## **Vanguard**°

Annual Report | December 31, 2022

# Vanguard Variable Insurance Funds

Total Stock Market Index Portfolio (with underlying Equity Index Portfolio)

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### Your Portfolio's Performance at a Glance

- For the 12 months ended December 31, 2022, the Total Stock Market Index Portfolio returned –19.59%, in line with the –19.53% return of its composite index after factoring in the portfolio's expenses.
- The portfolio, which invests in Vanguard Variable Insurance Funds Equity Index Portfolio and Vanguard Extended Market Index Fund, provides exposure to every segment, size, and style of the U.S. equity market.
- The period was a volatile, challenging one for financial markets. Overall, the economic backdrop deteriorated as inflation soared to multidecade highs, driven by government spending during the pandemic as well as higher energy and food prices in the wake of Russia's invasion of Ukraine. That prompted aggressive tightening by many central banks to bring inflation back in check, which increased fears of recession.
- For the decade ended December 31, 2022, the portfolio recorded an average annual return of 11.92%, in line with its benchmark average of 12.03%.
- Please note that the portfolio's returns are different from those in Vanguard Variable Annuity (and other plans that invest in the portfolio), which take into account insurance-related expenses.

#### Market Barometer

	Average Annual Total Returns Periods Ended December 31, 2022		
	One Year	Three Years	Five Years
Stocks			
Russell 1000 Index (Large-caps)	-19.13%	7.35%	9.13%
Russell 2000 Index (Small-caps)	-20.44	3.10	4.13
Russell 3000 Index (Broad U.S. market)	-19.21	7.07	8.79
FTSE All-World ex US Index (International)	-15.49	0.61	1.28
Bonds			
Bloomberg U.S. Aggregate Float Adjusted Index (Broad taxable market)	-13.07%	-2.67%	0.06%
Bloomberg Municipal Bond Index (Broad tax-exempt market)	-8.53	-0.77	1.25
FTSE Three-Month U.S. Treasury Bill Index	1.50	0.70	1.24
CPI			
Consumer Price Index	6.45%	4.92%	3.78%

## About Your Portfolio's Expenses

As a shareholder of the portfolio, you incur ongoing costs, which include costs for portfolio management, administrative services, and shareholder reports (like this one), among others. Operating expenses, which are deducted from a portfolio's gross income, directly reduce the investment return of the portfolio.

A portfolio's expenses are expressed as a percentage of its average net assets. The Total Stock Market Index Portfolio has no direct expenses, but bears its proportionate share of the costs for the underlying funds in which it invests. These indirect expenses make up the acquired fund fees and expenses, also expressed as a percentage of average net assets. The following examples are intended to help you understand the ongoing costs (in dollars) of investing in your portfolio and to compare these costs with those of other mutual funds. The examples are based on an investment of \$1,000 made at the beginning of the period shown and held for the entire period. The costs were calculated using the acquired fund fees and expenses for the Total Stock Market Index Portfolio.

The accompanying table illustrates your portfolio's costs in two ways:

• Based on actual portfolio return. This section helps you to estimate the actual expenses that you paid over the period. The "Ending Account Value" shown is derived from the portfolio's actual return, and the third column shows the dollar amount that would have been paid by an investor who started with \$1,000 in the portfolio. You may use the information here, together with the amount you invested, to estimate the expenses that you paid over the period.

To do so, 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 given for your portfolio under the heading "Expenses Paid During Period."

• Based on hypothetical 5% yearly return. This section is intended to help you compare your portfolio's costs with those of other mutual funds. It assumes that the portfolio had a yearly return of 5% before expenses, but that the expense ratio is unchanged. In this case—because the return used is not the portfolio's actual return—the results do not apply to your investment. The example is useful in making comparisons because the Securities and Exchange Commission requires all mutual funds to calculate expenses based on a 5% return. You can assess your portfolio's costs by comparing this hypothetical example with the hypothetical examples that appear in shareholder reports of other funds.

Note that the expenses shown in the table are meant to highlight and help you compare *ongoing* costs only. The portfolio's expense ratio does not reflect additional fees and expenses associated with the annuity or life insurance program through which you invest.

The calculations assume no shares were bought or sold during the period. Your actual costs may have been higher or lower, depending on the amount of your investment and the timing of any purchases or redemptions.

You can find more information about the portfolio's expenses in the Financial Statements section of this report. For additional information on operating expenses and other shareholder costs, please refer to your portfolio's current prospectus.

#### Six Months Ended December 31, 2022

	Beginning	Ending	Expenses
Tatal Ctarle Mandat Index Bantalia	Account Value	Account Value	Paid During
Total Stock Market Index Portfolio	6/30/2022	12/31/2022	Period
Based on Actual Portfolio Return	\$1,000.00	\$1,022.70	\$0.66
Based on Hypothetical 5% Yearly Return	1,000.00	1,024.55	0.66

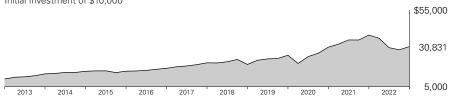
The calculations are based on acquired fund fees and expenses for the most recent six-month period. The underlying portfolios' annualized expense figure for that period is 0.13%. The dollar amounts shown as "Expenses Paid" are equal to the annualized average weighted expense ratio for the underlying funds multiplied by the average account value over the period, multiplied by the number of days in the most recent six-month period, then divided by the number of days in the most recent 12-month period (184/365).

### Total Stock Market Index Portfolio

### **Performance Summary**

All of the returns in this report represent past performance, which is not a guarantee of future results that may be achieved by the portfolio. (Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at vanguard.com/performance.) Note, too, that both investment returns and principal value can fluctuate widely, so an investor's shares, when sold, could be worth more or less than their original cost. The returns shown do not reflect taxes that a shareholder would pay on portfolio distributions or on the sale of portfolio shares. Nor do the returns reflect fees and expenses associated with the annuity or life insurance program through which a shareholder invests. If these fees and expenses were included, the portfolio's returns would be lower.

## Cumulative Performance: December 31, 2012, Through December 31, 2022 Initial Investment of \$10,000



#### Average Annual Total Returns Periods Ended December 31, 2022

	One Year	Five Years	Ten Years	Final Value of a \$10,000 Investment
Total Stock Market Index Portfolio	-19.59%	8.55%	11.92%	\$30,831
S&P Total Market Index	-19.53	8.65	12.03	31,151

# Underlying Vanguard Funds As of December 31, 2022

Vanguard Variable Insurance Funds—Equity Index Portfolio	84.7%
Vanguard Extended Market Index Fund Admiral Shares	15.3

The table reflects the portfolio's investments, except for short-term investments.

## **Financial Statements**

## Schedule of Investments

As of December 31, 2022

The portfolio files its complete schedule of portfolio holdings with the Securities and Exchange Commission (SEC) for the first and third quarters of each fiscal year as an exhibit to its reports on Form N-PORT. The portfolio's Form N-PORT reports are available on the SEC's website at www.sec.gov.

		Market Value•
	Shares	(\$000)
Investment Companies (100.0%)		
U.S. Stock Funds (100.0%)		
Vanguard Variable Insurance Funds—Equity Index Portfolio	60,363,104	3,062,824
Vanguard Extended Market Index Fund Admiral Shares	5,467,630	551,411
Total Investment Companies (Cost \$3,031,058)		3,614,235
Temporary Cash Investments (0.0%)		
Money Market Fund (0.0%)		
Vanguard Market Liquidity Fund, 4.334% (Cost \$344)	3,440	344
Total Investments (100.0%) (Cost \$3,031,402)		3,614,579
Other Assets and Liabilities – Net (0.0%)	·	(1,069)
Net Assets (100%)		3,613,510

Cost is in \$000.

See Note A in Notes to Financial Statements.

<sup>1</sup> Affiliated money market fund available only to Vanguard funds and certain trusts and accounts managed by Vanguard. Rate shown is the 7-day yield.

# Statement of Assets and Liabilities As of December 31, 2022

(\$000s, except shares, footnotes, and per-share amounts)	Amount
Assets	
Investments in Securities, at Value—Affiliated Funds (Cost \$3,031,402)	3,614,579
Receivables for Accrued Income	1
Receivables for Capital Shares Issued	1,380
Total Assets	3,615,960
Liabilities	
Payables for Investment Securities Purchased	344
Payables for Capital Shares Redeemed	2,106
Total Liabilities	2,450
Net Assets	3,613,510
At December 31, 2022, net assets consisted of:	
Paid-in Capital	2,753,427
Total Distributable Earnings (Loss)	860,083
Net Assets	3,613,510
Net Assets	
Applicable to 85,434,281 outstanding \$.001 par value shares of beneficial interest (unlimited authorization)	3,613,510
Net Asset Value Per Share	\$42.30

## Statement of Operations

Year Ende	)(
December 31, 202	22

	(\$000)
Investment Income	
Income	
Income Distributions Received from Affiliated Funds	47,569
Net Investment Income—Note B	47,569
Realized Net Gain (Loss)	
Capital Gain Distributions Received from Affiliated Funds	138,071
Affiliated Funds Sold	93,719
Futures Contracts	(150)
Realized Net Gain (Loss)	231,640
Change in Unrealized Appreciation (Depreciation) from Affiliated Funds	(1,120,049)
Net Increase (Decrease) in Net Assets Resulting from Operations	(840.840)

## Statement of Changes in Net Assets

	Year Ended December 31,	
	2022 (\$000)	2021 (\$000)
Increase (Decrease) in Net Assets		
Operations		
Net Investment Income	47,569	47,571
Realized Net Gain (Loss)	231,640	263,827
Change in Unrealized Appreciation (Depreciation)	(1,120,049)	564,584
Net Increase (Decrease) in Net Assets Resulting from Operations	(840,840)	875,982
Distributions		
Total Distributions	(311,453)	(244,651)
Capital Share Transactions		
Issued	653,617	443,889
Issued in Lieu of Cash Distributions	311,453	244,651
Redeemed	(453,339)	(528,140)
Net Increase (Decrease) from Capital Share Transactions	511,731	160,400
Total Increase (Decrease)	(640,562)	791,731
Net Assets		
Beginning of Period	4,254,072	3,462,341
End of Period	3,613,510	4,254,072

## Financial Highlights

For a Share Outstanding			Year	Ended Dec	ember 31,
Throughout Each Period	2022	2021	2020	2019	2018
Net Asset Value, Beginning of Period	\$56.94	\$48.56	\$42.81	\$34.26	\$38.26
Investment Operations					
Net Investment Income <sup>1</sup>	.587	.640	.678	.694	.603
Capital Gain Distributions Received <sup>1</sup>	1.704	1.599	.684	.789	.494
Net Realized and Unrealized Gain (Loss) on Investments	(12.797)	9.589	6.354	8.792	(2.964)
Total from Investment Operations	(10.506)	11.828	7.716	10.275	(1.867)
Distributions					
Dividends from Net Investment Income	(.650)	(.652)	(.671)	(.618)	(.600)
Distributions from Realized Capital Gains	(3.484)	(2.796)	(1.295)	(1.107)	(1.533)
Total Distributions	(4.134)	(3.448)	(1.966)	(1.725)	(2.133)
Net Asset Value, End of Period	\$42.30	\$56.94	\$48.56	\$42.81	\$34.26
Total Return	-19.59%	25.64%	20.55%	30.75%	-5.34%
Ratios/Supplemental Data					
Net Assets, End of Period (Millions)	\$3,614	\$4,254	\$3,462	\$2,757	\$2,047
Ratio of Total Expenses to Average Net Assets	_	_	_	_	_
Acquired Fund Fees and Expenses	0.13%	0.13%	0.13%	0.13%	0.13%
Ratio of Net Investment Income to Average Net Assets	1.28%	1.22%	1.66%	1.79%	1.59%
Portfolio Turnover Rate	6%	7%	13%	4%	5%

<sup>1</sup> Calculated based on average shares outstanding.

### Notes to Financial Statements

The Total Stock Market Index Portfolio, a portfolio of Vanguard Variable Insurance Funds, is registered under the Investment Company Act of 1940 as an open-end investment company. The portfolio seeks to match the return of its target index by investing in selected Vanguard funds and portfolios. The portfolio invests a substantial amount of its assets in VVIF Equity Index Portfolio. The accompanying financial statements of VVIF Equity Index Portfolio should be read in conjunction with the financial statements of the portfolio. Financial statements and other information about each underlying fund and portfolio are available at www.vanguard.com. The portfolio's shares are only available for purchase by separate accounts of insurance companies as investments for variable annuity plans, variable life insurance contracts, or other variable benefit insurance contracts.

Significant market disruptions, such as those caused by pandemics (e.g., COVID-19 pandemic), natural or environmental disasters, war (e.g., Russia's invasion of Ukraine), acts of terrorism, or other events, can adversely affect local and global markets and normal market operations. Any such disruptions could have an adverse impact on the value of the portfolio's investments and portfolio performance.

**A.** The following significant accounting policies conform to generally accepted accounting principles for U.S. investment companies. The portfolio consistently follows such policies in preparing its financial statements.

- 1. Security Valuation: Investments are valued at the net asset value of each underlying Vanguard fund determined as of the close of the New York Stock Exchange (generally 4 p.m., Eastern time) on the valuation date.
- 2. Futures Contracts: The portfolio uses stock and bond futures contracts to a limited extent, with the objectives of maintaining full exposure to the market and maintaining its target asset allocation. The primary risks associated with the use of futures contracts are imperfect correlation between changes in market values of investments held by the portfolio and the prices of futures contracts, and the possibility of an illiquid market. Counterparty risk involving futures is mitigated because a regulated clearinghouse is the counterparty instead of the clearing broker. To further mitigate counterparty risk, the portfolio trades futures contracts on an exchange, monitors the financial strength of its clearing brokers and clearinghouse, and has entered into clearing agreements with its clearing brokers. The clearinghouse imposes initial margin requirements to secure the portfolio's performance and requires daily settlement of variation margin representing changes in the market value of each contract. Any securities pledged as initial margin for open contracts are noted in the Schedule of Investments.

Futures contracts are valued at their quoted daily settlement prices. The notional amounts of the contracts are not recorded in the Statement of Assets and Liabilities. Fluctuations in the value of the contracts are recorded in the Statement of Assets and Liabilities as an asset (liability) and in the Statement of Operations as unrealized appreciation (depreciation) until the contracts are closed, when they are recorded as realized gains (losses) on futures contracts.

During the year ended December 31, 2022, the portfolio's average investments in long and short futures contracts represented less than 1% and 0% of net assets, respectively, based on the average of the notional amounts at each quarter-end during the period. The portfolio had no open futures contracts at December 31, 2022.

- 3. Federal Income Taxes: The portfolio intends to continue to qualify as a regulated investment company and distribute virtually all of its taxable income. The portfolio's tax returns are open to examination by the relevant tax authorities until expiration of the applicable statute of limitations, which is generally three years after the filing of the tax return. Management has analyzed the portfolio's tax positions taken for all open federal and state income tax years, and has concluded that no provision for income tax is required in the portfolio's financial statements.
- 4. Distributions: Distributions to shareholders are recorded on the ex-dividend date. Distributions are determined on a tax basis at the fiscal year-end and may differ from net investment income and realized capital gains for financial reporting purposes.
- 5. Credit Facilities and Interfund Lending Program: The portfolio and certain other funds managed by The Vanguard Group ("Vanguard") participate in a \$4.4 billion committed credit facility provided by a syndicate of lenders pursuant to a credit agreement and an uncommitted credit facility provided by Vanguard. Both facilities may be renewed annually. Each fund is individually liable for its borrowings, if any, under the credit facilities. Borrowings may be utilized for temporary or emergency purposes and are subject to the portfolio's regulatory and contractual borrowing restrictions. With respect to the committed credit facility, the participating funds are charged administrative fees and an annual commitment fee of 0.10% of the undrawn committed amount of the facility, which are allocated to the funds based on a method approved by the portfolio's board of trustees and borne by the funds in

which the portfolio invests (see Note B). Any borrowings under either facility bear interest at an agreed-upon spread plus the higher of the federal funds effective rate, the overnight bank funding rate, or the Daily Simple Secured Overnight Financing Rate inclusive of an additional agreed-upon spread. However, borrowings under the uncommitted credit facility may bear interest based upon an alternate rate agreed to by the portfolio and Vanguard.

In accordance with an exemptive order (the "Order") from the SEC, the portfolio may participate in a joint lending and borrowing program that allows registered open-end Vanguard funds to borrow money from and lend money to each other for temporary or emergency purposes (the "Interfund Lending Program"), subject to compliance with the terms and conditions of the Order, and to the extent permitted by the portfolio's investment objective and investment policies. Interfund loans and borrowings normally extend overnight but can have a maximum duration of seven days. Loans may be called on one business day's notice. The interest rate to be charged is governed by the conditions of the Order and internal procedures adopted by the board of trustees. The board of trustees is responsible for overseeing the Interfund Lending Program.

For the year ended December 31, 2022, the portfolio did not utilize the credit facilities or the Interfund Lending Program.

- 6. Other: Income and capital gain distributions received are recorded on the ex-dividend date. Security transactions are accounted for on the date securities are bought or sold. Costs used to determine realized gains (losses) on the sale of investment securities are those of the specific securities sold.
- B. In accordance with the terms of a Funds' Service Agreement (the "FSA") between Vanguard and the portfolio, Vanguard furnishes to the portfolio investment advisory, corporate management, administrative, marketing, and distribution services at Vanguard's cost of operations (as defined by the FSA). These costs of operations are allocated to the portfolio based on methods and guidelines approved by the board of trustees. The FSA provides that expenses otherwise allocable to Vanguard funds-of-funds may be reduced or eliminated to the extent of savings realized by the underlying Vanguard funds by virtue of being part of a fund-of-funds. Accordingly, all expenses for services provided by Vanguard to the portfolio and all other expenses incurred by the portfolio during the period ended December 31, 2022, were borne by the underlying Vanguard funds in which the portfolio invests. The portfolio's trustees and officers are also trustees and officers, respectively, of the underlying Vanguard funds, as well as directors and employees, respectively, of Vanguard.
- C. Various inputs may be used to determine the value of the portfolio's investments. These inputs are summarized in three broad levels for financial statement purposes. The inputs or methodologies used to value securities are not necessarily an indication of the risk associated with investing in those securities.
- Level 1—Quoted prices in active markets for identical securities.
- **Level 2**—Other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risk, etc.).
- Level 3—Significant unobservable inputs (including the portfolio's own assumptions used to determine the fair value of investments). Any investments valued with significant unobservable inputs are noted on the Schedule of Investments.
- At December 31, 2022, 100% of the market value of the portfolio's investments was determined based on Level 1 inputs.
- D. Permanent differences between book-basis and tax-basis components of net assets, if any, are reclassified among capital accounts in the financial statements to reflect their tax character. These reclassifications have no effect on net assets or net asset value per share.

Temporary differences between book-basis and tax-basis components of total distributable earnings (loss) arise when certain items of income, gain, or loss are recognized in different periods for financial statement and tax purposes; these differences will reverse at some time in the future. The

differences are primarily related to the deferral of losses from wash sales. As of period end, the tax-basis components of total distributable earnings (loss) are detailed in the table as follows:

	Amount (\$000)
Undistributed Ordinary Income	48,115
Undistributed Long-Term Gains	228,791
Capital Loss Carryforwards	_
Qualified Late-Year Losses	_
Net Unrealized Gains (Losses)	583,177

The tax character of distributions paid was as follows:

	Year Ended De	Year Ended December 31,		
	2022 Amount (\$000)	2021 Amount (\$000)		
Ordinary Income*	48,973	47,699		
Long-Term Capital Gains	262,480	196,952		
Total	311,453	244,651		

<sup>\*</sup> Includes short-term capital gains, if any.

As of December 31, 2022, gross unrealized appreciation and depreciation for investments based on cost for U.S. federal income tax purposes were as follows:

	Amount (\$000)
Tax Cost	3,031,402
Gross Unrealized Appreciation	690,377
Gross Unrealized Depreciation	(107,200)
Net Unrealized Appreciation (Depreciation)	583,177

#### E. Capital shares issued and redeemed were:

	Year Ended December 31,	
	2022 Shares (000)	2021 Shares (000)
Issued	14,371	8,502
Issued in Lieu of Cash Distributions	6,207	5,072
Redeemed	(9,860)	(10,157)
Net Increase (Decrease) in Shares Outstanding	10,718	3,417

At December 31, 2022, one shareholder (an insurance company separate account whose holdings in the portfolio represent the indirect investment of Vanguard Variable Annuity contract holders) was the record or beneficial owner of 40% of the portfolio's net assets. If this shareholder were to redeem its investment in the portfolio, the redemption might lead to the realization of taxable capital gains.

F. Transactions during the period in affiliated underlying Vanguard funds were as follows:

					Curr	ent Perio	d Transactions	
	Dec. 31, 2021 Market Value (\$000)	Purchases at Cost (\$000)	Proceeds from Securities Sold (\$000)	Realized Net Gain (Loss) (\$000)	Change in Unrealized App. (Dep.) (\$000)	Income (\$000)	Capital Gain Distributions Received (\$000)	Dec. 31, 2022 Market Value (\$000)
Vanguard Extended Market Index Fund	713,714	104,216	69,581	27,841	(224,779)	6,118	_	551,411
Vanguard Market Liquidity Fund	_	NA <sup>1</sup>	NA <sup>1</sup>	_	_	9	_	344
Vanguard Variable Insurance Funds—Equity Index Portfolio	3,542,234	488,666	138,684	65,878	(895,270)	41,442	138,071	3,062,824
Total	4,255,948	592,882	208,265	93,719	(1,120,049)	47,569	138,071	3,614,579

<sup>1</sup> Not applicable—purchases and sales are for temporary cash investment purposes.

**G.** Management has determined that no events or transactions occurred subsequent to December 31, 2022, that would require recognition or disclosure in these financial statements.

# Report of Independent Registered Public Accounting Firm

To the Board of Trustees of Vanguard Variable Insurance Funds and Shareholders of Total Stock Market Index Portfolio

#### Opinion on the Financial Statements

We have audited the accompanying statement of assets and liabilities, including the schedule of investments, of Total Stock Market Index Portfolio (one of the portfolios constituting Vanguard Variable Insurance Funds, referred to hereafter as the "Portfolio") as of December 31, 2022, the related statement of operations for the year ended December 31, 2022, the statement of changes in net assets for each of the two years in the period ended December 31, 2022, including the related notes, and the financial highlights for each of the five years in the period ended December 31, 2022 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Portfolio as of December 31, 2022, 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 ended December 31, 2022 and the financial highlights for each of the five years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America.

#### **Basis for Opinion**

These financial statements are the responsibility of the Portfolio's management. Our responsibility is to express an opinion on the Portfolio's financial statements 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 Portfolio 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 of these financial statements 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 are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, 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. 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. Our procedures included confirmation of securities owned as of December 31, 2022 by correspondence with the transfer agent. We believe that our audits provide a reasonable basis for our opinion.

/s/PricewaterhouseCoopers LLP Philadelphia, Pennsylvania February 15, 2023

We have served as the auditor of one or more investment companies in The Vanguard Group of Funds since 1975

#### Tax information (unaudited)

For corporate shareholders, 98.3%, or if subsequently determined to be different, the maximum percentage allowable by law, of ordinary income (dividend income plus short-term gains, if any) for the fiscal year qualified for the dividends-received deduction.

The portfolio hereby designates \$75,000, or if subsequently determined to be different, the maximum amount allowable by law, of interest earned from obligations of the U.S. government which is generally exempt from state income tax.

The portfolio distributed \$262,480,000 as capital gain dividends (20% rate gain distributions) to shareholders during the fiscal year.

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## The People Who Govern Your Fund

The trustees of your mutual fund are there to see that the fund is operated and managed in your best interests since, as a shareholder, you are a part owner of the fund. Your fund's trustees also serve on the board of directors of The Vanguard Group, Inc., which is owned by the Vanguard funds and provides services to them.

A majority of Vanguard's board members are independent, meaning that they have no affiliation with Vanguard or the funds they oversee, apart from the sizable personal investments they have made as private individuals. The independent board members have distinguished backgrounds in business, academia, and public service. Each of the trustees and executive officers oversees 206 Vanguard funds

Information for each trustee and executive officer of the fund appears below. That information, as well as the Vanguard fund count, is as of the date on the cover of this fund report. The mailing address of the trustees and officers is P.O. Box 876, Valley Forge, PA 19482. More information about the trustees is in the *Statement of Additional Information*, which can be obtained, without charge, by contacting Vanguard at 800-662-7447, or online at vanguard.com.

#### Interested Trustee<sup>1</sup>

#### Mortimer J. Buckley

Born in 1969. Trustee since January 2018. Principal occupation(s) during the past five years and other experience: chairman of the board (2019–present) of Vanguard and of each of the investment companies served by Vanguard; chief executive officer (2018–present) of Vanguard; chief executive officer, president, and trustee (2018–present) of each of the investment companies served by Vanguard; president and director (2017–present) of Vanguard; and president (2018–present) of Vanguard Marketing Corporation. Chief investment officer (2013–2017), managing director (2002–2017), head of the Retail Investor Group (2006–2012), and chief information officer (2001–2006) of Vanguard. Member of the board of governors of the Investment Company Institute and the board of governors of FINRA. Trustee and vice chair of The Shipley School.

#### Independent Trustees

#### Tara Bunch

Born in 1962. Trustee since November 2021. Principal occupation(s) during the past five years and other experience: head of global operations at Airbnb (2020–present). Vice president of AppleCare (2012–2020). Member of the board of directors of Out & Equal (2002–2006), the advisory board of the University of California, Berkeley School of Engineering (2020–present), and the advisory board of Santa Clara University's Leavey School of Business (2018–present).

#### Emerson U. Fullwood

Born in 1948. Trustee since January 2008. Principal occupation(s) during the past five years and other experience: executive chief staff and marketing officer for North America and corporate vice president (retired 2008) of Xerox Corporation (document management products and services). Former president of the Worldwide Channels Group, Latin America, and Worldwide Customer Service and executive chief staff officer of Developing Markets of Xerox. Executive in residence and 2009–2010 Distinguished Minett Professor at the Rochester Institute of Technology. Member of the board of directors of the University of Rochester Medical Center, the Monroe Community College Foundation, the United Way of Rochester, North Carolina A&T University, Roberts Wesleyan College, and the Rochester Philharmonic Orchestra. Trustee of the University of Rochester.

#### F. Joseph Loughrey

Born in 1949. Trustee since October 2009. Principal occupation(s) during the past five years and other experience: president and chief operating officer (retired 2009) and vice chairman of the board (2008–2009) of Cummins Inc. (industrial machinery). Chairman of the board of Hillenbrand, Inc. (specialized consumer services). Director of the V Foundation. Member of the advisory council for the College of Arts and Letters at the University of Notre Dame. Chairman of the board of Saint Anselm College

#### Mark Loughridge

Born in 1953. Trustee since March 2012. Principal occupation(s) during the past five years and other experience: senior vice president and chief financial officer (retired 2013) of IBM (information technology services). Fiduciary member of IBM's Retirement Plan Committee (2004–2013), senior vice president and general manager (2002–2004) of IBM Global Financing, vice president and controller (1998–2002) of

 $\ensuremath{\mathsf{IBM}},$  and a variety of other prior management roles at  $\ensuremath{\mathsf{IBM}}.$  Member of the Council on Chicago Booth.

#### Scott C. Malpass

Born in 1962. Trustee since March 2012. Principal occupation(s) during the past five years and other experience: adjunct professor of finance at the University of Notre Dame (2020–present). Chief investment officer (retired 2020) and vice president (retired 2020) of the University of Notre Dame. Assistant professor (retired June 2020) of finance at the Mendoza College of Business, University of Notre Dame, and member of the Notre Dame 403(b) Investment Committee. Member of the board of Catholic Investment Services, Inc. (investment advisors), the board of superintendence of the Institute for the Works of Religion, and the board of directors of Paxos Trust Company (finance).

#### Deanna Mulligan

Born in 1963. Trustee since January 2018. Principal occupation(s) during the past five years and other experience: chief executive officer of Purposeful (advisory firm for CEOs and C-level executives; 2021–present). Board chair (2020), chief executive officer (2011–2020), and president (2010–2019) of The Guardian Life Insurance Company of America. Chief operating officer (2010–2011) and executive vice president (2008–2010) of Individual Life and Disability of the Guardian Life Insurance Company of America. Member of the board of the Economic Club of New York. Trustee of the Partnership for New York City (business leadership), Chief Executives for Corporate Purpose, and the NewYork-Presbyterian Hospital.

#### André F. Perold

Born in 1952. Trustee since December 2004. Principal occupation(s) during the past five years and other experience: George Gund Professor of Finance and Banking, Emeritus at the Harvard Business School (retired 2011). Chief investment officer and co-managing partner of HighVista Strategies (private investment firm). Member of the board (2018–present) of RIT Capital Partners (investment firm). Member of the investment committee of Partners Health Care System.

#### Sarah Bloom Raskin

Born in 1961. Trustee since January 2018. Principal occupation(s) during the past five years and other experience: deputy secretary (2014–2017) of the United States Department of the Treasury. Governor (2010–2014) of the Federal Reserve Board. Commissioner (2007–2010) of financial regulation for the State of Maryland. Colin W. Brown Distinguished Professor of the Practice of Law (2021–present), professor (2020–present), Distinguished Fellow of the Global Financial Markets Center (2020–present), and Rubenstein Fellow (2017–2020) at Duke University. Trustee (2017–present) of Amherst College and member of Amherst College Investment Committee (2019–present). Member of the Regenerative Crisis Response Committee (2020–present).

#### David A. Thomas

Born in 1956. Trustee since July 2021. Principal occupation(s) during the past five years and other experience: president of Morehouse College (2018–present). Professor of business administration, emeritus at Harvard University (2017–2018). Dean (2011–2016) and professor of management (2016–2017) at the Georgetown University McDonough School of Business. Director of DTE Energy Company (2013–present). Trustee of Common Fund (2019–present).

#### Peter F. Volanakis

Born in 1955. Trustee since July 2009. Principal occupation(s) during the past five years and other experience: president and chief operating officer (retired 2010) of Corning Incorporated (communications equipment) and director of Corning Incorporated (2000–2010) and Dow Corning (2001–2010). Director (2012) of SPX Corporation (multi-industry manufacturing). Overseer of the Amos Tuck School of Business Administration, Dartmouth College (2001–2013). Member of the BMW Group Mobility Council.

#### **Executive Officers**

#### Jacqueline Angell

Born in 1974. Principal occupation(s) during the past five years and other experience: principal of Vanguard. Chief compliance officer (November 2022–present) of Vanguard and of each of the investment companies served by Vanguard. Chief compliance officer (2018–2022) and deputy chief compliance officer (2017–2019) of State Street Corporation.

#### Christine M. Buchanan

Born in 1970. Principal occupation(s) during the past five years and other experience: principal of Vanguard. Chief financial officer (2021–present) and treasurer (2017–2022) of each of the investment companies served by Vanguard. Partner (2005–2017) at KPMG (audit, tax, and advisory services).

#### John Galloway

Born in 1973. Principal occupation(s) during the past five years and other experience: principal of Vanguard. Investment stewardship officer (September 2020–present) of each of the investment companies served by Vanguard. Head of Investor Advocacy (February 2020–present) and head of Marketing Strategy and Planning (2017–2020) at Vanguard. Special assistant to the President of the United States (2015).

#### Ashley Grim

Born in 1984. Principal occupation(s) during the past five years and other experience: treasurer (February 2022–present) of each of the investment companies served by Vanguard. Fund transfer agent controller (2019–2022) and director of Audit Services

(2017–2019) at Vanguard. Senior manager (2015–2017) at PriceWaterhouseCoopers (audit and assurance, consulting, and tax services).

#### Peter Mahoney

Born in 1974. Principal occupation(s) during the past five years and other experience: principal of Vanguard. Controller (2015–present) of each of the investment companies served by Vanguard. Head of International Fund Services (2008–2014) at Vanguard.

#### Anne E. Robinson

Born in 1970. Principal occupation(s) during the past five years and other experience: general counsel (2016–present) of Vanguard. Secretary (2016–present) of Vanguard and of each of the investment companies served by Vanguard. Managing director (2016–present) of Vanguard. Managing director and general counsel of Global Cards and Consumer Services (2014–2016) at Citigroup. Counsel (2003–2014) at American Express. Nonexecutive director of the board of National Grid (energy).

#### Michael Rollings

Born in 1963. Principal occupation(s) during the past five years and other experience: finance director (2017–present) and treasurer (2017) of each of the investment companies served by Vanguard. Managing director (2016–present) of Vanguard. Chief financial officer (2016–present) of Vanguard Marketing Corporation. Executive vice president and chief financial officer (2006–2016) of MassMutual Financial Group.

#### Vanguard Senior Management Team

Matthew Benchener Joseph Brennan Mortimer J. Buckley Gregory Davis John James Chris D. McIsaac Thomas M. Rampulla Karin A. Risi Anne E. Robinson Michael Rollings Nitin Tandon Lauren Valente

## **Vanguard**

## $\textbf{Connect with Vanguard}^{\tiny{\circledR}} > \text{vanguard.com}$

**Fund Information** > 800-662-7447

Direct Investor Account Services > 800-662-2739

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Text Telephone for People Who Are Deaf or Hard of Hearing > 800-749-7273

This material may be used in conjunction with the offering of shares of any Vanguard fund only if preceded or accompanied by the fund's current prospectus.

All comparative mutual fund data are from Morningstar, Inc., unless otherwise noted.

You can obtain a free copy of Vanguard's proxy voting guidelines by visiting vanguard.com/proxyreporting or by calling Vanguard at 800-662-2739. The guidelines are also available from the SEC's website, www.sec.gov. In addition, you may obtain a free report on how your fund voted the proxies for securities it owned during the 12 months ended June 30. To get the report, visit either vanguard.com/proxyreporting or www.sec.gov.

You can review information about your portfolio on the SEC's website, and you can receive copies of this information, for a fee, by sending a request via email addressed to publicinfo@sec.gov.

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## **Vanguard**°

Annual Report | December 31, 2022

## Vanguard Variable Insurance Funds

Equity Index Portfolio

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Your Portfolio's Performance at a Glance
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### Your Portfolio's Performance at a Glance

- Despite some relief in midsummer and late fall, the 12 months ended December 31, 2022, were a volatile, challenging period for financial markets. The Equity Index Portfolio returned –18.23%, in line with the –18.11% return of its benchmark, the Standard & Poor's 500 Index.
- Overall, the economic backdrop deteriorated as inflation soared to multidecade highs, driven by government spending during the pandemic as well as higher energy and food prices in the wake of Russia's invasion of Ukraine. That prompted aggressive tightening by many central banks to bring inflation back in check, which increased fears of recession.
- Value stocks held up better than their growth counterparts during the period. Among sectors in the benchmark index, steep declines in information technology and consumer discretionary stocks were partly offset by robust gains in energy stocks.
- For the decade through 2022, the portfolio had an annualized total return of 12.40%, in line with its benchmark.
- Please note that the portfolio returns are different from those in Vanguard Variable Annuity (and other plans that invest in the portfolio), which take into account insurance-related expenses.

#### Market Barometer

	Average Annual Total Returns Periods Ended December 31, 2022		
	One Year	Three Years	Five Years
Stocks			
Russell 1000 Index (Large-caps)	-19.13%	7.35%	9.13%
Russell 2000 Index (Small-caps)	-20.44	3.10	4.13
Russell 3000 Index (Broad U.S. market)	-19.21	7.07	8.79
FTSE All-World ex US Index (International)	-15.49	0.61	1.28
Bonds			
Bloomberg U.S. Aggregate Float Adjusted Index (Broad taxable market)	-13.07%	-2.67%	0.06%
Bloomberg Municipal Bond Index (Broad tax-exempt market)	-8.53	-0.77	1.25
FTSE Three-Month U.S. Treasury Bill Index	1.50	0.70	1.24
CPI			
Consumer Price Index	6.45%	4.92%	3.78%

## About Your Portfolio's Expenses

As a shareholder of the portfolio, you incur ongoing costs, which include costs for portfolio management, administrative services, and shareholder reports (like this one), among others. Operating expenses, which are deducted from a portfolio's gross income, directly reduce the investment return of the portfolio.

A portfolio's expenses are expressed as a percentage of its average net assets. This figure is known as the expense ratio. The following examples are intended to help you understand the ongoing costs (in dollars) of investing in your portfolio and to compare these costs with those of other mutual funds. The examples are based on an investment of \$1,000 made at the beginning of the period shown and held for the entire period.

The accompanying table illustrates your portfolio's costs in two ways:

• Based on actual portfolio return. This section helps you to estimate the actual expenses that you paid over the period. The "Ending Account Value" shown is derived from the portfolio's actual return, and the third column shows the dollar amount that would have been paid by an investor who started with \$1,000 in the portfolio. You may use the information here, together with the amount you invested, to estimate the expenses that you paid over the period.

To do so, 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 given for your portfolio under the heading "Expenses Paid During Period."

• Based on hypothetical 5% yearly return. This section is intended to help you compare your portfolio's costs with those of other mutual funds. It assumes that the portfolio had a yearly return of 5% before expenses, but that the expense ratio is unchanged. In this case—because the return used is not the portfolio's actual return—the results do not apply to your investment. The example is useful in making comparisons because the Securities and Exchange Commission requires all mutual funds to calculate expenses based on a 5% return. You can assess your portfolio's costs by comparing this hypothetical example with the hypothetical examples that appear in shareholder reports of other funds.

Note that the expenses shown in the table are meant to highlight and help you compare *ongoing* costs only and do not reflect transaction costs incurred by the portfolio for buying and selling securities. The portfolio's expense ratio does not reflect additional fees and expenses associated with the annuity or life insurance program through which you invest.

The calculations assume no shares were bought or sold during the period. Your actual costs may have been higher or lower, depending on the amount of your investment and the timing of any purchases or redemptions.

You can find more information about the portfolio's expenses, including annual expense ratios, in the Financial Statements section of this report. For additional information on operating expenses and other shareholder costs, please refer to your portfolio's current prospectus.

#### Six Months Ended December 31, 2022

	Beginning Account Value	Ending Account Value	Expenses Paid During
Equity Index Portfolio	6/30/2022	12/31/2022	Period
Based on Actual Portfolio Return	\$1,000.00	\$1,022.40	\$0.71
Based on Hypothetical 5% Yearly Return	1,000.00	1,024.50	0.71

The calculations are based on expenses incurred in the most recent six-month period. The portfolio's annualized six-month expense ratio for that period is 0.14%. The dollar amounts shown as "Expenses Paid" are equal to the annualized expense ratio multiplied by the average account value over the period, multiplied by the number of days in the most recent six-month period, then divided by the number of days in the most recent 12-month period (184/365).

## **Equity Index Portfolio**

## **Performance Summary**

All of the returns in this report represent past performance, which is not a guarantee of future results that may be achieved by the portfolio. (Current performance may be lower or higher than the performance data cited. For performance data current to the most recent month-end, visit our website at vanguard.com/performance.) Note, too, that both investment returns and principal value can fluctuate widely, so an investor's shares, when sold, could be worth more or less than their original cost. The returns shown do not reflect taxes that a shareholder would pay on portfolio distributions or on the sale of portfolio shares. Nor do the returns reflect fees and expenses associated with the annuity or life insurance program through which a shareholder invests. If these fees and expenses were included, the portfolio's returns would be lower.

## Cumulative Performance: December 31, 2012, Through December 31, 2022 Initial Investment of \$10,000



#### Average Annual Total Returns Periods Ended December 31, 2022

	One Year	Five Years	Ten Years	Final Value of a \$10,000 Investment
Equity Index Portfolio	-18.23%	9.27%	12.40%	\$32,196
S&P 500 Index	-18.11	9.42	12.56	32,654
Dow Jones U.S. Total Stock Market Float Adjusted Index	-19.53	8.65	12.03	31,151

### Portfolio Allocation

As of December 31, 2022

Communication Services	7.3%
Consumer Discretionary	9.8
Consumer Staples	7.2
Energy	5.2
Financials	11.7
Health Care	15.8
Industrials	8.7
Information Technology	25.7
Materials	2.7
Real Estate	2.7
Utilities	3.2

The table reflects the portfolio's investments, except for short-term investments and derivatives. Sector categories are based on the Global Industry Classification Standard ("GICS"), except for the "Other" category (if applicable), which includes securities that have not been provided a GICS classification as of the effective reporting period.

The portfolio may invest in derivatives (such as futures and swap contracts) for various reasons, including, but not limited to, attempting to remain fully invested and tracking its target index as closely as possible.

The Global Industry Classification Standard ("GICS") was developed by and is the exclusive property and a service mark of MSCI Inc. ("MSCI") and Standard and Poor's, a division of McGraw-Hill Companies, Inc. ("S&P"), and is licensed for use by Vanguard. Neither MSCI, S&P nor any third party involved in making or compiling the GICS or any GICS classification makes any express or implied warranties or representations with respect to such standard or classification (or the results to be obtained by the use thereof), and all such parties hereby expressly disclaim all warranties of originality, accuracy, completeness, merchantability or fitness for a particular purpose with respect to any such standard or classification. Without limiting any of the foregoing, in no event shall MSCI, S&P, any of its affiliates or any third party involved in making or compiling the GICS or any GICS classification have any liability for any direct, indirect, special, punitive, consequential or any other damages (including lost profits) even if notified of the possibility of such damages.

## **Financial Statements**

## Schedule of Investments

As of December 31, 2022

The portfolio files its complete schedule of portfolio holdings with the Securities and Exchange Commission (SEC) for the first and third quarters of each fiscal year as an exhibit to its reports on Form N-PORT. The portfolio's Form N-PORT reports are available on the SEC's website at www.sec.gov.

		Market			IVIarket
	Shares	Value* (\$000)		Shares	Value* (\$000)
Common Stocks (99.4%)		(4000)	* Las Vegas Sands Corp.	77,254	3,714
Communication Services (7.2%)			* Etsy Inc.	29,521	3,536
* Alphabet Inc. Class A	1,403,705	123,849	Garmin Ltd.	36,076	3,329
* Alphabet Inc. Class C	1,243,382	110,325	* NVR Inc.	706	3,256
* Meta Platforms Inc. Class A	528,264	63,571	LKQ Corp.	59,695	3,188
Verizon Communications Inc.	986,630	38,873	* Expedia Group Inc.	35,395	3,101
* Walt Disney Co.	428,269	37,208	Domino's Pizza Inc.	8,331	2,886
Comcast Corp. Class A	1,013,400	35,439	Pool Corp.	9,191	2,779
* Netflix Inc.	104,544	30,828	* Royal Caribbean Cruises Ltd.	51,685	2,555
AT&T Inc.	1,674,308	30,824	MGM Resorts International	75,075	2,517
* T-Mobile US Inc.	140,300	19,642	PulteGroup Inc.	53,347	2,429
Activision Blizzard Inc.	167,270	12,804	* CarMax Inc.	37,141	2,261
* Charter Communications Inc. Class A	25,246	8,561	Bath & Body Works Inc.	53,608	2,259
Electronic Arts Inc.	61,658	7,533	BorgWarner Inc.	54,822	2,207
* Warner Bros Discovery Inc.	519,095	4,921	Tapestry Inc.	56,449	2,150
Omnicom Group Inc.	47,947	3,911	VF Corp.	77,648	2,144
* Take-Two Interactive Software Inc.	37,084	3,862	* Caesars Entertainment Inc.	50,460	2,099
Interpublic Group of Cos. Inc.	91,284	3,041	Advance Auto Parts Inc.	14,102	2,073
* Match Group Inc.	65,764	2,729	* Wynn Resorts Ltd.	24,175	1,994
* Live Nation Entertainment Inc.	33,451	2,333	* Carnival Corp.	234,450	1,890
Fox Corp. Class A	70,965	2,155	Hasbro Inc. Whirlpool Corp.	30,558 12,832	1,864 1,815
Paramount Global Class B	118,614	2,002	* Mohawk Industries Inc.	12,368	1,264
News Corp. Class A	90,106	1,640	* Norwegian Cruise Line Holdings Ltd.	98,815	1,204
Lumen Technologies Inc.	222,938	1,164	Newell Brands Inc.	88,310	1,155
Fox Corp. Class B	33,014	939	Ralph Lauren Corp. Class A	9,631	1,018
* DISH Network Corp. Class A	58,816	826	Lennar Corp. Class B	1,025	77
News Corp. Class B	27,360 _	504	Letinur Corp. Class B	1,020	
0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0 0		549,484	Consumer Staples (7.2%)		739,484
Consumer Discretionary (9.7%)	0.005.007	475 440	Procter & Gamble Co.	556,719	84,376
* Amazon.com Inc.	2,085,067	175,146	PepsiCo Inc.	323,656	58,472
* Tesla Inc.	630,567	77,673	Coca-Cola Co.	914,335	58,161
Home Depot Inc.	240,503	75,965	Costco Wholesale Corp.	103,975	47,465
McDonald's Corp. NIKE Inc. Class B	172,060 295,949	45,343 34,629	Walmart Inc.	331,565	47,013
Lowe's Cos. Inc.	145,820	29,053	Philip Morris International Inc.	364,159	36,856
Starbucks Corp.	269,661	26,750	Mondelez International Inc. Class A	320,733	21,377
TJX Cos. Inc.	272,771	21,713	Altria Group Inc.	420,959	19,242
* Booking Holdings Inc.	9,112	18,363	Colgate-Palmolive Co.	196,202	15,459
Target Corp.	108,131	16,116	Estee Lauder Cos. Inc. Class A	54,328	13,479
Dollar General Corp.	52,994	13,050	Archer-Daniels-Midland Co.	129,034	11,981
* O'Reilly Automotive Inc.	14,701	12,408	General Mills Inc.	139,409	11,689
General Motors Co.	333,802	11,229	Kimberly-Clark Corp.	79,273	10,761
* AutoZone Inc.	4,459	10,997	Sysco Corp.	119,049	9,101
Ford Motor Co.	927,935	10,792	* Monster Beverage Corp.	89,489	9,086
Ross Stores Inc.	81,542	9,465	Constellation Brands Inc. Class A	38,144	8,840
Marriott International Inc. Class A	63,218	9,413	Hershey Co.	34,543	7,999
* Chipotle Mexican Grill Inc. Class A	6,514	9,038	Kraft Heinz Co.	187,178	7,620
Yum! Brands Inc.	66,191	8,478	Keurig Dr Pepper Inc.	199,785	7,124
Hilton Worldwide Holdings Inc.	63,573	8,033	Kroger Co.	153,191	6,829
* Dollar Tree Inc.	49,425	6,991	Walgreens Boots Alliance Inc.	168,450	6,293
DR Horton Inc.	73,461	6,548	McCormick & Co. Inc. (Non-Voting)	58,859	4,879
* Aptiv plc	63,600	5,923	Church & Dwight Co. Inc.	57,283	4,617
Tractor Supply Co.	25,956	5,839	Conagra Brands Inc.	112,506	4,354
Genuine Parts Co.	33,133	5,749	Kellogg Co.	60,145	4,285
* Ulta Beauty Inc.	12,026	5,641	Tyson Foods Inc. Class A	68,063	4,237
Lennar Corp. Class A	58,982	5,338	Clorox Co. J M Smucker Co.	28,994 25,065	4,069 3,972
eBay Inc.	127,435	5,285	Hormel Foods Corp.	68,118	3,972
Darden Restaurants Inc.	28,702	3,970	Lamb Weston Holdings Inc.	33,862	3,103
Best Buy Co. Inc.	47,095	3,777	Zamb **oston noralitys me.	55,502	5,020

Market

Market

		Market			Market
		Value*			Value*
	Shares	(\$000)		Shares	(\$000)
Brown-Forman Corp. Class B	42,861	2,815	* Arch Capital Group Ltd.	86,836	5,452
Campbell Soup Co.	47,193	2,678	Fifth Third Bancorp	161,178	5,288
Molson Coors Beverage Co. Class B	44,053	2,270	First Republic Bank	42,956	5,236
		543,528	Nasdaq Inc.	79,624 45,414	4,885
Energy (5.2%)			Raymond James Financial Inc. Huntington Bancshares Inc.	338,875	4,853 4,778
Exxon Mobil Corp.	967,488	106,714	Regions Financial Corp.	219,503	4,773
Chevron Corp. ConocoPhillips	417,916	75,012	Citizens Financial Group Inc.	115,502	4,547
EOG Resources Inc.	292,719 137,979	34,541 17,871	Principal Financial Group Inc.	53,456	4,486
Schlumberger Ltd.	333,133	17,809	Northern Trust Corp.	48,993	4,335
Marathon Petroleum Corp.	110,083	12,813	KeyCorp	219,299	3,820
Pioneer Natural Resources Co.	55,812	12,747	Cincinnati Financial Corp.	36,941	3,782
Phillips 66	111,017	11,555	FactSet Research Systems Inc.	8,958	3,594
Valero Energy Corp.	90,559	11,488	Synchrony Financial	105,967	3,482
Occidental Petroleum Corp.	170,821	10,760	W R Berkley Corp.  * SVB Financial Group	47,934 13,857	3,479 3,189
Devon Energy Corp.	153,592	9,447	Brown & Brown Inc.	55,294	3,150
Williams Cos. Inc.	286,132	9,414	Choe Global Markets Inc.	24,873	3,121
Hess Corp.	65,207	9,248	Everest Re Group Ltd.	9,201	3,048
Kinder Morgan Inc. Halliburton Co.	464,837 213,398	8,404 8,397	Loews Corp.	46,377	2,705
Baker Hughes Co. Class A	235,001	6,940	Globe Life Inc.	21,207	2,557
ONEOK Inc.	104,890	6,891	MarketAxess Holdings Inc.	8,828	2,462
Diamondback Energy Inc.	41,319	5,652	Comerica Inc.	30,822	2,060
Coterra Energy Inc.	185,226	4,551	Invesco Ltd.	107,121	1,927
Marathon Oil Corp.	149,255	4,040	Franklin Resources Inc.	66,976	1,767
Targa Resources Corp.	53,257	3,914	Zions Bancorp NA Signature Bank	35,260 14,854	1,733 1,712
APA Corp.	75,607	3,529	Assurant Inc.	12,428	1,712
EQT Corp.	86,346	2,921	Lincoln National Corp.	36,133	1,110
		394,658	Elifodii National Corp.	00,100	
Financials (11.6%)			Health Care (15.7%)		880,407
* Berkshire Hathaway Inc. Class B	423,267	130,747	UnitedHealth Group Inc.	219,504	116,377
JPMorgan Chase & Co.	689,091	92,407	Johnson & Johnson	614,221	108,502
Bank of America Corp.	1,639,688 895,196	54,306	Eli Lilly & Co.	185,275	67,781
Wells Fargo & Co. Charles Schwab Corp.	358,333	36,963 29,835	Pfizer Inc.	1,318,723	67,571
Goldman Sachs Group Inc.	79,547	27,315	AbbVie Inc.	415,463	67,143
Morgan Stanley	309,685	26,329	Merck & Co. Inc.	595,635	66,086
S&P Global Inc.	78,230	26,202	Thermo Fisher Scientific Inc.	92,137	50,739
BlackRock Inc.	35,284	25,003	Abbott Laboratories	409,593	44,969
Chubb Ltd.	97,515	21,512	Danaher Corp.	153,915	40,852
American Express Co.	140,438	20,750	Bristol-Myers Squibb Co. Amgen Inc.	499,490 125,349	35,938 32,922
Citigroup Inc.	455,007	20,580	Elevance Health Inc.	56,106	28,781
Marsh & McLennan Cos. Inc.	116,538	19,285	CVS Health Corp.	308,683	28,766
Progressive Corp. PNC Financial Services Group Inc.	137,454 94,752	17,829 14,965	Gilead Sciences Inc.	294,653	25,296
Aon plc Class A	48,595	14,585	Medtronic plc	312,227	24,266
CME Group Inc.	84,506	14,211	Cigna Corp.	71,823	23,798
US Bancorp	317,639	13,852	* Intuitive Surgical Inc.	83,014	22,028
Intercontinental Exchange Inc.	131,215	13,461	Stryker Corp.	79,114	19,343
Truist Financial Corp.	311,692	13,412	* Regeneron Pharmaceuticals Inc.	25,157	18,151
MetLife Inc.	154,843	11,206	* Vertex Pharmaceuticals Inc. Becton Dickinson & Co.	60,303 66,989	17,414 17,035
American International Group Inc.	174,527	11,037	Zoetis Inc. Class A	109,494	16,046
Travelers Cos. Inc.	55,055	10,322	* Boston Scientific Corp.	336,430	15,567
Moody's Corp.	37,010	10,312	Humana Inc.	29,740	15,233
Aflac Inc. Arthur J Gallagher & Co.	132,930 49,537	9,563 9,340	* Moderna Inc.	77,618	13,942
MSCI Inc. Class A	18,788	8,740	McKesson Corp.	33,310	12,495
Prudential Financial Inc.	86,463	8,600	HCA Healthcare Inc.	49,810	11,952
Allstate Corp.	62,322	8,451	* Centene Corp.	133,024	10,909
Capital One Financial Corp.	89,704	8,339	* Edwards Lifesciences Corp.	145,220	10,835
Bank of New York Mellon Corp.	172,895	7,870	Agilent Technologies Inc.	69,551	10,408
Ameriprise Financial Inc.	25,015	7,789	* Dexcom Inc.	90,740	10,275
State Street Corp.	86,305	6,695	* Biogen Inc. * IQVIA Holdings Inc.	33,837 43,645	9,370 8,942
Discover Financial Services	64,141	6,275	* IDEXX Laboratories Inc.	19,452	7,936
Willis Towers Watson plc	25,404	6,213	* Mettler-Toledo International Inc.	5,241	7,536 7,576
M&T Bank Corp.	40,522	5,878	* Illumina Inc.	36,982	7,478
T. Rowe Price Group Inc. Hartford Financial Services Group Inc.	52,461 74,665	5,721 5,662	ResMed Inc.	34,441	7,168
. Israiora i manoiai dei vides didap ille.	77,003	0,002	AmerisourceBergen Corp.	38,009	6,298

			Market			Market
		Shares	Value* (\$000)		Shares	Value* (\$000)
	Zimmer Biomet Holdings Inc.	49,252	6,280	* Delta Air Lines Inc.	150,549	4,947
	Baxter International Inc.	118,330	6,031	Quanta Services Inc.	33,588	4,786
	Laboratory Corp. of America Holdings	20,810	4,900	* Southwest Airlines Co.	139,399	4,694
	Waters Corp.	13,952	4,780	Xylem Inc.	42,346	4,682
	Cardinal Health Inc.	61,562	4,732	Dover Corp.	32,971	4,465
	Molina Healthcare Inc.	13,719	4,530	Westinghouse Air Brake Technologies Corp.	42,728	4,265
	Hologic Inc. STERIS plc	58,698	4,391	IDEX Corp. Expeditors International of Washington Inc.	17,735	4,049
	Quest Diagnostics Inc.	23,478 26,764	4,336 4,187	Jacobs Solutions Inc.	37,400 29,999	3,887 3,602
	PerkinElmer Inc.	29,655	4,158	Textron Inc.	49,090	3,476
	West Pharmaceutical Services Inc.	17,394	4,094	Howmet Aerospace Inc.	86,460	3,407
	Cooper Cos. Inc.	11,600	3,836	JB Hunt Transport Services Inc.	19,500	3,400
	Align Technology Inc.	17,079	3,602	Leidos Holdings Inc.	32,144	3,381
*	Incyte Corp.	43,423	3,488	Nordson Corp.	12,597	2,995
	Viatris Inc.	284,299	3,164	* United Airlines Holdings Inc.	76,946	2,901
	Bio-Techne Corp.	36,806	3,051	Snap-on Inc.	12,453	2,845
	Teleflex Inc.	11,020	2,751	Stanley Black & Decker Inc.	34,835	2,617
	Charles River Laboratories International Inc.	11,949	2,604	CH Robinson Worldwide Inc.	27,724	2,538
	Henry Schein Inc.	31,927	2,550	Masco Corp.	52,863	2,467
	Universal Health Services Inc. Class B	15,128	2,131	Allegion plc	20,566	2,165
	Bio-Rad Laboratories Inc. Class A	5,042	2,120	Huntington Ingalls Industries Inc.	9,367	2,161
	Catalent Inc.	42,146	1,897	Rollins Inc.	54,366	1,987
	Organon & Co. DENTSPLY SIRONA Inc.	59,648 50,686	1,666 1,614	* American Airlines Group Inc. Robert Half International Inc.	152,185	1,936
	DaVita Inc.	12,890	963	Pentair plc	25,488 38,504	1,882 1,732
	Davita IIIC.	_		A O Smith Corp.	29,699	1,700
	(0.00/)		1,194,044	* Generac Holdings Inc.	14,958	1,506
	ustrials (8.6%)	0.45 0.40	24.052	* Alaska Air Group Inc.	29,791	1,279
	Raytheon Technologies Corp.	345,349	34,853 33,845			653,175
	Honeywell International Inc. Union Pacific Corp.	157,933 144,429	29,907	Information Technology (25.6%)		055,175
	United Parcel Service Inc. Class B	171,421	29,800	Apple Inc.	3,512,970	456,439
	Caterpillar Inc.	122,254	29,287	Microsoft Corp.	1,751,241	419,983
	Deere & Co.	64,523	27,665	NVIDIA Corp.	584,962	85,486
	Lockheed Martin Corp.	54,791	26,655	Visa Inc. Class A	384,104	79,801
	Boeing Co.	131,606	25,070	Mastercard Inc. Class A	199,423	69,345
	General Electric Co.	256,685	21,508	Broadcom Inc.	95,146	53,199
	Northrop Grumman Corp.	33,985	18,543	Cisco Systems Inc.	964,543	45,951
	3M Co.	129,835	15,570	Accenture plc Class A	148,019	39,497
	CSX Corp.	493,879	15,300	* Adobe Inc.	109,212	36,753
	Eaton Corp. plc	93,418	14,662	Texas Instruments Inc.	213,209	35,226
	Illinois Tool Works Inc.	65,671	14,467	* Salesforce Inc.	234,913	31,147
	Waste Management Inc.	87,755	13,767	International Business Machines Corp.	212,391	29,924
	Norfolk Southern Corp. Emerson Electric Co.	54,385 138,890	13,402 13,342	Oracle Corp. QUALCOMM Inc.	361,010 263,347	29,509 28,952
	General Dynamics Corp.	52,876	13,342	Intuit Inc.	66,212	25,771
	Johnson Controls International plc	161,829	10,357	Intel Corp.	969,514	25,624
	FedEx Corp.	56,238	9,740	* Advanced Micro Devices Inc.	378,772	24,533
	L3Harris Technologies Inc.	44,755	9,318	Automatic Data Processing Inc.	97,447	23,276
	Cintas Corp.	20,279	9,158	Analog Devices Inc.	120,825	19,819
	Trane Technologies plc	54,128	9,098	Applied Materials Inc.	202,100	19,681
	Parker-Hannifin Corp.	30,173	8,780	* PayPal Holdings Inc.	267,811	19,074
	Carrier Global Corp.	196,558	8,108	* ServiceNow Inc.	47,451	18,424
	PACCAR Inc.	81,732	8,089	* Fiserv Inc.	149,165	15,076
	Cummins Inc.	33,144	8,030	Lam Research Corp.	32,037	13,465
	Otis Worldwide Corp.	97,920	7,668	Micron Technology Inc.	255,393	12,765
	TransDigm Group Inc.	12,144	7,647	KLA Corp.  * Synopsys Inc.	33,289	12,551
	AMETEK Inc. CoStar Group Inc.	53,998 95,614	7,545 7,389	Roper Technologies Inc.	35,917 24,912	11,468 10,764
	Rockwell Automation Inc.	26,973	6,947	Amphenol Corp. Class A	139,785	10,7643
	Verisk Analytics Inc. Class A	36,767	6,486	* Cadence Design Systems Inc.	64,441	10,352
	Fastenal Co.	134,651	6,372	Motorola Solutions Inc.	39,281	10,123
	Republic Services Inc. Class A	48,203	6,218	NXP Semiconductors NV	60,888	9,622
	Copart Inc.	100,578	6,124	* Autodesk Inc.	50,716	9,477
	Old Dominion Freight Line Inc.	21,264	6,034	Fidelity National Information Services Inc.	139,390	9,458
	WW Grainger Inc.	10,557	5,872	Microchip Technology Inc.	129,259	9,080
	United Rentals Inc.	16,272	5,783	Paychex Inc.	75,365	8,709
	Equifax Inc.	28,747	5,587	TE Connectivity Ltd.	74,741	8,580
	Fortive Corp.	83,141	5,342	* Enphase Energy Inc.	31,942	8,463
	Ingersoll Rand Inc.	95,093	4,969	* Fortinet Inc.	152,431	7,452

		Shares	Market Value* (\$000)		Shares	Market Value* (\$000)
*	Keysight Technologies Inc. Arista Networks Inc.	42,035 58,200	7,191 7,063	Westrock Co. Sealed Air Corp.	59,693 34,050	2,099 1,698
	Cognizant Technology Solutions Corp. Class A	120,605	6,897		-	206,344
*	ON Semiconductor Corp.	101,484	6,330	Real Estate (2.7%)		200,011
*	Global Payments Inc.	63,474	6,304	Prologis Inc.	216,845	24,445
	Gartner Inc.	18,549	6,235	American Tower Corp.	109,373	23,172
	Corning Inc.	178,694	5,708	Equinix Inc.	21,738	14,239
	CDW Corp. HP Inc.	31,782 207,831	5,676 5,584	Crown Castle Inc.	101,719	13,797
*	ANSYS Inc.	20,459	4,943	Public Storage	37,129	10,403
	Hewlett Packard Enterprise Co.	302,228	4,824	Realty Income Corp.	147,314	9,344
*	VeriSign Inc.	21,671	4,452	Simon Property Group Inc.	76,815	9,024
*	EPAM Systems Inc.	13,512	4,428	VICI Properties Inc. Welltower Inc.	226,427	7,336
*	Teledyne Technologies Inc.	11,015	4,405	SBA Communications Corp. Class A	111,095 25,386	7,282 7,116
*	SolarEdge Technologies Inc.	13,142	3,723	Digital Realty Trust Inc.	67,469	6,765
	Broadridge Financial Solutions Inc.	27,660	3,710	* CBRE Group Inc. Class A	74,180	5,709
	Monolithic Power Systems Inc.	10,485	3,708	Weyerhaeuser Co.	173,071	5,365
*	Paycom Software Inc.	11,430	3,547	AvalonBay Communities Inc.	32,843	5,305
	First Solar Inc.	23,311	3,492	Alexandria Real Estate Equities Inc.	35,062	5,108
	Skyworks Solutions Inc.	37,688 36,668	3,435 3,203	Equity Residential	79,875	4,713
*	Teradyne Inc. FleetCorTechnologies Inc.	17,350	3,203	Extra Space Storage Inc.	31,458	4,630
*	Tyler Technologies Inc.	9,760	3,147	Mid-America Apartment Communities Inc.	27,145	4,262
*	Akamai Technologies Inc.	36,979	3,117	Ventas Inc. Invitation Homes Inc.	94,008	4,235
*	Zebra Technologies Corp. Class A	12,108	3,105	Invitation Homes Inc. Iron Mountain Inc.	136,485 68,370	4,045 3,408
	NetApp Inc.	51,146	3,072	Essex Property Trust Inc.	15,223	3,406
	Jack Henry & Associates Inc.	17,165	3,014	Healthpeak Properties Inc.	126,454	3,220
*	PTC Inc.	24,879	2,986	Kimco Realty Corp.	144,971	3,071
*	Trimble Inc.	57,870	2,926	Camden Property Trust	24,990	2,796
	Gen Digital Inc.	136,448	2,924	UDR Inc.	72,011	2,789
	Juniper Networks Inc.	76,455	2,444	Host Hotels & Resorts Inc.	167,569	2,690
*	Seagate Technology Holdings plc Western Digital Corp.	45,241 74,854	2,380 2,362	Boston Properties Inc.	33,552	2,268
*	Ceridian HCM Holding Inc.	36,200	2,362	Regency Centers Corp.	36,051	2,253
*	Qorvo Inc.	23,739	2,152	Federal Realty Investment Trust	17,136	1,731
*	F5 Inc.	14,014	2,011	Vornado Realty Trust	37,971	790
*	DXC Technology Co.	54,319	1,439			204,487
		-	1,942,908	Utilities (3.2%)	400.000	
M	aterials (2.7%)		1,0-12,000	NextEra Energy Inc.	466,838	39,028
	Linde plc	116,137	37,882	Duke Energy Corp. Southern Co.	180,905	18,631 18,263
	Air Products and Chemicals Inc.	52,099	16,060	Dominion Energy Inc.	255,749 195,703	12,000
	Sherwin-Williams Co.	55,394	13,147	American Electric Power Co. Inc.	120,692	11,460
	Freeport-McMoRan Inc.	335,708	12,757	Sempra Energy	73,821	11,408
	Corteva Inc.	167,881	9,868	Exelon Corp.	233,446	10,092
	Newmont Corp.	186,516	8,804	Xcel Energy Inc.	128,554	9,013
	Ecolab Inc.	58,231	8,476	Consolidated Edison Inc.	83,406	7,949
	Dow Inc. DuPont de Nemours Inc.	165,417 116,776	8,335 8,014	Public Service Enterprise Group Inc.	117,321	7,188
	Nucor Corp.	60,301	7,948	WEC Energy Group Inc.	74,174	6,955
	PPG Industries Inc.	55,268	6,949	Eversource Energy	81,902	6,867
	International Flavors & Fragrances Inc.	59,842	6,274	Constellation Energy Corp.	76,740	6,616
	Albemarle Corp.	27,495	5,963	American Water Works Co. Inc.	42,765	6,518
	Vulcan Materials Co.	31,209	5,465	* PG&E Corp. Edison International	377,930 89,641	6,145 5,703
	LyondellBasell Industries NV Class A	59,695	4,956	Ameren Corp.	60,704	5,703
	Martin Marietta Materials Inc.	14,579	4,927	Entergy Corp.	47,773	5,374
	Amcor plc	349,910	4,167	FirstEnergy Corp.	127,533	5,349
	CF Industries Holdings Inc.	46,111	3,929	DTE Energy Co.	45,495	5,347
	Steel Dynamics Inc.	39,208	3,831	PPL Corp.	172,900	5,052
	Ball Corp. FMC Corp.	73,848 29,614	3,777 3,696	AES Corp.	157,010	4,516
	Mosaic Co.	29,614 80,068	3,596	CenterPoint Energy Inc.	147,904	4,436
	Avery Dennison Corp.	19,029	3,444	CMS Energy Corp.	68,224	4,321
	International Paper Co.	83,716	2,899	Atmos Energy Corp.	32,891	3,686
	Packaging Corp. of America	21,785	2,787	Evergy Inc. Alliant Energy Corp.	54,022 59,083	3,400 3,262
	Celanese Corp. Class A	23,401	2,392	NiSource Inc.	95,638	2,622
	Eastman Chemical Co.	28,088	2,287	Pinnacle West Capital Corp.	26,498	2,015
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	Shares	Market Value* (\$000)
NRG Energy Inc.	53,942	1,716
		240,330
Total Common Stocks (Cost \$4,518,772)		7,548,849
Temporary Cash Investments (0.6%)		
Money Market Fund (0.6%)  1 Vanguard Market Liquidity Fund, 4.334% (Cost \$42,922)	429,268	42,922
Total Investments (100.0%) (Cost \$4,561,694)		7,591,771
Other Assets and Liabilities—Net (0.0%)		(207)
Net Assets (100%)		7,591,564

- Cost is in \$000.
   See Note A in Notes to Financial Statements.
- Non-income-producing security.
   Affiliated money market fund available only to Vanguard funds and certain trusts and accounts managed by Vanguard. Rate shown is the 7-day yield.

Derivative Financial Instruments Outstanding as of Period End Futures Contracts							
	Expiration	Number of Long (Short) Contracts	Notional Amount	Value and Unrealized Appreciation (Depreciation)			
Long Futures Contracts							
E-mini S&P 500 Index	March 2023	219	42,278	(1,089)			

# Statement of Assets and Liabilities As of December 31, 2022

Total Investments in Securities 7,591,771 Investment in Vanguard 290 Cash 799 Cash Collateral Pledged—Futures Contracts 2,814 Receivables for Accrued Income 6,704 Receivables for Capital Shares Issued 3,592 Total Assets 7,605,970 Liabilities Payables for Investment Securities Purchased 12,115 Payables for Capital Shares Redeemed 1,683 Payables to Vanguard 466 Variation Margin Payable—Futures Contracts 142 Total Liabilities 14,406 Net Assets 7,591,564 At December 31, 2022, net assets consisted of:	(\$000s, except shares, footnotes, and per-share amounts)	Amount
Unaffiliated Issuers (Cost \$42,922)       7,548,849         Affiliated Issuers (Cost \$42,922)       42,922         Total Investments in Securities       7,591,771         Investment in Vanguard       290         Cash       799         Cash Collateral Pledged—Futures Contracts       2,814         Receivables for Accrued Income       6,704         Receivables for Capital Shares Issued       3,592         Total Assets       7,605,970         Liabilities       12,115         Payables for Investment Securities Purchased       12,115         Payables for Capital Shares Redeemed       1,883         Payables to Vanguard       466         Variation Margin Payable—Futures Contracts       142         Total Liabilities       14,406         Net Assets       7,591,564         At December 31, 2022, net assets consisted of:       2         Paid-in Capital       4,182,305         Total Distributable Earnings (Loss)       3,409,259         Net Assets       7,591,564         Net Assets       7,591,564	Assets	
Affiliated Issuers (Cost \$42,922)       42,922         Total Investments in Securities       7,591,771         Investment in Vanguard       290         Cash       799         Cash Collateral Pledged—Futures Contracts       2,814         Receivables for Accrued Income       6,704         Receivables for Capital Shares Issued       3,592         Total Assets       7,605,970         Liabilities       12,115         Payables for Investment Securities Purchased       12,115         Payables for Capital Shares Redeemed       1,683         Payables to Vanguard       466         Variation Margin Payable—Futures Contracts       14,206         Total Liabilities       14,406         Net Assets       7,591,564         At December 31, 2022, net assets consisted of:       2,591,564         Net Assets       7,591,564         Net Assets       7,591,564	Investments in Securities, at Value	
Total Investments in Securities         7,591,771           Investment in Vanguard         290           Cash         799           Cash Collateral Pledged—Futures Contracts         2,814           Receivables for Accrued Income         6,704           Receivables for Capital Shares Issued         3,592           Total Assets         7,605,970           Liabilities         12,115           Payables for Investment Securities Purchased         12,115           Payables for Capital Shares Redeemed         1,683           Payables to Vanguard         466           Variation Margin Payable—Futures Contracts         142           Total Liabilities         14,406           Net Assets         7,591,564           At December 31, 2022, net assets consisted of:         4,182,305           Total Distributable Earnings (Loss)         3,409,259           Net Assets         7,591,564           Net Assets         7,591,564	Unaffiliated Issuers (Cost \$4,518,772)	7,548,849
Investment in Vanguard	Affiliated Issuers (Cost \$42,922)	42,922
Cash         799           Cash Collateral Pledged—Futures Contracts         2,814           Receivables for Accrued Income         6,704           Receivables for Capital Shares Issued         3,592           Total Assets         7,605,970           Liabilities         Payables for Investment Securities Purchased         12,115           Payables for Capital Shares Redeemed         1,683           Payables to Vanguard         466           Variation Margin Payable—Futures Contracts         142           Total Liabilities         14,406           Net Assets         7,591,564           At December 31, 2022, net assets consisted of:         4,182,305           Total Distributable Earnings (Loss)         3,409,259           Net Assets         7,591,564           Net Assets         7,591,564	Total Investments in Securities	7,591,771
Cash Collateral Pledged—Futures Contracts         2,814           Receivables for Accrued Income         6,704           Receivables for Capital Shares Issued         3,592           Total Assets         7,605,970           Liabilities         12,115           Payables for Investment Securities Purchased         12,115           Payables for Capital Shares Redeemed         1,683           Payables to Vanguard         466           Variation Margin Payable—Futures Contracts         142           Total Liabilities         14,406           Net Assets         7,591,564           At December 31, 2022, net assets consisted of:         2,182,305           Paid-in Capital         4,182,305           Total Distributable Earnings (Loss)         3,409,259           Net Assets         7,591,564           Net Assets         7,591,564           Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization)         7,591,564	Investment in Vanguard	290
Receivables for Accrued Income         6,704           Receivables for Capital Shares Issued         3,592           Total Assets         7,605,970           Liabilities         12,115           Payables for Investment Securities Purchased         12,115           Payables for Capital Shares Redeemed         1,683           Payables to Vanguard         466           Variation Margin Payable—Futures Contracts         142           Total Liabilities         14,406           Net Assets         7,591,564           At December 31, 2022, net assets consisted of:         2           Paid-in Capital         4,182,305           Total Distributable Earnings (Loss)         3,409,259           Net Assets         7,591,564           Net Assets         7,591,564	Cash	799
Receivables for Capital Shares Issued 3,592  Total Assets 7,605,970  Liabilities  Payables for Investment Securities Purchased 12,115  Payables for Capital Shares Redeemed 1,683  Payables to Vanguard 466  Variation Margin Payable—Futures Contracts 142  Total Liabilities 14,406  Net Assets 7,591,564  At December 31, 2022, net assets consisted of:  Paid-in Capital 4,182,305  Total Distributable Earnings (Loss) 3,409,259  Net Assets 7,591,564	Cash Collateral Pledged—Futures Contracts	2,814
Total Assets 7,605,970  Liabilities  Payables for Investment Securities Purchased 12,115  Payables for Capital Shares Redeemed 1,683  Payables to Vanguard 466  Variation Margin Payable—Futures Contracts 142  Total Liabilities 14,406  Net Assets 7,591,564  At December 31, 2022, net assets consisted of:  Paid-in Capital 4,182,305  Total Distributable Earnings (Loss) 3,409,259  Net Assets 7,591,564  Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization) 7,591,564	Receivables for Accrued Income	6,704
Liabilities Payables for Investment Securities Purchased 12,115 Payables for Capital Shares Redeemed 1,683 Payables to Vanguard 466 Variation Margin Payable—Futures Contracts 142 Total Liabilities 14,406 Net Assets 7,591,564  At December 31, 2022, net assets consisted of:  Paid-in Capital 4,182,305 Total Distributable Earnings (Loss) 3,409,259 Net Assets 7,591,564  Net Assets 7,591,564	Receivables for Capital Shares Issued	3,592
Payables for Investment Securities Purchased 12,115 Payables for Capital Shares Redeemed 1,683 Payables to Vanguard 466 Variation Margin Payable—Futures Contracts 142 Total Liabilities 14,406 Net Assets 7,591,564  At December 31, 2022, net assets consisted of:  Paid-in Capital 4,182,305 Total Distributable Earnings (Loss) 3,409,259 Net Assets 7,591,564  Net Assets 7,591,564  Net Assets 7,591,564	Total Assets	7,605,970
Payables for Capital Shares Redeemed 1,683 Payables to Vanguard 466 Variation Margin Payable—Futures Contracts 142 Total Liabilities 14,406 Net Assets 7,591,564  At December 31, 2022, net assets consisted of:  Paid-in Capital 4,182,305 Total Distributable Earnings (Loss) 3,409,259 Net Assets 7,591,564  Net Assets 7,591,564	Liabilities	
Payables to Vanguard  Variation Margin Payable—Futures Contracts  142  Total Liabilities  14,406  Net Assets  7,591,564  At December 31, 2022, net assets consisted of:  Paid-in Capital  4,182,305  Total Distributable Earnings (Loss)  Net Assets  7,591,564  Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization)  7,591,564	Payables for Investment Securities Purchased	12,115
Variation Margin Payable—Futures Contracts  142 Total Liabilities  14,406 Net Assets  7,591,564  At December 31, 2022, net assets consisted of:  Paid-in Capital  4,182,305 Total Distributable Earnings (Loss)  Net Assets  7,591,564  Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization)  7,591,564	Payables for Capital Shares Redeemed	1,683
Total Liabilities 14,406  Net Assets 7,591,564  At December 31, 2022, net assets consisted of:  Paid-in Capital 4,182,305  Total Distributable Earnings (Loss) 3,409,259  Net Assets 7,591,564  Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization) 7,591,564	Payables to Vanguard	466
Net Assets 7,591,564  At December 31, 2022, net assets consisted of:  Paid-in Capital 4,182,305  Total Distributable Earnings (Loss) 3,409,259  Net Assets 7,591,564  Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization) 7,591,564	Variation Margin Payable—Futures Contracts	142
At December 31, 2022, net assets consisted of:  Paid-in Capital 4,182,305 Total Distributable Earnings (Loss) 3,409,259 Net Assets 7,591,564  Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization) 7,591,564	Total Liabilities	14,406
Paid-in Capital 4,182,305  Total Distributable Earnings (Loss) 3,409,259  Net Assets 7,591,564  Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization) 7,591,564	Net Assets	7,591,564
Total Distributable Earnings (Loss)  Net Assets  7,591,564  Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization)  7,591,564		
Net Assets 7,591,564  Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization) 7,591,564	Paid-in Capital	4,182,305
Net Assets  Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization)  7,591,564	Total Distributable Earnings (Loss)	3,409,259
Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization) 7,591,564	Net Assets	7,591,564
beneficial interest (unlimited authorization) 7,591,564	Net Assets	
Net Asset Value Per Share \$50.74	Applicable to 149,619,587 outstanding \$.001 par value shares of beneficial interest (unlimited authorization)	7,591,564
	Net Asset Value Per Share	\$50.74

# Statement of Operations

Year Ended December 31, 2022

(\$	U	U	L

	(\$000)
Investment Income	
Income	
Dividends <sup>1</sup>	129,892
Interest <sup>2</sup>	564
Securities Lending—Net	19
Total Income	130,475
Expenses	
The Vanguard Group—Note B	
Investment Advisory Services	770
Management and Administrative	9,807
Marketing and Distribution	426
Custodian Fees	80
Auditing Fees	69
Shareholders' Reports	100
Trustees' Fees and Expenses	3
Other Expenses	20
Total Expenses	11,275
Expenses Paid Indirectly	(2)
Net Expenses	11,273
Net Investment Income	119,202
Realized Net Gain (Loss)	
Investment Securities Sold <sup>2</sup>	272,286
Futures Contracts	(4,879)
Realized Net Gain (Loss)	267,407
Change in Unrealized Appreciation (Depreciation)	
Investment Securities <sup>2</sup>	(2,077,965)
Futures Contracts	(2,163)
Change in Unrealized Appreciation (Depreciation)	(2,080,128)
Net Increase (Decrease) in Net Assets Resulting from Operations	(1,693,519)
1. Dividends are not of foreign withholding toyon of \$50,000	<u> </u>

<sup>1</sup> Dividends are net of foreign withholding taxes of \$58,000.

<sup>2</sup> Interest income, realized net gain (loss), capital gain distributions received, and change in unrealized appreciation (depreciation) from an affiliated company of the portfolio were \$537,000, (\$1,000), less than \$1,000, and \$4,000, respectively. Purchases and sales are for temporary cash investment purposes.

# Statement of Changes in Net Assets

	Year Ended December 31,	
	2022 (\$000)	2021 (\$000)
Increase (Decrease) in Net Assets		
Operations		
Net Investment Income	119,202	105,618
Realized Net Gain (Loss)	267,407	359,238
Change in Unrealized Appreciation (Depreciation)	(2,080,128)	1,644,218
Net Increase (Decrease) in Net Assets Resulting from Operations	(1,693,519)	2,109,074
Distributions		
Total Distributions	(465,299)	(418,079)
Capital Share Transactions		
Issued	849,472	711,464
Issued in Lieu of Cash Distributions	465,299	418,079
Redeemed	(918,334)	(1,021,957)
Net Increase (Decrease) from Capital Share Transactions	396,437	107,586
Total Increase (Decrease)	(1,762,381)	1,798,581
Net Assets		
Beginning of Period	9,353,945	7,555,364
End of Period	7,591,564	9,353,945

# Financial Highlights

For a Share Outstanding			Year Ended December 31,		
Throughout Each Period	2022	2021	2020	2019	2018
Net Asset Value, Beginning of Period	\$65.47	\$53.76	\$47.70	\$38.03	\$41.17
Investment Operations					
Net Investment Income <sup>1</sup>	.806	.738	.798	.805	.804
Net Realized and Unrealized Gain (Loss) on Investments	(12.244)	13.978	7.014	10.791	(2.556)
Total from Investment Operations	(11.438)	14.716	7.812	11.596	(1.752)
Distributions					
Dividends from Net Investment Income	(.758)	(.754)	(.806)	(.834)	(.703)
Distributions from Realized Capital Gains	(2.534)	(2.252)	(.946)	(1.092)	(.685)
Total Distributions	(3.292)	(3.006)	(1.752)	(1.926)	(1.388)
Net Asset Value, End of Period	\$50.74	\$65.47	\$53.76	\$47.70	\$38.03
Total Return	-18.23%	28.55%	18.20%	31.30%	-4.51%
Ratios/Supplemental Data					
Net Assets, End of Period (Millions)	\$7,592	\$9,354	\$7,555	\$6,458	\$4,934
Ratio of Total Expenses to Average Net Assets	0.14%2	0.14%	0.14%	0.14%	0.14%
Ratio of Net Investment Income to Average Net Assets	1.48%	1.25%	1.73%	1.87%	1.94%
Portfolio Turnover Rate	5%	4%	8%	4%	5%

<sup>1</sup> Calculated based on average shares outstanding.

<sup>2</sup> The ratio of expenses to average net assets for the period net of reduction from custody fee offset arrangements was 0.14%.

### Notes to Financial Statements

The Equity Index Portfolio, a portfolio of Vanguard Variable Insurance Funds, is registered under the Investment Company Act of 1940 as an open-end investment company. The portfolio's shares are only available for purchase by separate accounts of insurance companies as investments for variable annuity plans, variable life insurance contracts, or other variable benefit insurance contracts. Significant market disruptions, such as those caused by pandemics (e.g., COVID-19 pandemic), natural or environmental disasters, war (e.g., Russia's invasion of Ukraine), acts of terrorism, or other events, can adversely affect local and global markets and normal market operations. Any such disruptions could have an adverse impact on the value of the portfolio's investments and portfolio performance.

**A.** The following significant accounting policies conform to generally accepted accounting principles for U.S. investment companies. The portfolio consistently follows such policies in preparing its financial statements.

- 1. Security Valuation: Securities are valued as of the close of trading on the New York Stock Exchange (generally 4 p.m., Eastern time) on the valuation date. Equity securities are valued at the latest quoted sales prices or official closing prices taken from the primary market in which each security trades; such securities not traded on the valuation date are valued at the mean of the latest quoted bid and asked prices. Securities for which market quotations are not readily available, or whose values have been affected by events occurring before the portfolio's pricing time but after the close of the securities' primary markets, are valued by methods deemed by the valuation designee to represent fair value and subject to oversight by the board of trustees. Investments in Vanguard Market Liquidity Fund are valued at that fund's net asset value.
- 2. Futures Contracts: The portfolio uses index futures contracts to a limited extent, with the objectives of maintaining full exposure to the stock market, maintaining liquidity, and minimizing transaction costs. The portfolio may purchase futures contracts to immediately invest incoming cash in the market, or sell futures in response to cash outflows, thereby simulating a fully invested position in the underlying index while maintaining a cash balance for liquidity. The primary risks associated with the use of futures contracts are imperfect correlation between changes in market values of stocks held by the portfolio and the prices of futures contracts, and the possibility of an illiquid market. Counterparty risk involving futures is mitigated because a regulated clearinghouse is the counterparty instead of the clearing broker. To further mitigate counterparty risk, the portfolio trades futures contracts on an exchange, monitors the financial strength of its clearing brokers and clearinghouse, and has entered into clearing agreements with its clearing brokers. The clearinghouse imposes initial margin requirements to secure the portfolio's performance and requires daily settlement of variation margin representing changes in the market value of each contract. Any securities pledged as initial margin for open contracts are noted in the Schedule of Investments.

Futures contracts are valued at their quoted daily settlement prices. The notional amounts of the contracts are not recorded in the Statement of Assets and Liabilities. Fluctuations in the value of the contracts are recorded in the Statement of Assets and Liabilities as an asset (liability) and in the Statement of Operations as unrealized appreciation (depreciation) until the contracts are closed, when they are recorded as realized gains (losses) on futures contracts.

During the year ended December 31, 2022, the portfolio's average investments in long and short futures contracts represented 1% and 0% of net assets, respectively, based on the average of the notional amounts at each quarter-end during the period.

- 3. Federal Income Taxes: The portfolio intends to continue to qualify as a regulated investment company and distribute virtually all of its taxable income. The portfolio's tax returns are open to examination by the relevant tax authorities until expiration of the applicable statute of limitations, which is generally three years after the filing of the tax return. Management has analyzed the portfolio's tax positions taken for all open federal and state income tax years, and has concluded that no provision for income tax is required in the portfolio's financial statements.
- 4. Distributions: Distributions to shareholders are recorded on the ex-dividend date. Distributions are determined on a tax basis at the fiscal year-end and may differ from net investment income and realized capital gains for financial reporting purposes.
- 5. Securities Lending: To earn additional income, the portfolio lends its securities to qualified institutional borrowers. Security loans are subject to termination by the portfolio at any time, and are required to be secured at all times by collateral in an amount at least equal to the market value of securities loaned. Daily market fluctuations could cause the value of loaned securities to be more or less than the value of the collateral received. When this occurs, the collateral is adjusted and settled before the opening of the market on the next business day. The portfolio further mitigates its counterparty risk by entering into securities lending transactions only with a diverse group of

prequalified counterparties, monitoring their financial strength, and entering into master securities lending agreements with its counterparties. The master securities lending agreements provide that, in the event of a counterparty's default (including bankruptcy), the portfolio may terminate any loans with that borrower, determine the net amount owed, and sell or retain the collateral up to the net amount owed to the portfolio; however, such actions may be subject to legal proceedings. While collateral mitigates counterparty risk, in the event of a default, the portfolio may experience delays and costs in recovering the securities loaned. The portfolio invests cash collateral received in Vanguard Market Liquidity Fund, and records a liability in the Statement of Assets and Liabilities for the return of the collateral, during the period the securities are on loan. Collateral investments in Vanguard Market Liquidity Fund are subject to market appreciation or depreciation. Securities lending income represents fees charged to borrowers plus income earned on invested cash collateral, less expenses associated with the loan. During the term of the loan, the portfolio is entitled to all distributions made on or in respect of the loaned securities.

6. Credit Facilities and Interfund Lending Program: The portfolio and certain other funds managed by The Vanguard Group ("Vanguard") participate in a \$4.4 billion committed credit facility provided by a syndicate of lenders pursuant to a credit agreement and an uncommitted credit facility provided by Vanguard. Both facilities may be renewed annually. Each fund is individually liable for its borrowings, if any, under the credit facilities. Borrowings may be utilized for temporary or emergency purposes and are subject to the portfolio's regulatory and contractual borrowing restrictions. With respect to the committed credit facility, the participating funds are charged administrative fees and an annual commitment fee of 0.10% of the undrawn committed amount of the facility, which are allocated to the funds based on a method approved by the portfolio's board of trustees and included in Management and Administrative expenses on the portfolio's Statement of Operations. Any borrowings under either facility bear interest at an agreed-upon spread plus the higher of the federal funds effective rate, the overnight bank funding rate, or the Daily Simple Secured Overnight Financing Rate inclusive of an additional agreed-upon spread. However, borrowings under the uncommitted credit facility may bear interest based upon an alternate rate agreed to by the portfolio and Vanguard.

In accordance with an exemptive order (the "Order") from the SEC, the portfolio may participate in a joint lending and borrowing program that allows registered open-end Vanguard funds to borrow money from and lend money to each other for temporary or emergency purposes (the "Interfund Lending Program"), subject to compliance with the terms and conditions of the Order, and to the extent permitted by the portfolio's investment objective and investment policies. Interfund loans and borrowings normally extend overnight but can have a maximum duration of seven days. Loans may be called on one business day's notice. The interest rate to be charged is governed by the conditions of the Order and internal procedures adopted by the board of trustees. The board of trustees is responsible for overseeing the Interfund Lending Program.

For the year ended December 31, 2022, the portfolio did not utilize the credit facilities or the Interfund Lending Program.

- 7. Other: Dividend income is recorded on the ex-dividend date. Non-cash dividends included in income, if any, are recorded at the fair value of the securities received. Interest income includes income distributions received from Vanguard Market Liquidity Fund and is accrued daily. Security transactions are accounted for on the date securities are bought or sold. Costs used to determine realized gains (losses) on the sale of investment securities are those of the specific securities sold.
- B. In accordance with the terms of a Funds' Service Agreement (the "FSA") between Vanguard and the portfolio, Vanguard furnishes to the portfolio investment advisory, corporate management, administrative, marketing, and distribution services at Vanguard's cost of operations (as defined by the FSA). These costs of operations are allocated to the portfolio based on methods and guidelines approved by the board of trustees and are generally settled twice a month.

Upon the request of Vanguard, the portfolio may invest up to 0.40% of its net assets as capital in Vanguard. At December 31, 2022, the portfolio had contributed to Vanguard capital in the amount of \$290,000, representing less than 0.01% of the portfolio's net assets and 0.12% of Vanguard's capital received pursuant to the FSA. The portfolio's trustees and officers are also directors and employees, respectively, of Vanguard.

C. The portfolio's custodian bank has agreed to reduce its fees when the portfolio maintains cash on deposit in the non-interest-bearing custody account. For the year ended December 31, 2022, custodian fee offset arrangements reduced the portfolio's expenses by \$2,000 (an annual rate of less than 0.01% of average net assets).

- **D.** Various inputs may be used to determine the value of the portfolio's investments and derivatives. These inputs are summarized in three broad levels for financial statement purposes. The inputs or methodologies used to value securities are not necessarily an indication of the risk associated with investing in those securities.
- Level 1—Quoted prices in active markets for identical securities.
- Level 2—Other significant observable inputs (including quoted prices for similar securities, interest rates, prepayment speeds, credit risk, etc.).
- **Level 3**—Significant unobservable inputs (including the portfolio's own assumptions used to determine the fair value of investments). Any investments and derivatives valued with significant unobservable inputs are noted on the Schedule of Investments.
- At December 31, 2022, 100% of the market value of the portfolio's investments and derivatives was determined based on Level 1 inputs.
- E. Permanent differences between book-basis and tax-basis components of net assets, if any, are reclassified among capital accounts in the financial statements to reflect their tax character. These reclassifications have no effect on net assets or net asset value per share.

Temporary differences between book-basis and tax-basis components of total distributable earnings (loss) arise when certain items of income, gain, or loss are recognized in different periods for financial statement and tax purposes; these differences will reverse at some time in the future. The differences are primarily related to the deferral of losses from wash sales; and the recognition of unrealized gains or losses from certain derivative contracts. As of period end, the tax-basis components of total distributable earnings (loss) are detailed in the table as follows:

	Amount (\$000)
Undistributed Ordinary Income	114,176
Undistributed Long-Term Gains	265,458
Capital Loss Carryforwards	_
Qualified Late-Year Losses	_
Net Unrealized Gains (Losses)	3,029,625

The tax character of distributions paid was as follows:

	Year Ended D	Year Ended December 31,	
	2022 Amount (\$000)	2021 Amount (\$000)	
Ordinary Income*	114,459	108,293	
Long-Term Capital Gains	350,840	309,786	
Total	465,299	418,079	

<sup>\*</sup> Includes short-term capital gains, if any.

As of December 31, 2022, gross unrealized appreciation and depreciation for investments and derivatives based on cost for U.S. federal income tax purposes were as follows:

	Amount (\$000)
Tax Cost	4,562,146
Gross Unrealized Appreciation	3,590,593
Gross Unrealized Depreciation	(560,968)
Net Unrealized Appreciation (Depreciation)	3,029,625

F. During the year ended December 31, 2022, the portfolio purchased \$485,618,000 of investment securities and sold \$435,228,000 of investment securities, other than temporary cash investments.

The portfolio purchased securities from and sold securities to other Vanguard funds or accounts managed by Vanguard or its affiliates, in accordance with procedures adopted by the board of trustees in compliance with Rule 17a-7 of the Investment Company Act of 1940. For the year ended December 31, 2022, such purchases were \$41,152,000 and sales were \$23,202,000, resulting in net realized gain of \$9,248,000; these amounts, other than temporary cash investments, are included in the purchases and sales of investment securities noted above.

#### G. Capital shares issued and redeemed were:

	Year Ended Dec	Year Ended December 31,	
	2022 Shares (000)	2021 Shares (000)	
Issued	15,519	11,966	
Issued in Lieu of Cash Distributions	7,787	7,731	
Redeemed	(16,568)	(17,343)	
Net Increase (Decrease) in Shares Outstanding	6,738	2,354	

At December 31, 2022, one shareholder (an insurance company separate account whose holdings in the portfolio represent the indirect investment of Vanguard Variable Annuity contract holders) was the record or beneficial owner of 44% of the portfolio's net assets. If this shareholder were to redeem its investment in the portfolio, the redemption might result in an increase in the portfolio's expense ratio, cause the portfolio to incur higher transaction costs, or lead to the realization of taxable capital gains.

H. Management has determined that no events or transactions occurred subsequent to December 31, 2022, that would require recognition or disclosure in these financial statements.

# Report of Independent Registered Public Accounting Firm

To the Board of Trustees of Vanguard Variable Insurance Funds and Shareholders of Equity Index Portfolio

#### Opinion on the Financial Statements

We have audited the accompanying statement of assets and liabilities, including the schedule of investments, of Equity Index Portfolio (one of the portfolios constituting Vanguard Variable Insurance Funds, referred to hereafter as the "Portfolio") as of December 31, 2022, the related statement of operations for the year ended December 31, 2022, the statement of changes in net assets for each of the two years in the period ended December 31, 2022, including the related notes, and the financial highlights for each of the five years in the period ended December 31, 2022 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Portfolio as of December 31, 2022, 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 ended December 31, 2022 and the financial highlights for each of the five years in the period ended December 31, 2022 in conformity with accounting principles generally accepted in the United States of America.

#### **Basis for Opinion**

These financial statements are the responsibility of the Portfolio's management. Our responsibility is to express an opinion on the Portfolio's financial statements 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 Portfolio 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 of these financial statements 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 are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, 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. 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. Our procedures included confirmation of securities owned as of December 31, 2022 by correspondence with the custodian, transfer agent and brokers; when replies were not received from brokers, we performed other auditing procedures. We believe that our audits provide a reasonable basis for our opinion.

/s/PricewaterhouseCoopers LLP Philadelphia, Pennsylvania February 15, 2023

We have served as the auditor of one or more investment companies in The Vanguard Group of Funds since 1975.

#### Tax information (unaudited)

For corporate shareholders, 100.0%, or if subsequently determined to be different, the maximum percentage allowable by law, of ordinary income (dividend income plus short-term gains, if any) for the fiscal year qualified for the dividends-received deduction.

The portfolio hereby designates \$146,000, or if subsequently determined to be different, the maximum amount allowable by law, of interest earned from obligations of the U.S. government which is generally exempt from state income tax.

The portfolio distributed \$350,840,000 as capital gain dividends (20% rate gain distributions) to shareholders during the fiscal year.

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## The People Who Govern Your Fund

The trustees of your mutual fund are there to see that the fund is operated and managed in your best interests since, as a shareholder, you are a part owner of the fund. Your fund's trustees also serve on the board of directors of The Vanguard Group, Inc., which is owned by the Vanguard funds and provides services to them.

A majority of Vanguard's board members are independent, meaning that they have no affiliation with Vanguard or the funds they oversee, apart from the sizable personal investments they have made as private individuals. The independent board members have distinguished backgrounds in business, academia, and public service. Each of the trustees and executive officers oversees 206 Vanguard funds

Information for each trustee and executive officer of the fund appears below. That information, as well as the Vanguard fund count, is as of the date on the cover of this fund report. The mailing address of the trustees and officers is P.O. Box 876, Valley Forge, PA 19482. More information about the trustees is in the *Statement of Additional Information*, which can be obtained, without charge, by contacting Vanguard at 800-662-7447, or online at vanguard.com.

#### Interested Trustee<sup>1</sup>

#### Mortimer J. Buckley

Born in 1969. Trustee since January 2018. Principal occupation(s) during the past five years and other experience: chairman of the board (2019–present) of Vanguard and of each of the investment companies served by Vanguard; chief executive officer (2018–present) of Vanguard; chief executive officer, president, and trustee (2018–present) of each of the investment companies served by Vanguard; president and director (2017–present) of Vanguard; and president (2018–present) of Vanguard Marketing Corporation. Chief investment officer (2013–2017), managing director (2002–2017), head of the Retail Investor Group (2006–2012), and chief information officer (2001–2006) of Vanguard. Member of the board of governors of the Investment Company Institute and the board of governors of FINRA. Trustee and vice chair of The Shipley School.

#### Independent Trustees

#### Tara Bunch

Born in 1962. Trustee since November 2021. Principal occupation(s) during the past five years and other experience: head of global operations at Airbnb (2020–present). Vice president of AppleCare (2012–2020). Member of the board of directors of Out & Equal (2002–2006), the advisory board of the University of California, Berkeley School of Engineering (2020–present), and the advisory board of Santa Clara University's Leavey School of Business (2018–present).

#### Emerson U. Fullwood

Born in 1948. Trustee since January 2008. Principal occupation(s) during the past five years and other experience: executive chief staff and marketing officer for North America and corporate vice president (retired 2008) of Xerox Corporation (document management products and services). Former president of the Worldwide Channels Group, Latin America, and Worldwide Customer Service and executive chief staff officer of Developing Markets of Xerox. Executive in residence and 2009–2010 Distinguished Minett Professor at the Rochester Institute of Technology. Member of the board of directors of the University of Rochester Medical Center, the Monroe Community College Foundation, the United Way of Rochester, North Carolina A&T University, Roberts Wesleyan College, and the Rochester Philharmonic Orchestra. Trustee of the University of Rochester.

#### F. Joseph Loughrey

Born in 1949. Trustee since October 2009. Principal occupation(s) during the past five years and other experience: president and chief operating officer (retired 2009) and vice chairman of the board (2008–2009) of Cummins Inc. (industrial machinery). Chairman of the board of Hillenbrand, Inc. (specialized consumer services). Director of the V Foundation. Member of the advisory council for the College of Arts and Letters at the University of Notre Dame. Chairman of the board of Saint Anselm College

### Mark Loughridge

Born in 1953. Trustee since March 2012. Principal occupation(s) during the past five years and other experience: senior vice president and chief financial officer (retired 2013) of IBM (information technology services). Fiduciary member of IBM's Retirement Plan Committee (2004–2013), senior vice president and general manager (2002–2004) of IBM Global Financing, vice president and controller (1998–2002) of

 $\ensuremath{\mathsf{IBM}},$  and a variety of other prior management roles at  $\ensuremath{\mathsf{IBM}}.$  Member of the Council on Chicago Booth.

#### Scott C. Malpass

Born in 1962. Trustee since March 2012. Principal occupation(s) during the past five years and other experience: adjunct professor of finance at the University of Notre Dame (2020–present). Chief investment officer (retired 2020) and vice president (retired 2020) of the University of Notre Dame. Assistant professor (retired June 2020) of finance at the Mendoza College of Business, University of Notre Dame, and member of the Notre Dame 403(b) Investment Committee. Member of the board of Catholic Investment Services, Inc. (investment advisors), the board of superintendence of the Institute for the Works of Religion, and the board of directors of Paxos Trust Company (finance).

#### Deanna Mulligan

Born in 1963. Trustee since January 2018. Principal occupation(s) during the past five years and other experience: chief executive officer of Purposeful (advisory firm for CEOs and C-level executives; 2021–present). Board chair (2020), chief executive officer (2011–2020), and president (2010–2019) of The Guardian Life Insurance Company of America. Chief operating officer (2010–2011) and executive vice president (2008–2010) of Individual Life and Disability of the Guardian Life Insurance Company of America. Member of the board of the Economic Club of New York. Trustee of the Partnership for New York City (business leadership), Chief Executives for Corporate Purpose, and the NewYork-Presbyterian Hospital.

#### André F. Perold

Born in 1952. Trustee since December 2004. Principal occupation(s) during the past five years and other experience: George Gund Professor of Finance and Banking, Emeritus at the Harvard Business School (retired 2011). Chief investment officer and co-managing partner of HighVista Strategies (private investment firm). Member of the board (2018–present) of RIT Capital Partners (investment firm). Member of the investment committee of Partners Health Care System.

#### Sarah Bloom Raskin

Born in 1961. Trustee since January 2018. Principal occupation(s) during the past five years and other experience: deputy secretary (2014–2017) of the United States Department of the Treasury. Governor (2010–2014) of the Federal Reserve Board. Commissioner (2007–2010) of financial regulation for the State of Maryland. Colin W. Brown Distinguished Professor of the Practice of Law (2021–present), professor (2020–present), Distinguished Fellow of the Global Financial Markets Center (2020–present), and Rubenstein Fellow (2017–2020) at Duke University. Trustee (2017–present) of Amherst College and member of Amherst College Investment Committee (2019–present). Member of the Regenerative Crisis Response Committee (2020–present).

#### David A. Thomas

Born in 1956. Trustee since July 2021. Principal occupation(s) during the past five years and other experience: president of Morehouse College (2018–present). Professor of business administration, emeritus at Harvard University (2017–2018). Dean (2011–2016) and professor of management (2016–2017) at the Georgetown University McDonough School of Business. Director of DTE Energy Company (2013–present). Trustee of Common Fund (2019–present).

#### Peter F. Volanakis

Born in 1955. Trustee since July 2009. Principal occupation(s) during the past five years and other experience: president and chief operating officer (retired 2010) of Corning Incorporated (communications equipment) and director of Corning Incorporated (2000–2010) and Dow Corning (2001–2010). Director (2012) of SPX Corporation (multi-industry manufacturing). Overseer of the Amos Tuck School of Business Administration, Dartmouth College (2001–2013). Member of the BMW Group Mobility Council.

#### **Executive Officers**

#### Jacqueline Angell

Born in 1974. Principal occupation(s) during the past five years and other experience: principal of Vanguard. Chief compliance officer (November 2022–present) of Vanguard and of each of the investment companies served by Vanguard. Chief compliance officer (2018–2022) and deputy chief compliance officer (2017–2019) of State Street Corporation.

#### Christine M. Buchanan

Born in 1970. Principal occupation(s) during the past five years and other experience: principal of Vanguard. Chief financial officer (2021–present) and treasurer (2017–2022) of each of the investment companies served by Vanguard. Partner (2005–2017) at KPMG (audit, tax, and advisory services).

#### John Galloway

Born in 1973. Principal occupation(s) during the past five years and other experience: principal of Vanguard. Investment stewardship officer (September 2020–present) of each of the investment companies served by Vanguard. Head of Investor Advocacy (February 2020–present) and head of Marketing Strategy and Planning (2017–2020) at Vanguard. Special assistant to the President of the United States (2015).

#### Ashley Grim

Born in 1984. Principal occupation(s) during the past five years and other experience: treasurer (February 2022–present) of each of the investment companies served by Vanguard. Fund transfer agent controller (2019–2022) and director of Audit Services

(2017–2019) at Vanguard. Senior manager (2015–2017) at PriceWaterhouseCoopers (audit and assurance, consulting, and tax services).

#### Peter Mahoney

Born in 1974. Principal occupation(s) during the past five years and other experience: principal of Vanguard. Controller (2015–present) of each of the investment companies served by Vanguard. Head of International Fund Services (2008–2014) at Vanguard.

#### Anne E. Robinson

Born in 1970. Principal occupation(s) during the past five years and other experience: general counsel (2016–present) of Vanguard. Secretary (2016–present) of Vanguard and of each of the investment companies served by Vanguard. Managing director (2016–present) of Vanguard. Managing director and general counsel of Global Cards and Consumer Services (2014–2016) at Citigroup. Counsel (2003–2014) at American Express. Nonexecutive director of the board of National Grid (energy).

#### Michael Rollings

Born in 1963. Principal occupation(s) during the past five years and other experience: finance director (2017–present) and treasurer (2017) of each of the investment companies served by Vanguard. Managing director (2016–present) of Vanguard. Chief financial officer (2016–present) of Vanguard Marketing Corporation. Executive vice president and chief financial officer (2006–2016) of MassMutual Financial Group.

#### Vanguard Senior Management Team

Matthew Benchener Joseph Brennan Mortimer J. Buckley Gregory Davis John James Chris D. McIsaac Thomas M. Rampulla Karin A. Risi Anne E. Robinson Michael Rollings Nitin Tandon Lauren Valente

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