNTING FIRM

To the Board of Trustees of MFS Variable Insurance Trust II and the Shareholders of MFS Massachusetts Investors Growth Stock Portfolio:

Opinion on the Financial Statements and Financial Highlights

We have audited the accompanying statement of assets and liabilities of MFS Massachusetts Investors Growth Stock Portfolio (the "Fund"), including the portfolio of investments, as of December 31, 2022, the related statement of operations for the year then ended, the statements of changes in net assets for each of the two years in the period then ended, the financial highlights for each of the five years in the period then ended, and the related notes. In our opinion, the financial statements and financial highlights present fairly, in all material respects, the financial position of the Fund as of December 31, 2022, and the results of its operations for the year then ended, the changes in its net assets for each of the two years in the period then ended, and the financial highlights for each of the five years in the period then ended, in conformity with accounting principles generally accepted in the United States of America.

Basis for Opinion

These financial statements and financial highlights are the responsibility of the Fund's management. Our responsibility is to express an opinion on the Fund's financial statements and financial highlights based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) (PCAOB) and are required to be independent with respect to the Fund in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements and financial highlights are free of material misstatement, whether due to error or fraud. The Fund is not required to have, nor were we engaged to perform, an audit of its internal control over financial reporting. As part of our audits, we are required to obtain an understanding of internal control over financial reporting but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control over financial reporting. Accordingly, we express no such opinion.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements and financial highlights, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements and financial highlights. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements and financial highlights. Our procedures included confirmation of securities owned as of December 31, 2022, by correspondence with the custodian. We believe that our audits provide a reasonable basis for our opinion.

DELOITTE & TOUCHE LLP

Boston, Massachusetts February 15, 2023

We have served as the auditor of one or more of the MFS investment companies since 1924.

TRUSTEES AND OFFICERS "IDENTIFICATION AND BACKGROUND

The Trustees and Officers of the Trust, as of February 1, 2023, are listed below, together with their principal occupations during the past five years. (Their titles may have varied during that period.) The address of each Trustee and Officer is 111 Huntington Avenue, Boston, Massachusetts 02199-7618.

MFS Massachusetts Investors Growth Stock Portfolio

Trustees and Officers - continued

| Name, Age | Position(s) Held with Fund | Trustee/Officer Since ^(h) | Number of MFS Funds for which the Person is an Officer | Principal Occupations During the Past Five Years |
|--|---|---|--|---|
| OFFICERS | | | | |
| Christopher R. Boháhe (age 49) | Assistant Secretary and Assistant Clerk | July 2005 | 136 | Massachusetts Financial Services Company, Senior Vice President and Senior Managing Counsel |
| Kino Clarí ^{k)} (age 54) | Assistant Treasurer | January 2012 | 136 | Massachusetts Financial Services Company, Vice President |
| John W. Clark, ያን. (age 55) | Assistant Treasurer | April 2017 | 136 | Massachusetts Financial Services Company, Vice President |
| David L. DiLorenජිර (age 54) | President | July 2005 | 136 | Massachusetts Financial Services Company, Senior Vice President |
| Heidi W. Hardíh ⁾ (age 55) | Secretary and Clerk | April 2017 | 136 | Massachusetts Financial Services Company, Executive Vice President and General Counsel |
| Brian E. Langenfeld (age 49) | Assistant Secretary and Assistant Clerk | June 2006 | 136 | Massachusetts Financial Services Company, Vice President and Managing Counsel |
| Rosa E. Licea-Maillótừx (age 46) | Chief Complianc Officer | e March 2022 | 136 | Massachusetts Financial Services Company, Vice President (since 2018); Director of Corporate Compliance (2018-2021), Senior Director Compliance (2021-2022), Senior Managing Director of North American Compliance & Chief Compliance Officer (since March 2022); Natixis Investment Managers (investment management), Funds Chief Compliance Officer, Deputy General Counsel & Senior Vice President (until 2018) |
| Amanda S. Mooradian (age 43) | Assistant Secretary and Assistant Clerk | September 2018 | 136 | Massachusetts Financial Services Company, Assistant Vice President and Senior Counsel |
| Susan A. Pereira (age 52) | Assistant Secretary and Assistant Clerk | July 2005 | 136 | Massachusetts Financial Services Company, Vice President and Managing Counsel |
| Kasey L. Philliଖିଞ୍ଚ (age 52) | Assistant Treasurer | September 2012 | 136 | Massachusetts Financial Services Company, Vice Presiden |
| Matthew A. Stow ^{é)} (age 48) | Assistant Secretary and Assistant Clerk | October 2014 | 136 | Massachusetts Financial Services Company, Vice President and Senior Managing Counsel |
| William B. Wilso ^{/h} (age 40) | Assistant Secretary and Assistant Clerk | October 2022 | 136 | Massachusetts Financial Services Company, Assistant Vice President and Counsel |
| James O. Yo ^l st (age 62) | Treasurer | September 199 | 0 136 | Massachusetts Financial Services Company, Senior Vice President |

(h) Date first appointed to serve as Trustee/Officer of an MFS Fund. Each Trustee has served continuously since appointment unless indicated **ethermin** January 2012 through December 2016, Messrs. DiLorenzo and Yost served as Treasurer and Deputy Treasurer of the Funds, respectively.

(j) Directorships or trusteeships of companies required to report to the Securities and Exchange Commission (i.e., "public companies").

(k) "Interested person" of the Trust within the meaning of the Investment Company Act of 1940 (referred to as the 1940 Act), which is the principal feder law governing investment companies like the fund, as a result of a position with MFS. The address of MFS is 111 Huntington Avenue, Boston, Massachusetts 02199-7618.

Each Trustee (other than Messrs. Jones, Kilman and Roberge) has been elected by shareholders and each Trustee and Officer holds office until his or her successor is chosen and qualified or until his or her earlier death, resignation, retirement or removal. Mr. Roberge became a Trustee of the Funds on January 1, 2021 and Messrs. Jones and Kilman became Trustees of the Funds on January 1, 2019. The Trust does not hold annual meetings for the purpose of electing Trustees, and Trustees are not elected for fixed terms. Under the terms of the Board's retirement policy, an Independent Trustee shall retire at the end of the calendar year in which he or she reaches the earlier of 75 years of age or 15 years of service on the Board (or, in the case of any Independent Trustee who joined the Board prior to 2015, 20 years of service on the Board).

Messrs. Buller, Kilman and Otis and Ms. Roepke are members of the Trust's Audit Committee.

Each of the Interested Trustees and certain Officers hold comparable officer positions with certain affiliates of MFS.

The Statement of Additional Information for a Fund includes further information about the Trustees and is available without charge upon request by calling 1-800-225-2606.

Board Review of Investment Advisory Agreement - continued

quintile relative to the other funds in its Broadridge performance universe for the five-year period ended December 31, 2021. After reviewing these and related factors, the Trustees concluded, within the context of their overall conclusions regarding the investment advisory agreement, that they were satisfied with MFS' responses and efforts relating to investment performance.

In assessing the reasonableness of the Fund's advisory fee, the Trustees considered, among other information, the Fund's advisory fee and the total expense ratio of the Fund's Initial Class shares as a percentage of average daily net assets and the advisory fee and total expense ratios of the Broadridge expense group based on information provided by Broadridge. The Trustees considered that MFS currently observes an expense limitation for the Fund, which may not be changed without the Trustees' approval. The Trustees also considered that, according to the data provided by Broadridge (which takes into account any fee reductions or expense limitations that were in effect during the Fund's last fiscal year), the Fund's effective advisory fee rate and total expense ratio were each higher than the Broadridge expense group median. The Trustees also noted that MFS has agreed to further reduce the expense limitation for the Fund effective August 1, 2022.

The Trustees also considered the advisory fees charged by MFS to any institutional separate accounts advised by MFS ("separate accounts") and unaffiliated investment companies for which MFS serves as subadviser ("subadvised funds") that have comparable investment strategies to the Fund, if any. In comparing these fees, the Trustees considered information provided by MFS as to the generally broader scope of services provided by MFS to the Fund, as well as the more extensive regulatory burdens imposed on MFS in managing the Fund, in comparison to separate accounts and subadvised funds. The Trustees also considered the higher demands placed on MFS' investment personnel and trading infrastructure as a result of the daily cash in-flows and out-flows of the Fund in comparison to separate accounts.

The Trustees also considered whether the Fund may benefit from any economies of scale in the management of the Fund in the event of growth in assets of the Fund and/or growth in assets of the MFS Funds as a whole. They noted that the Fund's advisory fee rate schedule is subject to a contractual breakpoint that reduces the Fund's advisory fee rate on average daily net assets over \$1 billion. The Trustees also noted that MFS has agreed in writing to waive a portion of the management fees of certain MFS Funds, including the Fund, if the total combined assets of certain funds within the MFS Funds' complex increase above agreed upon thresholds (the "group fee waiver"), enabling the Fund's shareholders to share in the benefits from any economies of scale at the complex level. The group fee waiver is reviewed and renewed annually between the Board and MFS. The Trustees concluded that the breakpoint and the group fee waiver were sufficient to allow the Fund to benefit from economies of scale as its assets and overall complex assets grow.

The Trustees also considered information prepared by MFS relating to MFS' costs and profits with respect to the Fund, the MFS Funds considered as a group, and other investment companies and accounts advised by MFS, as well as MFS' methodologies used to determine and allocate its costs to the MFS Funds, the Fund and other accounts and products for purposes of estimating profitability.

After reviewing these and other factors described herein, the Trustees concluded, within the context of their overall conclusions regarding the investment advisory agreement, that the advisory fees charged to the Fund represent reasonable compensation in light of the services being provided by MFS to the Fund.

In addition, the Trustees considered MFS' resources and related efforts to continue to retain, attract and motivate capable personnel to serve the Fund. The Trustees also considered current and developing conditions in the financial services industry, including the presence of large and well-capitalized companies which are spending, and appear to be prepared to continue to spend, substantial sums to engage personnel and to provide services to competing investment companies. In this regard, the Trustees also considered the financial resources of MFS and its ultimate parent, Sun Life Financial Inc. The Trustees also considered the advantages and possible disadvantages to the Fund of having an adviser that also serves other investment companies as well as other accounts.

The Trustees also considered the nature, quality, cost, and extent of administrative, transfer agency, and distribution services provided to the Fund by MFS and its affiliates under agreements and plans other than the investment advisory agreement, including any 12b-1 fees the Fund pays to MFS Fund Distributors, Inc., an affiliate of MFS. The Trustees also considered the nature, extent and quality of certain other services MFS performs or arranges for on the Fund's behalf, which may include securities lending programs, directed expense payment programs, class action recovery programs, and MFS' interaction with third-party service providers, principally custodians and sub-custodians. The Trustees concluded that the various non-advisory services provided by MFS and its affiliates on behalf of the Fund were satisfactory.

The Trustees considered so-called "fall-out benefits" to MFS such as reputational value derived from serving as investment manager to the MFS Funds. The Trustees also considered that MFS discontinued its historic practice of obtaining investment research from portfolio brokerage commissions paid by certain MFS Funds effective January 2018, and directly pays or voluntarily reimburses a Fund, if applicable, for the costs of external research acquired through the use of the Fund's portfolio brokerage commissions.

Based on their evaluation of factors that they deemed to be material, including those factors described above, the Board of Trustees, including the independent Trustees, concluded that the Fund's investment advisory agreement with MFS should be continued for an additional one-year period, commencing August 1, 2022.

MFS Massachusetts Investors Growth Stock Portfolio

PROXY VOTING POLICIES AND INFORMATION

MFS votes proxies on behalf of the fund pursuant to proxy voting policies and procedures that are available without charge, upon request, by calling 1-800-225-2606, by visitingnfs.com/proxyvoting,or by visiting the SEC's Web site atttp://www.sec.gov.

Information regarding how the fund voted proxies relating to portfolio securities during the most recent twelve-month period ended June 30 is available by August 31 of each year without charge by visitimgfs.com/proxyvoting,or by visiting the SEC's Web site at http://www.sec.gov.

QUARTERLY PORTFOLIO DISCLOSURE

The fund files a complete schedule of portfolio holdings with the SEC for the first and third quarters of each fiscal year as an exhibit to its reports on Form N-PORT. The fund's Form N-PORT reports are available on the SEC's Web slittepat/www.sec.gov. A shareholder can obtain the portfolio holdings report for the first and third quarters of the fund's fiscal year atmfs.com/vit2 by choosing the fund's name and then scrolling to the "Resources" section and clicking on the "Prospectus and Reports" tab.

FURTHER INFORMATION

From time to time, MFS may post important information about the fund or the MFS Funds on the MFS Web sitef\$.com). This information is available athttps://www.mfs.com/announcementsor at mfs.com/vit2 by choosing the fund's name and then scrolling to the "Resources" section and clicking on the "Announcements" tab, if any.

INFORMATION ABOUT FUND CONTRACTS AND LEGAL CLAIMS

The fund has entered into contractual arrangements with an investment adviser, administrator, distributor, shareholder servicing agent, and custodian who each provide services to the fund. Unless expressly stated otherwise, shareholders are not parties to, or intended beneficiaries of these contractual arrangements, and these contractual arrangements are not intended to create any shareholder right to enforce them against the service providers or to seek any remedy under them against the service providers, either directly or on behalf of the fund.

Under the Trust's By-Laws and Declaration of Trust, any claims asserted against or on behalf of the MFS Funds, including claims against Trustees and Officers, must be brought in state and federal courts located within the Commonwealth of Massachusetts.

FEDERAL TAX INFORMATION (unaudited)

The following information is provided pursuant to provisions of the Internal Revenue Code.

The fund designates \$126,538,000 as capital gain dividends paid during the fiscal year.

For corporate shareholders, 47.44% of the ordinary income dividends paid during the fiscal year qualify for the corporate dividends received deduction.



