

**Semiannual Report** | June 30, 2023

# Vanguard Variable Insurance Funds

Mid-Cap Index Portfolio

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## 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 June 30, 2023

Mid-Cap Index Portfolio	Beginning Account Value 12/31/2022	Ending Account Value 6/30/2023	Expenses Paid During Period
Based on Actual Portfolio Return	\$1,000.00	\$ 1,087.60	\$0.88
Based on Hypothetical 5% Yearly Return	1,000.00	1,023.95	0.85

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 0.17%. 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 (181/365).

# Mid-Cap Index Portfolio

## Portfolio Allocation

As of June 30, 2023

Basic Materials	3.8%
Consumer Discretionary	14.1
Consumer Staples	5.0
Energy	5.1
Financials	11.8
Health Care	11.1
Industrials	17.5
Real Estate	8.6
Technology	14.1
Telecommunications	1.7
Utilities	7.2

The table reflects the portfolio's investments, except for short-term investments and derivatives. Sector categories are based on the Industry Classification Benchmark ("ICB"), except for the "Other" category (if applicable), which includes securities that have not been provided an ICB 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.



Mid-Cap Index Portfolio

	Shares	Market Value* (\$000)		Shares	Market Value* (\$000)
<b>Financials (11.7%)</b>					
Arthur J Gallagher & Co.	80,500	17,675	Quest Diagnostics Inc.	41,968	5,899
MSCI Inc. Class A	28,529	13,388	GE HealthCare Technologies Inc.	72,600	5,898
Ameriprise Financial Inc.	39,092	12,985	Revvity Inc.	47,100	5,595
Apollo Global Management Inc.	149,199	11,460	* Illumina Inc.	29,700	5,568
Discover Financial Services	95,442	11,152	* Avantor Inc.	253,700	5,211
* Arch Capital Group Ltd.	132,948	9,951	Viartis Inc.	450,657	4,498
T. Rowe Price Group Inc.	84,400	9,454	* Incyte Corp.	71,281	4,437
Willis Towers Watson plc	39,967	9,412	Royalty Pharma plc Class A	142,804	4,390
State Street Corp.	119,309	8,731	Teleflex Inc.	17,618	4,264
Hartford Financial Services Group Inc.	116,512	8,391	* Henry Schein Inc.	49,190	3,989
American International Group Inc.	135,900	7,820	* Bio-Rad Laboratories Inc. Class A	7,853	2,977
M&T Bank Corp.	62,286	7,709	* Charles River Laboratories International Inc.	9,600	2,018
Raymond James Financial Inc.	71,687	7,439	* Catalent Inc.	32,100	1,392
Nasdaq Inc.	147,478	7,352			<b>263,781</b>
Broadridge Financial Solutions Inc.	44,280	7,334	<b>Industrials (17.5%)</b>		
Principal Financial Group Inc.	91,164	6,914	TransDigm Group Inc.	19,592	17,519
Fifth Third Bancorp	255,766	6,704	PACCAR Inc.	196,359	16,425
* Markel Group Inc.	4,764	6,589	Cintas Corp.	32,481	16,146
LPL Financial Holdings Inc.	29,144	6,337	Carrier Global Corp.	313,599	15,589
Regions Financial Corp.	352,593	6,283	Rockwell Automation Inc.	43,119	14,205
Prudential Financial Inc.	68,600	6,052	AMETEK Inc.	86,610	14,020
Huntington Bancshares Inc.	542,433	5,847	Old Dominion Freight Line Inc.	37,044	13,697
Ares Management Corp. Class A	60,400	5,820	WW Grainger Inc.	16,963	13,377
FactSet Research Systems Inc.	14,383	5,763	Verisk Analytics Inc. Class A	54,421	12,301
Cincinnati Financial Corp.	59,104	5,752	Ferguson plc	76,900	12,097
Everest Re Group Ltd.	16,333	5,584	United Rentals Inc.	25,778	11,481
Northern Trust Corp.	74,362	5,513	Vulcan Materials Co.	49,980	11,267
Cboe Global Markets Inc.	39,670	5,475	* Keysight Technologies Inc.	66,920	11,206
Allstate Corp.	49,400	5,387	Equifax Inc.	46,121	10,852
Citizens Financial Group Inc.	172,750	4,505	* Mettler-Toledo International Inc.	8,256	10,829
W R Berkley Corp.	73,534	4,380	Martin Marietta Materials Inc.	23,249	10,734
Loews Corp.	72,733	4,319	Quanta Services Inc.	54,600	10,726
*.1 Coinbase Global Inc. Class A	56,200	4,021	Xylem Inc.	89,968	10,132
MarketAxess Holdings Inc.	14,170	3,704	Ingersoll Rand Inc.	152,012	9,935
Fidelity National Financial Inc.	97,144	3,497	Fortive Corp.	132,811	9,930
KeyCorp	351,036	3,244	Global Payments Inc.	98,400	9,694
Interactive Brokers Group Inc. Class A	36,650	3,045	Dover Corp.	52,543	7,758
Franklin Resources Inc.	112,947	3,017	* Westinghouse Air Brake Technologies Corp.	67,555	7,409
Tradeweb Markets Inc. Class A	43,100	2,951	* Teledyne Technologies Inc.	17,700	7,277
Brown & Brown Inc.	42,500	2,926	Expeditors International of Washington Inc.	57,437	6,957
Annaly Capital Management Inc.	92,729	1,855	Otis Worldwide Corp.	77,596	6,907
Equitable Holdings Inc.	66,913	1,817	Ball Corp.	118,142	6,877
Globe Life Inc.	16,207	1,777	* FleetCor Technologies Inc.	26,357	6,618
Corebridge Financial Inc.	61,354	1,084	Cummins Inc.	26,600	6,521
* Rocket Cos. Inc. Class A	43,800	392	* Waters Corp.	22,228	5,925
		<b>280,807</b>	* Zebra Technologies Corp. Class A	19,360	5,727
			Snap-on Inc.	19,857	5,723
<b>Health Care (11.0%)</b>			TransUnion	72,603	5,687
* Dexcom Inc.	145,657	18,718	Jacobs Solutions Inc.	47,675	5,668
* IQVIA Holdings Inc.	69,673	15,660	JB Hunt Transport Services Inc.	31,132	5,636
* Centene Corp.	206,160	13,907	DuPont de Nemours Inc.	77,600	5,544
ResMed Inc.	55,238	12,070	Synchrony Financial	161,019	5,462
Zimmer Biomet Holdings Inc.	78,326	11,404	Stanley Black & Decker Inc.	57,539	5,392
* Veeva Systems Inc. Class A	54,705	10,817	Textron Inc.	75,718	5,121
West Pharmaceutical Services Inc.	27,900	10,671	* Trimble Inc.	93,104	4,929
* Seagen Inc.	52,826	10,167	Masco Corp.	84,552	4,852
* Align Technology Inc.	27,300	9,654	* Packaging Corp. of America	33,799	4,467
Cardinal Health Inc.	95,623	9,043	* BILL Holdings Inc.	37,900	4,429
* Alnylam Pharmaceuticals Inc.	46,833	8,895	CH Robinson Worldwide Inc.	43,790	4,132
* Horizon Therapeutics plc	85,900	8,835	HEICO Corp. Class A	27,999	3,937
Baxter International Inc.	189,900	8,652	Crown Holdings Inc.	45,163	3,923
STERIS plc	37,300	8,392	Howmet Aerospace Inc.	73,700	3,652
Laboratory Corp. of America Holdings	33,292	8,034	Hubbell Inc. Class B	10,079	3,342
* IDEXX Laboratories Inc.	15,606	7,838	HEICO Corp.	15,269	2,702
* Insulet Corp.	26,200	7,555	Jack Henry & Associates Inc.	13,616	2,278
* Hologic Inc.	92,489	7,489	Westrock Co.	48,103	1,398
Cooper Cos. Inc.	18,607	7,134			<b>418,412</b>
* Molina Healthcare Inc.	21,929	6,606			
* BioMarin Pharmaceutical Inc.	70,414	6,104			



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Derivative Financial Instruments Outstanding as of Period End

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Futures Contracts

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				(\$000)
	Expiration	Number of Long (Short) Contracts	Notional Amount	Value and Unrealized Appreciation (Depreciation)
Long Futures Contracts				
E-mini Russell 2000 Index	September 2023	21	1,999	17
E-mini S&P 500 Index	September 2023	18	4,039	67
E-mini S&P Mid-Cap 400 Index	September 2023	15	3,966	73
				157



# Statement of Assets and Liabilities

As of June 30, 2023

(\$000s, except shares, footnotes, and per-share amounts)	Amount
<b>Assets</b>	
Investments in Securities, at Value <sup>1</sup>	
Unaffiliated Issuers (Cost \$1,912,256)	2,381,245
Affiliated Issuers (Cost \$9,858)	9,857
Total Investments in Securities	2,391,102
Investment in Vanguard	78
Cash Collateral Pledged—Futures Contracts	550
Receivables for Investment Securities Sold	802
Receivables for Accrued Income	2,731
Receivables for Capital Shares Issued	1,150
Variation Margin Receivable—Futures Contracts	78
<b>Total Assets</b>	<b>2,396,491</b>
<b>Liabilities</b>	
Due to Custodian	921
Payables for Investment Securities Purchased	14
Collateral for Securities on Loan	3,015
Payables for Capital Shares Redeemed	896
Payables to Vanguard	163
<b>Total Liabilities</b>	<b>5,009</b>
<b>Net Assets</b>	<b>2,391,482</b>

<sup>1</sup> Includes \$2,782,000 of securities on loan.

At June 30, 2023, net assets consisted of:

Paid-in Capital	1,904,514
Total Distributable Earnings (Loss)	486,968
<b>Net Assets</b>	<b>2,391,482</b>
<b>Net Assets</b>	
Applicable to 106,444,721 outstanding \$.001 par value shares of beneficial interest (unlimited authorization)	2,391,482
<b>Net Asset Value Per Share</b>	<b>\$22.47</b>

## Statement of Operations

	Six Months Ended June 30, 2023
	(\$000)
<b>Investment Income</b>	
<b>Income</b>	
Dividends <sup>1</sup>	17,454
Interest <sup>2</sup>	61
Securities Lending—Net	229
<b>Total Income</b>	<b>17,744</b>
<b>Expenses</b>	
The Vanguard Group—Note B	
Investment Advisory Services	24
Management and Administrative	1,755
Marketing and Distribution	67
Custodian Fees	36
Shareholders' Reports	38
Trustees' Fees and Expenses	1
Other Expenses	4
<b>Total Expenses</b>	<b>1,925</b>
<b>Net Investment Income</b>	<b>15,819</b>
<b>Realized Net Gain (Loss)</b>	
Investment Securities Sold <sup>2</sup>	3,599
Futures Contracts	447
<b>Realized Net Gain (Loss)</b>	<b>4,046</b>
<b>Change in Unrealized Appreciation (Depreciation)</b>	
Investment Securities <sup>2</sup>	174,178
Futures Contracts	275
<b>Change in Unrealized Appreciation (Depreciation)</b>	<b>174,453</b>
<b>Net Increase (Decrease) in Net Assets Resulting from Operations</b>	<b>194,318</b>

<sup>1</sup> Dividends are net of foreign withholding taxes of \$7,000.

<sup>2</sup> Interest income, realized net gain (loss), and change in unrealized appreciation (depreciation) from an affiliated company of the portfolio were \$55,000, less than \$1,000, and (\$1,000), respectively. Purchases and sales are for temporary cash investment purposes.

## Statement of Changes in Net Assets

	Six Months Ended June 30, 2023	Year Ended December 31, 2022
	(\$000)	(\$000)
<b>Increase (Decrease) in Net Assets</b>		
<b>Operations</b>		
Net Investment Income	15,819	32,440
Realized Net Gain (Loss)	4,046	41,605
Change in Unrealized Appreciation (Depreciation)	174,453	(592,924)
Net Increase (Decrease) in Net Assets Resulting from Operations	194,318	(518,879)
<b>Distributions</b>		
Total Distributions	(73,871)	(277,011)
<b>Capital Share Transactions</b>		
Issued	146,156	270,019
Issued in Lieu of Cash Distributions	73,871	277,011
Redeemed	(180,258)	(300,821)
Net Increase (Decrease) from Capital Share Transactions	39,769	246,209
Total Increase (Decrease)	160,216	(549,681)
<b>Net Assets</b>		
Beginning of Period	2,231,266	2,780,947
End of Period	2,391,482	2,231,266

## Financial Highlights

For a Share Outstanding Throughout Each Period	Six Months Ended June 30,		Year Ended December 31,			
	2023	2022	2021	2020	2019	2018
<b>Net Asset Value, Beginning of Period</b>	<b>\$21.38</b>	<b>\$29.48</b>	<b>\$25.77</b>	<b>\$24.03</b>	<b>\$20.23</b>	<b>\$23.72</b>
<b>Investment Operations</b>						
Net Investment Income <sup>1</sup>	.151	.319	.284	.325 <sup>2</sup>	.334	.343
Net Realized and Unrealized Gain (Loss) on Investments	1.659	(5.464)	5.642	3.047	5.621	(2.386)
Total from Investment Operations	1.810	(5.145)	5.926	3.372	5.955	(2.043)
<b>Distributions</b>						
Dividends from Net Investment Income	(.319)	(.282)	(.318)	(.344)	(.350)	(.286)
Distributions from Realized Capital Gains	(.401)	(2.673)	(1.898)	(1.288)	(1.805)	(1.161)
Total Distributions	(.720)	(2.955)	(2.216)	(1.632)	(2.155)	(1.447)
<b>Net Asset Value, End of Period</b>	<b>\$22.47</b>	<b>\$21.38</b>	<b>\$29.48</b>	<b>\$25.77</b>	<b>\$24.03</b>	<b>\$20.23</b>
<b>Total Return</b>	<b>8.76%</b>	<b>-18.82%</b>	<b>24.36%</b>	<b>18.07%</b>	<b>30.87%</b>	<b>-9.33%</b>
<b>Ratios/Supplemental Data</b>						
Net Assets, End of Period (Millions)	\$2,391	\$2,231	\$2,781	\$2,241	\$2,155	\$1,621
Ratio of Total Expenses to Average Net Assets	0.17%	0.17% <sup>3</sup>	0.17%	0.17%	0.17%	0.17%
Ratio of Net Investment Income to Average Net Assets	1.46%	1.39%	1.03%	1.50% <sup>2</sup>	1.49%	1.49%
Portfolio Turnover Rate	5%	16%	20%	28%	21%	21%

The expense ratio and net investment income ratio for the current period have been annualized.

1 Calculated based on average shares outstanding.

2 Net investment income per share and the ratio of net investment income to average net assets include \$0.036 and 0.17%, respectively, resulting from a special dividend from NortonLifeLock Inc. in February 2020.

3 The ratio of expenses to average net assets for the period net of reduction from custody fee offset arrangements was 0.17%.

## Notes to Financial Statements

The Mid-Cap 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.

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 six months ended June 30, 2023, 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.

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 \$4.3 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 six months ended June 30, 2023, 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 June 30, 2023, the portfolio had contributed to Vanguard capital in the amount of \$78,000, representing less than 0.01% of the portfolio's net assets and 0.03% of Vanguard's capital received pursuant to the FSA. The portfolio's trustees and officers are also directors and employees, respectively, of Vanguard.

C. 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 June 30, 2023, 100% of the market value of the portfolio's investments and derivatives was determined based on Level 1 inputs.

D. As of June 30, 2023, 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	1,922,528
Gross Unrealized Appreciation	660,407
Gross Unrealized Depreciation	(191,676)
Net Unrealized Appreciation (Depreciation)	468,731

E. During the six months ended June 30, 2023, the portfolio purchased \$123,601,000 of investment securities and sold \$136,160,000 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 six months ended June 30, 2023, such purchases were \$13,862,000 and sales were \$65,163,000, resulting in net realized loss of \$14,047,000; these amounts, other than temporary cash investments, are included in the purchases and sales of investment securities noted above.

F. Capital shares issued and redeemed were:

	Six Months Ended June 30, 2023	Year Ended December 31, 2022
	Shares (000)	Shares (000)
Issued	6,741	11,614
Issued in Lieu of Cash Distributions	3,576	11,188
Redeemed	(8,224)	(12,791)
Net Increase (Decrease) in Shares Outstanding	2,093	10,011

G. 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.

To the extent the portfolio's investment portfolio reflects concentration in a particular market, industry, sector, country or asset class, the portfolio may be adversely affected by the performance of these concentrations and may be subject to increased price volatility and other risks.

The use of derivatives may expose the portfolio to various risks. Derivatives can be highly volatile, and any initial investment is generally small relative to the notional amount so that transactions may be leveraged in terms of market exposure. A relatively small market movement may have a potentially larger impact on derivatives than on standard securities. Leveraged derivatives positions can, therefore, increase volatility. Additional information regarding the portfolio's use of derivative(s) and the specific risks associated is described under significant accounting policies.

At June 30, 2023, 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 33% 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 June 30, 2023, that would require recognition or disclosure in these financial statements.

# Trustees Approve Advisory Arrangement

The board of trustees of Vanguard Variable Insurance Funds Mid-Cap Index Portfolio has renewed the portfolio's investment advisory arrangement with The Vanguard Group, Inc. (Vanguard), through its Equity Index Group. The board determined that continuing the portfolio's internalized management structure was in the best interests of the portfolio and its shareholders.

The board based its decision upon an evaluation of the advisor's investment staff, portfolio management process, and performance. This evaluation included information provided to the board by Vanguard's Portfolio Review Department, which is responsible for fund and advisor oversight and product management. The Portfolio Review Department met regularly with the advisor and made presentations to the board during the fiscal year that directed the board's focus to relevant information and topics.

The board, or an investment committee made up of board members, also received information throughout the year during advisor presentations. For each advisor presentation, the board was provided with letters and reports that included information about, among other things, the advisory firm and the advisor's assessment of the investment environment, portfolio performance, and portfolio characteristics.

In addition, the board received periodic reports throughout the year, which included information about the portfolio's performance relative to its peers and benchmark, as applicable, and updates, as needed, on the Portfolio Review Department's ongoing assessment of the advisor.

Prior to their meeting, the trustees were provided with a memo and materials that summarized the information they received over the course of the year. They also considered the factors discussed below, among others. However, no single factor determined whether the board approved the arrangement. Rather, it was the totality of the circumstances that drove the board's decision.

## **Nature, extent, and quality of services**

The board reviewed the quality of the portfolio's investment management services over both the short and long term, and took into account the organizational depth and stability of the advisor. The board considered that Vanguard has been managing investments for more than four decades. The Equity Index Group adheres to a sound, disciplined investment management process; the team has considerable experience, stability, and depth.

The board concluded that Vanguard's experience, stability, depth, and performance, among other factors, warranted continuation of the advisory arrangement.

## **Investment performance**

The board considered the short- and long-term performance of the portfolio, including any periods of outperformance or underperformance compared with its target index and peer group. The board concluded that the performance was such that the advisory arrangement should continue.

## **Cost**

The board concluded that the portfolio's expense ratio was below the average expense ratio charged by funds in its peer group and that the portfolio's advisory expenses were also below the peer-group average.

The board does not conduct a profitability analysis of Vanguard because of Vanguard's unique structure. Unlike most other mutual fund management companies, Vanguard is owned by the funds it oversees.

## **The benefit of economies of scale**

The board concluded that the portfolio's arrangement with Vanguard ensures that the portfolio will realize economies of scale as it grows, with the cost to shareholders declining as portfolio assets increase.

The board will consider whether to renew the advisory arrangement again after a one-year period.



## Liquidity Risk Management

Vanguard funds (except for the money market funds) have adopted and implemented a written liquidity risk management program (the "Program") as required by Rule 22e-4 under the Investment Company Act of 1940. Rule 22e-4 requires that each fund adopt a program that is reasonably designed to assess and manage the fund's liquidity risk, which is the risk that the fund could not meet redemption requests without significant dilution of remaining investors' interests in the fund.

Assessment and management of a fund's liquidity risk under the Program take into consideration certain factors, such as the fund's investment strategy and the liquidity of its portfolio investments during normal and reasonably foreseeable stressed conditions, its short- and long-term cash-flow projections during both normal and reasonably foreseeable stressed conditions, and its cash and cash-equivalent holdings and access to other funding sources. As required by the rule, the Program includes policies and procedures for classification of fund portfolio holdings in four liquidity categories, maintaining certain levels of highly liquid investments, and limiting holdings of illiquid investments.

The board of trustees of Vanguard Variable Insurance Funds approved the appointment of liquidity risk management program administrators responsible for administering the Mid-Cap Index Portfolio's Program and for carrying out the specific responsibilities set forth in the Program, including reporting to the board on at least an annual basis regarding the Program's operation, its adequacy, and the effectiveness of its implementation for the past year (the "Program Administrator Report"). The board has reviewed the Program Administrator Report covering the period from January 1, 2022, through December 31, 2022 (the "Review Period"). The Program Administrator Report stated that during the Review Period the Program operated and was implemented effectively to manage the portfolio's liquidity risk.

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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.

You can obtain a free copy of Vanguard's proxy voting guidelines by visiting [vanguard.com/proxyreporting](https://vanguard.com/proxyreporting) or by calling Vanguard at 800-662-2739. The guidelines are also available from the SEC's website, [www.sec.gov](https://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](https://vanguard.com/proxyreporting) or [www.sec.gov](https://www.sec.gov).