

Annual Report | December 31, 2023

Vanguard Variable Insurance Funds

Real Estate Index Portfolio

See the inside front cover for important information about your fund's annual and semiannual shareholder reports.

Important information about shareholder reports

Beginning in July 2024, amendments adopted by the Securities and Exchange Commission will substantially impact the design, content, and transmission of shareholder reports. Shareholder reports will provide key fund information in a clear and concise format and must be mailed to each shareholder that has not elected to receive the reports electronically. Financial statements will no longer be included in the shareholder report but will be available at vanguard.com, can be mailed upon request, or can be accessed on the SEC’s website at www.sec.gov.

You may elect to receive shareholder reports and other communications from the fund electronically by contacting your financial intermediary (such as a broker-dealer or bank) or, if you invest directly with the fund, by calling Vanguard at one of the phone numbers on the back cover of this report or by logging on to vanguard.com.

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Please note: The opinions expressed in this report are just that—informed opinions. They should not be considered promises or advice. Also, please keep in mind that the information and opinions cover the period through the date on the front of this report. Of course, the risks of investing in your portfolio are spelled out in the prospectus.

Your Portfolio's Performance at a Glance

- The financial markets delivered very robust returns for the 12 months ended December 31, 2023. The Real Estate Index Portfolio returned 11.70%. Its expense-free benchmark returned 11.96%.
- With inflation continuing to ease, a number of major central banks left off hiking interest rates. Global growth, employment, and consumer spending showed resilience, but the prospect of rates remaining high for an extended period spurred volatility at times. Toward year-end, however, global stocks and bonds rallied as falling inflation and softening economic growth raised market expectations for rate cuts in 2024.
- The prospect of falling rates boosted investor appetite for real estate, causing a double-digit spike in returns for the final months of the year. Among the subsectors contributing most to the 12-month results were data center REITs, industrial REITs, retail REITs, and real estate services.
- Please note that the portfolio's returns may be different from those in variable annuity products that invest in the portfolio, which take insurance-related expenses into account.

Market Barometer

	Average Annual Total Returns Periods Ended December 31, 2023		
	One Year	Three Years	Five Years
Stocks			
Russell 1000 Index (Large-caps)	26.53%	8.97%	15.52%
Russell 2000 Index (Small-caps)	16.93	2.22	9.97
Russell 3000 Index (Broad U.S. market)	25.96	8.54	15.16
FTSE All-World ex US Index (International)	15.82	1.98	7.52
Bonds			
Bloomberg U.S. Aggregate Float Adjusted Index (Broad taxable market)	5.60%	-3.33%	1.17%
Bloomberg Municipal Bond Index (Broad tax-exempt market)	6.40	-0.40	2.25
FTSE Three-Month U.S. Treasury Bill Index	5.26	2.24	1.91
CPI			
Consumer Price Index	3.35%	5.60%	4.07%

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, 2023

	Beginning Account Value 6/30/2023	Ending Account Value 12/31/2023	Expenses Paid During Period
Real Estate Index Portfolio			
Based on Actual Portfolio Return	\$1,000.00	\$1,079.70	\$1.36
Based on Hypothetical 5% Yearly Return	1,000.00	1,023.89	1.33

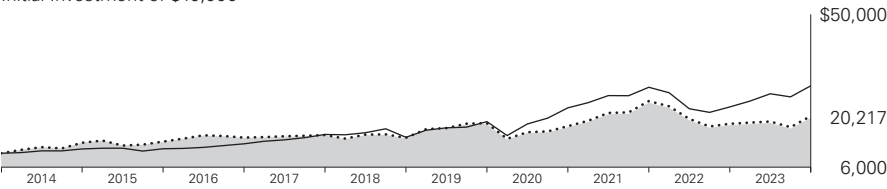
The calculations are based on expenses incurred in the most recent six-month period. The portfolio's annualized six-month expense ratio for that period is 0.26%. The dollar amounts shown as "Expenses Paid" are equal to the annualized expense ratio multiplied by the average account value over the period, 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).

Real Estate 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, 2013, Through December 31, 2023
Initial Investment of \$10,000



	Average Annual Total Returns			Final Value of a \$10,000 Investment
	One Year	Five Years	Ten Years	
Real Estate Index Portfolio	11.70%	7.18%	7.29%	\$20,217
Real Estate Spliced Index	11.96	7.44	7.55	20,698
Dow Jones U.S. Total Stock Market Float Adjusted Index	26.06	15.05	11.40	29,422

Real Estate Spliced Index: MSCI US REIT Index through January 18, 2018; MSCI US Investable Market Real Estate 25/50 Index thereafter.

Portfolio Allocation

As of December 31, 2023

Data Center REITs	7.5%
Diversified Real Estate Activities	0.2
Diversified REITs	2.1
Health Care REITs	7.9
Hotel & Resort REITs	2.8
Industrial REITs	12.8
Multi-Family Residential REITs	8.4
Office REITs	4.7
Other Specialized REITs	6.3
Real Estate Development	0.3
Real Estate Operating Companies	0.3
Real Estate Services	7.0
Retail REITs	12.8
Self-Storage REITs	7.0
Single-Family Residential REITs	4.5
Telecom Tower REITs	12.9
Timber REITs	2.5

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, 2023

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.

	Shares	Market Value* (\$000)		Shares	Market Value* (\$000)
Equity Real Estate Investment Trusts (REITs) (91.4%)					
Data Center REITs (7.4%)					
Equinix Inc.	63,622	51,241	Terreno Realty Corp.	68,717	4,307
Digital Realty Trust Inc.	247,855	33,356	LXP Industrial Trust	239,902	2,380
			Innovative Industrial Properties Inc.	22,993	2,318
			Plymouth Industrial REIT Inc.	32,676	787
			Industrial Logistics Properties Trust	45,418	213
		84,597			145,264
Diversified REITs (2.1%)			Multi-Family Residential REITs (8.3%)		
WP Carey Inc.	174,890	11,335	AvalonBay Communities Inc.	116,335	21,780
Essential Properties Realty Trust Inc.	127,930	3,270	Equity Residential	294,967	18,040
Broadstone Net Lease Inc.	153,552	2,644	Essex Property Trust Inc.	52,582	13,037
Global Net Lease Inc.	160,663	1,599	Mid-America Apartment Communities Inc.	95,410	12,829
Alexander & Baldwin Inc.	59,240	1,127	UDR Inc.	256,353	9,816
Empire State Realty Trust Inc.			Camden Property Trust	87,469	8,685
Class A	111,791	1,083	Apartment Income REIT Corp.		
American Assets Trust Inc.	39,839	897	Class A	121,587	4,223
Armada Hoffer Properties Inc.	55,416	685	Independence Realty Trust Inc.	184,252	2,819
Gladstone Commercial Corp.	32,863	435	Elme Communities	72,365	1,057
One Liberty Properties Inc.	14,176	310	Veris Residential Inc.	60,738	955
¹ NexPoint Diversified Real Estate Trust	26,996	215	* Apartment Investment & Management Co.		
		23,600	Class A	108,831	852
Health Care REITs (7.9%)			Centerspace	12,341	718
Welltower Inc.	424,790	38,303	NexPoint Residential Trust Inc.	18,933	652
Ventas Inc.	329,553	16,425			95,463
Healthpeak Properties Inc.	447,576	8,862			
Omega Healthcare Investors Inc.	200,754	6,155	Office REITs (4.7%)		
Healthcare Realty Trust Inc.			Alexandria Real Estate Equities Inc.	134,510	17,052
Class A	310,489	5,350	Boston Properties Inc.	121,850	8,550
Sabra Health Care REIT Inc.	189,576	2,705	Vornado Realty Trust	132,792	3,752
Physicians Realty Trust	195,508	2,602	Kilroy Realty Corp.	91,273	3,636
Medical Properties Trust Inc.	490,631	2,409	Cousins Properties Inc.	124,443	3,030
National Health Investors Inc.	35,590	1,988	SL Green Realty Corp.	52,793	2,385
CareTrust REIT Inc.	81,555	1,825	COPT Defense Properties	92,266	2,365
LTC Properties Inc.	33,813	1,086	Highwoods Properties Inc.	86,497	1,986
Global Medical REIT Inc.	50,782	564	Douglas Emmett Inc.	136,715	1,982
Community Healthcare Trust Inc.	20,671	551	Equity Commonwealth	89,904	1,726
Diversified Healthcare Trust	138,485	518	JBG SMITH Properties	80,556	1,370
Universal Health Realty Income Trust	10,661	461	Easterly Government Properties Inc.		
		89,804	Class A	76,498	1,028
Hotel & Resort REITs (2.8%)			Hudson Pacific Properties Inc.	104,162	970
Host Hotels & Resorts Inc.	582,909	11,349	Brandywine Realty Trust	140,198	757
Ryman Hospitality Properties Inc.	46,508	5,119	Piedmont Office Realty Trust Inc.		
Apple Hospitality REIT Inc.	178,216	2,960	Class A	101,446	721
Park Hotels & Resorts Inc.	176,886	2,706	Paramount Group Inc.	133,678	691
Sunstone Hotel Investors Inc.	161,106	1,729	Peakstone Realty Trust	29,498	588
DiamondRock Hospitality Co.	171,868	1,614	Office Properties Income Trust	40,122	294
Pebblebrook Hotel Trust	98,796	1,579	Orion Office REIT Inc.	44,884	257
RLJ Lodging Trust	129,119	1,513	NET Lease Office Properties	11,801	218
Xenia Hotels & Resorts Inc.	87,745	1,195	City Office REIT Inc.	32,893	201
Service Properties Trust	134,979	1,153	Franklin Street Properties Corp.	68,101	174
Summit Hotel Properties Inc.	87,436	587			53,733
Chatham Lodging Trust	39,660	425			
		31,929	Other Specialized REITs (6.2%)		
Industrial REITs (12.7%)			VICI Properties Inc.		
Prologis Inc.	756,476	100,838	Class A	830,005	26,461
Rexford Industrial Realty Inc.	168,739	9,466	Iron Mountain Inc.	238,827	16,713
EastGroup Properties Inc.	37,219	6,831	Gaming & Leisure Properties Inc.	215,317	10,626
Americold Realty Trust Inc.	220,709	6,681	Lamar Advertising Co.		
STAG Industrial Inc.	146,628	5,757	Class A	71,721	7,623
First Industrial Realty Trust Inc.	107,960	5,686	EPR Properties	61,761	2,992
			Four Corners Property Trust Inc.	74,259	1,879
			Outfront Media Inc.	121,803	1,700

Real Estate Index Portfolio

	Shares	Market Value* (\$000)
Uniti Group Inc.	194,792	1,126
Safehold Inc.	37,963	888
Farmland Partners Inc.	38,037	475
Gladstone Land Corp.	28,267	408
		70,891
Retail REITs (12.7%)		
Simon Property Group Inc.	267,893	38,212
Realty Income Corp.	580,431	33,328
Kimco Realty Corp.	507,146	10,807
Regency Centers Corp.	135,806	9,099
NNN REIT Inc.	149,532	6,445
Federal Realty Investment Trust	59,882	6,171
Brixmor Property Group Inc.	246,264	5,730
Spirit Realty Capital Inc.	115,809	5,060
Agree Realty Corp.	78,924	4,968
Kite Realty Group Trust	179,874	4,112
Phillips Edison & Co. Inc.	96,252	3,511
Macerich Co.	176,497	2,723
Tanger Inc.	86,243	2,391
SITE Centers Corp.	154,428	2,105
Urban Edge Properties	96,454	1,765
Retail Opportunity Investments Corp.	102,987	1,445
InvenTrust Properties Corp.	55,245	1,400
Acadia Realty Trust	78,388	1,332
Getty Realty Corp.	39,335	1,149
NETSTREIT Corp.	54,940	981
RPT Realty	70,282	902
Whitestone REIT	38,581	474
Saul Centers Inc.	10,668	419
Alexander's Inc.	1,914	409
CBL & Associates Properties Inc.	9,212	225
*.2 Spirit MTA REIT	42,040	—
		145,163
Self-Storage REITs (6.9%)		
Public Storage	129,590	39,525
Extra Space Storage Inc.	172,986	27,735
CubeSmart	183,752	8,517
National Storage Affiliates Trust	69,516	2,883
		78,660
Single-Family Residential REITs (4.5%)		
Invitation Homes Inc.	500,871	17,085
Sun Communities Inc.	101,816	13,607
Equity LifeStyle Properties Inc.	145,080	10,234
American Homes 4 Rent Class A	265,955	9,564
UMH Properties Inc.	50,859	779
		51,269
Telecom Tower REITs (12.8%)		
American Tower Corp.	381,707	82,403
Crown Castle Inc.	355,093	40,903
SBA Communications Corp. Class A	88,742	22,513
		145,819
Timber REITs (2.4%)		
Weyerhaeuser Co.	598,414	20,807
Rayonier Inc.	115,486	3,858
PotlatchDeltic Corp.	65,515	3,217
		27,882
Total Equity Real Estate Investment Trusts (REITs) (Cost \$1,113,958)		1,044,074

	Shares	Market Value* (\$000)
Real Estate Management & Development (7.7%)		
Diversified Real Estate Activities (0.2%)		
St. Joe Co.	28,682	1,726
RMR Group Inc. Class A	12,783	361
		2,087
Real Estate Development (0.3%)		
* Howard Hughes Holdings Inc.	28,714	2,457
* Forestar Group Inc.	16,250	537
		2,994
Real Estate Operating Companies (0.3%)		
DigitalBridge Group Inc.	133,362	2,339
Kennedy-Wilson Holdings Inc.	91,056	1,127
* Seritage Growth Properties Class A	30,385	284
		3,750
Real Estate Services (6.9%)		
* CoStar Group Inc.	334,312	29,216
* CBRE Group Inc. Class A	253,590	23,607
* Jones Lang LaSalle Inc.	39,031	7,372
* Zillow Group Inc. Class C	125,460	7,259
* Zillow Group Inc. Class A	46,143	2,617
* Opendoor Technologies Inc.	432,405	1,937
* Cushman & Wakefield plc Newmark Group Inc. Class A	129,888	1,403
* Compass Inc. Class A	118,743	1,301
eXp World Holdings Inc.	286,677	1,078
* Redfin Corp.	63,296	982
Marcus & Millichap Inc.	93,476	965
* Anywhere Real Estate Inc.	20,610	900
* Offerpad Solutions Inc.	80,778	655
* Doma Holdings Inc.	7,866	81
	4,357	20
		79,393
Total Real Estate Management & Development (Cost \$104,517)		88,224
Temporary Cash Investments (0.6%)		
Money Market Fund (0.6%)		
^{3,4} Vanguard Market Liquidity Fund, 5.435% (Cost \$6,927)	69,280	6,926
Total Investments (99.7%) (Cost \$1,225,402)		1,139,224
Other Assets and Liabilities—Net (0.3%)		3,459
Net Assets (100%)		1,142,683

Cost is in \$000.

* See Note A in Notes to Financial Statements.

* Non-income-producing security.

1 Includes partial security positions on loan to broker-dealers. The total value of securities on loan is less than \$1,000.

2 Security value determined using significant unobservable inputs.

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

4 Collateral of less than \$1,000 was received for securities on loan.

REIT—Real Estate Investment Trust.

Derivative Financial Instruments Outstanding as of Period End

Futures Contracts

				(\$000)
	Expiration	Number of Long (Short) Contracts	Notional Amount	Value and Unrealized Appreciation (Depreciation)
Long Futures Contracts				
Dow Jones U.S. Real Estate Index	March 2024	3	107	7

Over-the-Counter Total Return Swaps

Reference Entity	Termination Date	Counterparty	Notional Amount (\$000)	Floating Interest Rate Received (Paid) ¹ (%)	Value and Unrealized Appreciation (\$000)	Value and Unrealized Depreciation (\$000)
Equinix Inc.	8/30/24	BANA	10,595	(5.432)	—	(114)

¹ Based on USD Overnight Bank Funding Rate as of the most recent reset date. Floating interest payment received/paid monthly.
BANA—Bank of America, N.A.

Statement of Assets and Liabilities

As of December 31, 2023

(\$000s, except shares, footnotes, and per-share amounts)	Amount
Assets	
Investments in Securities, at Value ¹	
Unaffiliated Issuers (Cost \$1,218,475)	1,132,298
Affiliated Issuers (Cost \$6,927)	6,926
Total Investments in Securities	1,139,224
Investment in Vanguard	35
Cash	10
Cash Collateral Pledged—Futures Contracts	12
Receivables for Accrued Income	5,178
Receivables for Capital Shares Issued	151
Total Assets	1,144,610
Liabilities	
Payables for Investment Securities Purchased	1,123
Collateral for Securities on Loan	—
Payables for Capital Shares Redeemed	559
Payables to Vanguard	130
Variation Margin Payable—Futures Contracts	1
Unrealized Depreciation—Over-the-Counter Swap Contracts	114
Total Liabilities	1,927
Net Assets	1,142,683

¹ Includes less than \$1,000 of securities on loan.

At December 31, 2023, net assets consisted of:

Paid-in Capital	1,166,404
Total Distributable Earnings (Loss)	(23,721)
Net Assets	1,142,683
Net Assets	
Applicable to 95,850,565 outstanding \$.001 par value shares of beneficial interest (unlimited authorization)	1,142,683
Net Asset Value Per Share	\$11.92

See accompanying Notes, which are an integral part of the Financial Statements.

Statement of Operations

	Year Ended December 31, 2023
	(\$000)
Investment Income	
Income	
Dividends	34,503
Interest ¹	106
Securities Lending—Net	48
Total Income	34,657
Expenses	
The Vanguard Group—Note B	
Investment Advisory Services	22
Management and Administrative	2,550
Marketing and Distribution	63
Custodian Fees	90
Auditing Fees	34
Shareholders' Reports	25
Trustees' Fees and Expenses	1
Other Expenses	10
Total Expenses	2,795
Net Investment Income	31,862
Realized Net Gain (Loss)	
Capital Gain Distributions Received	5,268
Investment Securities Sold ¹	23,887
Futures Contracts	(29)
Swap Contracts	915
Realized Net Gain (Loss)	30,041
Change in Unrealized Appreciation (Depreciation)	
Investment Securities ¹	59,829
Futures Contracts	24
Swap Contracts	(114)
Change in Unrealized Appreciation (Depreciation)	59,739
Net Increase (Decrease) in Net Assets Resulting from Operations	121,642

¹ Interest income, realized net gain (loss), capital gain distributions received, and change in unrealized appreciation (depreciation) from an affiliated company of the portfolio were \$104,000, (\$1,000), less than \$1,000, and (\$1,000), respectively. Purchases and sales are for temporary cash investment purposes.

Statement of Changes in Net Assets

	Year Ended December 31,	
	2023 (\$000)	2022 (\$000)
Increase (Decrease) in Net Assets		
Operations		
Net Investment Income	31,862	28,122
Realized Net Gain (Loss)	30,041	49,985
Change in Unrealized Appreciation (Depreciation)	59,739	(476,185)
Net Increase (Decrease) in Net Assets Resulting from Operations	121,642	(398,078)
Distributions		
Total Distributions	(77,195)	(77,984)
Capital Share Transactions		
Issued	98,954	147,195
Issued in Lieu of Cash Distributions	77,195	77,984
Redeemed	(171,797)	(193,133)
Net Increase (Decrease) from Capital Share Transactions	4,352	32,046
Total Increase (Decrease)	48,799	(444,016)
Net Assets		
Beginning of Period	1,093,884	1,537,900
End of Period	1,142,683	1,093,884

See accompanying Notes, which are an integral part of the Financial Statements.

Financial Highlights

For a Share Outstanding Throughout Each Period	Year Ended December 31,				
	2023	2022	2021	2020	2019
Net Asset Value, Beginning of Period	\$11.53	\$16.56	\$12.43	\$13.74	\$11.57
Investment Operations					
Net Investment Income ¹	.327	.297	.257	.259	.329
Net Realized and Unrealized Gain (Loss) on Investments	.888	(4.474)	4.553	(1.054)	2.874
Total from Investment Operations	1.215	(4.177)	4.810	(.795)	3.203
Distributions					
Dividends from Net Investment Income	(.286)	(.262)	(.293)	(.316)	(.368)
Distributions from Realized Capital Gains	(.539)	(.591)	(.387)	(.199)	(.665)
Total Distributions	(.825)	(.853)	(.680)	(.515)	(1.033)
Net Asset Value, End of Period	\$11.92	\$11.53	\$16.56	\$12.43	\$13.74
Total Return	11.70%	-26.30%	40.21%	-4.85%	28.81%
Ratios/Supplemental Data					
Net Assets, End of Period (Millions)	\$1,143	\$1,094	\$1,538	\$1,077	\$1,242
Ratio of Total Expenses to Average Net Assets	0.26%	0.26% ²	0.26%	0.26%	0.26%
Ratio of Net Investment Income to Average Net Assets	2.97%	2.25%	1.79%	2.19%	2.52%
Portfolio Turnover Rate	10%	11%	12%	10%	7%

¹ Calculated based on average shares outstanding.

² The ratio of expenses to average net assets for the period net of reduction from custody fee offset arrangements was 0.26%.

Notes to Financial Statements

The Real Estate 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 year ended December 31, 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. **Swap Contracts:** The portfolio has entered into equity swap contracts to earn the total return on selected reference stocks or indexes in the portfolio's target index. Under the terms of the swaps, the portfolio receives the total return on the referenced stock (i.e., receiving the increase or paying the decrease in value of the selected reference stock and receiving the equivalent of any dividends in respect of the selected referenced stock) over a specified period of time, applied to a notional amount that represents the value of a designated number of shares of the selected reference stock at the beginning of the equity swap contract. The portfolio also pays a floating rate that is based on short-term interest rates, applied to the notional amount. At the same time, the portfolio generally invests an amount approximating the notional amount of the swap in high-quality temporary cash investments.

A risk associated with all types of swaps is the possibility that a counterparty may default on its obligation to pay net amounts due to the portfolio. The portfolio's maximum amount subject to counterparty risk is the unrealized appreciation on the swap contract. The portfolio mitigates its counterparty risk by entering into swaps only with a diverse group of prequalified counterparties, monitoring their financial strength, entering into master netting arrangements with its counterparties, and requiring its counterparties to transfer collateral as security for their performance. In the absence of a default, the collateral pledged or received by the portfolio cannot be repledged, resold, or rehypothecated. In the event of a counterparty's default (including bankruptcy), the portfolio may terminate any swap contracts with that counterparty, determine the net amount owed by either party in accordance with its master netting arrangements, and sell or retain any collateral held up to the net amount owed to the portfolio under the master netting arrangements. The swap contracts contain provisions whereby a counterparty may terminate open contracts if the portfolio's net assets

decline below a certain level, triggering a payment by the portfolio if the portfolio is in a net liability position at the time of the termination. The payment amount would be reduced by any collateral the portfolio has pledged. Any securities pledged as collateral for open contracts are noted in the Schedule of Investments. The value of collateral received or pledged is compared daily to the value of the swap contracts exposure with each counterparty, and any difference, if in excess of a specified minimum transfer amount, is adjusted and settled within two business days.

The notional amounts of swap contracts are not recorded in the Statement of Assets and Liabilities. Swaps are valued daily based on market quotations received from independent pricing services or recognized dealers and the change in value is recorded in the Statement of Assets and Liabilities as an asset (liability) and in the Statement of Operations as unrealized appreciation (depreciation) until periodic payments are made or the termination of the swap, at which time realized gain (loss) is recorded.

During the year ended December 31, 2023, the portfolio's average amounts of investments in total return swaps represented less than 1% of net assets, based on the average of notional amounts at each quarter-end during the period.

4. 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.

5. 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.

6. 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.

7. 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 year ended December 31, 2023, the portfolio did not utilize the credit facilities or the Interfund Lending Program.

8. Other: Distributions received from investment securities are recorded on the ex-dividend date. Non-cash dividends included in income, if any, are recorded at the fair value of the securities received. Each investment security reports annually the tax character of its distributions. Dividend income, capital gain distributions received, and unrealized appreciation (depreciation) reflect the amounts of taxable income, capital gain, and return of capital reported by the REITs, and management’s estimates of such amounts for REIT distributions for which actual information has not been reported. 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, 2023, the portfolio had contributed to Vanguard capital in the amount of \$35,000, representing less than 0.01% of the portfolio’s net assets and 0.01% 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.

The following table summarizes the market value of the portfolio’s investments and derivatives as of December 31, 2023, based on the inputs used to value them:

	Level 1 (\$000)	Level 2 (\$000)	Level 3 (\$000)	Total (\$000)
Investments				
Assets				
Common Stocks	1,132,298	—	—	1,132,298
Temporary Cash Investments	6,926	—	—	6,926
Total	1,139,224	—	—	1,139,224
Derivative Financial Instruments				
Assets				
Futures Contracts ¹	7	—	—	7
Liabilities				
Swap Contracts	—	114	—	114

¹ Includes cumulative appreciation (depreciation) on futures contracts and centrally cleared swaps, if any, as reported in the Schedule of Investments. Only current day’s variation margin is reported within the Statement of Assets and Liabilities.

D. Permanent differences between book-basis and tax-basis components of net assets 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. As of period end, permanent differences primarily attributable to the accounting for applicable swap agreements were reclassified between the individual components of total distributable earnings (loss).

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; the deferral of income from real estate investment trusts; 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	31,660
Undistributed Long-Term Gains	29,185
Net Unrealized Gains (Losses)	(87,879)
Capital Loss Carryforwards	—
Qualified Late-Year Losses	—
Other Temporary Differences	3,313
Total	(23,721)

The tax character of distributions paid was as follows:

	Year Ended December 31,	
	2023 Amount (\$000)	2022 Amount (\$000)
Ordinary Income*	27,200	28,357
Long-Term Capital Gains	49,995	49,627
Total	77,195	77,984

* Includes short-term capital gains, if any.

As of December 31, 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	1,227,103
Gross Unrealized Appreciation	145,030
Gross Unrealized Depreciation	(232,909)
Net Unrealized Appreciation (Depreciation)	(87,879)

E. During the year ended December 31, 2023, the portfolio purchased \$113,023,000 of investment securities and sold \$153,896,000 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, 2023, such purchases were \$68,000 and sales were \$113,000, resulting in net realized loss of \$27,000; 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:

	Year Ended December 31,	
	2023 Shares (000)	2022 Shares (000)
Issued	8,943	11,004
Issued in Lieu of Cash Distributions	7,524	5,356
Redeemed	(15,456)	(14,362)
Net Increase (Decrease) in Shares Outstanding	1,011	1,998

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 December 31, 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 37% 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, 2023, 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 Real Estate Index Portfolio

Opinion on the Financial Statements

We have audited the accompanying statement of assets and liabilities, including the schedule of investments, of Real Estate Index Portfolio (one of the portfolios constituting Vanguard Variable Insurance Funds, referred to hereafter as the "Portfolio") as of December 31, 2023, the related statement of operations for the year ended December 31, 2023, the statement of changes in net assets for each of the two years in the period ended December 31, 2023, including the related notes, and the financial highlights for each of the five years in the period ended December 31, 2023 (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, 2023, 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, 2023 and the financial highlights for each of the five years in the period ended December 31, 2023 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, 2023 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 16, 2024

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

Tax information (unaudited)

The portfolio hereby designates \$39,000, 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 \$49,995,000 as capital gain dividends (from net long-term capital gains) to shareholders during the fiscal year. The portfolio designates \$48,589,000 of its capital gain dividends as 20% rate gain distributions and \$1,406,000 as unrecaptured section 1250 gain distributions (25% rate gain).

THESE FUNDS ARE NOT SPONSORED, ENDORSED, SOLD OR PROMOTED BY MSCI INC. ("MSCI"), ANY OF ITS AFFILIATES, ANY OF ITS DIRECT OR INDIRECT INFORMATION PROVIDERS OR ANY OTHER THIRD PARTY INVOLVED IN, OR RELATED TO, COMPILING, COMPUTING OR CREATING ANY MSCI INDEX (COLLECTIVELY, THE "MSCI PARTIES"). THE MSCI INDEXES ARE THE EXCLUSIVE PROPERTY OF MSCI. MSCI AND THE MSCI INDEX NAMES ARE SERVICE MARK(S) OF MSCI OR ITS AFFILIATES AND HAVE BEEN LICENSED FOR USE FOR CERTAIN PURPOSES BY VANGUARD. NONE OF THE MSCI PARTIES MAKES ANY REPRESENTATION OR WARRANTY, EXPRESS OR IMPLIED, TO THE OWNERS OF THESE FUNDS OR ANY MEMBER OF THE PUBLIC REGARDING THE ADVISABILITY OF INVESTING IN FUNDS GENERALLY OR IN THESE FUNDS PARTICULARLY OR THE ABILITY OF ANY MSCI INDEX TO TRACK CORRESPONDING STOCK MARKET PERFORMANCE. MSCI OR ITS AFFILIATES ARE THE LICENSORS OF CERTAIN TRADEMARKS, SERVICE MARKS AND TRADE NAMES AND OF THE MSCI INDEXES WHICH ARE DETERMINED, COMPOSED AND CALCULATED BY MSCI WITHOUT REGARD TO THESE FUNDS OR THE ISSUER OR OWNER OF THESE FUNDS. NONE OF THE MSCI PARTIES HAS ANY OBLIGATION TO TAKE THE NEEDS OF THE ISSUERS OR OWNERS OF THESE FUNDS INTO CONSIDERATION IN DETERMINING, COMPOSING OR CALCULATING THE MSCI INDEXES. NONE OF THE MSCI PARTIES IS RESPONSIBLE FOR OR HAS PARTICIPATED IN THE DETERMINATION OF THE TIMING OF, PRICES AT, OR QUANTITIES OF THESE FUNDS TO BE ISSUED OR IN THE DETERMINATION OR CALCULATION OF THE CONSIDERATION INTO WHICH THESE FUNDS ARE REDEEMABLE. NONE OF THE MSCI PARTIES HAS ANY OBLIGATION OR LIABILITY TO THE OWNERS OF THESE FUNDS IN CONNECTION WITH THE ADMINISTRATION, MARKETING OR OFFERING OF THESE FUNDS.

ALTHOUGH MSCI SHALL OBTAIN INFORMATION FOR INCLUSION IN OR FOR USE IN THE CALCULATION OF THE MSCI INDEXES FROM SOURCES WHICH MSCI CONSIDERS RELIABLE, NONE OF THE MSCI PARTIES WARRANTS OR GUARANTEES THE ORIGINALITY, ACCURACY AND/OR THE COMPLETENESS OF ANY MSCI INDEX OR ANY DATA INCLUDED THEREIN. NONE OF THE MSCI PARTIES MAKES ANY WARRANTY, EXPRESS OR IMPLIED, AS TO RESULTS TO BE OBTAINED BY LICENSEE, LICENSEE'S CUSTOMERS OR COUNTERPARTIES, ISSUERS OF THE FUNDS, OWNERS OF THE FUNDS, OR ANY OTHER PERSON OR ENTITY, FROM THE USE OF ANY MSCI INDEX OR ANY DATA INCLUDED THEREIN IN CONNECTION WITH THE RIGHTS LICENSED HEREUNDER OR FOR ANY OTHER USE. NONE OF THE MSCI PARTIES SHALL HAVE ANY LIABILITY FOR ANY ERRORS, OMISSIONS OR INTERRUPTIONS OF OR IN CONNECTION WITH ANY MSCI INDEX OR ANY DATA INCLUDED THEREIN. FURTHER, NONE OF THE MSCI PARTIES MAKES ANY EXPRESS OR IMPLIED WARRANTIES OF ANY KIND, AND THE MSCI PARTIES HEREBY EXPRESSLY DISCLAIM ALL WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE, WITH RESPECT TO ANY MSCI INDEX AND ANY DATA INCLUDED THEREIN. WITHOUT LIMITING ANY OF THE FOREGOING, IN NO EVENT SHALL ANY OF THE MSCI PARTIES HAVE ANY LIABILITY FOR ANY DIRECT, INDIRECT, SPECIAL, PUNITIVE, CONSEQUENTIAL OR ANY OTHER DAMAGES (INCLUDING WITHOUT LIMITATION LOST PROFITS) EVEN IF NOTIFIED OF THE POSSIBILITY OF SUCH DAMAGES.

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 208 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 Trustee¹

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.

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, the advisory board of the University of California, Berkeley School of Engineering, and the advisory board of Santa Clara University's Leavey School of Business.

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 from 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). 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 IBM, and a variety of other prior management roles at 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: co-founder and managing partner (2022–present) of Grafton Street Partners (investment advisory firm). Chief investment officer (retired 2020) and vice president (retired 2020) of the University of Notre Dame. Chair of the board of Catholic Investment Services, Inc. (investment advisors). Member of the board of superintendence of the Institute for the Works of Religion, the Notre Dame 403(b) Investment Committee, 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. Director of DuPont. 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 partner of HighVista Strategies (private investment firm). Member of the board of RIT Capital Partners (investment firm).

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, Duke Law School (2021–present); Rubenstein Fellow, Duke University (2017–2020); Distinguished Fellow of the Global Financial Markets Center, Duke Law School (2020–2022); and Senior Fellow, Duke Center on Risk (2020–present). Partner of Kaya Partners (climate policy advisory services). Member of the board of directors of Arcadia (energy solution technology).

Grant Reid

Born in 1959. Trustee since July 2023. Principal occupation(s) during the past five years and other experience: chief executive officer and president (2014–2022) and member of the board of directors (2015–2022) of Mars, Incorporated (multinational manufacturer). Member of the board of directors of Marriott International, Inc. Chair of Agribusiness Task Force, Sustainable Markets Initiative.

David 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. Trustee of Common Fund.

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

¹ Mr. Buckley is considered an "interested person," as defined in the Investment Company Act of 1940, because he is an officer of the Vanguard funds.

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.

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).

Jodi Miller

Born in 1980. Principal occupation(s) during the past five years and other experience: principal of Vanguard. Finance director (2022–present) of each of the investment companies served by Vanguard. Head of Enterprise Investment Services (2020–present), head of Retail Client Services and Operations (2020–2022), and head of Retail Strategic Support (2018–2020) 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 (2022–present) 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. Director (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	Thomas M. Rampulla
Joseph Brennan	Karin A. Risi
Mortimer J. Buckley	Anne E. Robinson
Gregory Davis	Michael Rollings
John James	Nitin Tandon
Chris D. McIsaac	Lauren Valente



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