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# Vanguard Variable Insurance Fund

Mid-Cap Index Portfolio

### Vanguard's Principles for Investing Success

We want to give you the best chance of investment success. These principles, grounded in Vanguard's research and experience, can put you on the right path.

Goals. Create clear, appropriate investment goals.

Balance. Develop a suitable asset allocation using broadly diversified funds.

Cost. Minimize cost.

Discipline. Maintain perspective and long-term discipline.

A single theme unites these principles: Focus on the things you can control. We believe there is no wiser course for any investor.

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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 fund are spelled out in the prospectus.

See the Glossary for definitions of investment terms used in this report.

About the cover: No matter what language you speak, Vanguard has one consistent message and set of principles. Our primary focus is on you, our clients. We conduct our business with integrity as a faithful steward of your assets. This message is shown translated into seven languages, reflecting our expanding global presence.

### A Message from Vanguard's Chairman



### Dear Planholder,

Capital markets reacted in 2016 to two significant and unexpected events the United Kingdom's vote to exit the European Union and the election of Donald Trump as U.S. president. Despite some short-term volatility following both events, the markets' performance for the calendar year proved less dramatic. U.S. stocks posted healthy returns, and U.S. bond results were close to their long-term averages. International stocks and bonds also advanced, although returns for U.S. investors were reduced by the strength of the U.S. dollar.

The surprises of 2016 remind us to be skeptical of overly precise predictions about 2017. For example, market prognosticators often forecast where the Standard & Poor's 500 Index or the yield of the 10-year U.S. Treasury note will end up in 12 months. Such predictions can be attention-getting. They can also be dead wrong.

Investors are better off taking note of long-term trends that stand to influence our economies and markets. We're watching these trends closely, and we discuss our latest assessment in our 2017 economic and market outlook, which you can read at vanguard.com/research.

### Expect stabilization, not stagnation

One phenomenon in particular that we're watching is the low-growth, low-interestrate environment that has marked the global economy since the 2008–09 financial crisis. We don't think this economic backdrop is simply a result of cyclically weak demand or long-term stagnation. Instead, falling technology costs are restraining businesses' capital investment, an aging population is weighing on growth in the developed world, and the free movement of capital and products across the globe has restrained prices and wages.

In the near term, these forces will continue to dampen growth, inflation, and interest rates. They also make it unlikely that further monetary stimulus from central banks will do much to spur growth.

I realize this all may sound gloomy, but that's not how we see it. In fact, we believe that global growth could pick up modestly over time. Our expectation is based on a potential rebound in productivity as new digital technologies are used more effectively. We also anticipate a slight recovery in the U.S. labor force as the baby boom generation finishes its transition to retirement, nudging up demand for workers.

The U.S. economy remains firmly on a long-term growth path of about 2% per year. That's lower than the historical average of 3.25% since 1950. But we see such growth at the current level as fundamentally sound rather than abnormally low. Our evaluation takes into account lower U.S. population growth and the reality that the economic expansion that took place from the 1980s until the financial crisis was fueled by debt, distorting the numbers.

Turning to prices, we think that core U.S. inflation should modestly exceed 2% in 2017. That, in turn, will support further interest rate increases by the Federal Reserve, similar to the one it enacted in December. We expect the Fed to raise rates in 2017 before taking an extended pause, and we see the federal funds rate staying below 2% through at least 2018. Vanguard's outlook for global stocks and bonds remains the most guarded in ten years, given fairly high stock valuations and low interest rates. Our outlook for global equities isn't bearish but rather is fairly positive when you take into account the low-rate environment. And with global bonds, we don't expect yields to increase materially from their year-end 2016 levels.

### Focus on keys to investment success

Significant trends often happen gradually. Like shifting tides, they're sometimes barely noticeable at first but ultimately can change the landscape entirely. No matter what the future holds, we believe that investors have the best chance for success if they concentrate on what they can control: their goals, asset allocation, and investment costs, along with the discipline to stick to a plan.

As Tim Buckley, our chief investment officer, likes to say, this can be easy to say but harder to do, especially in times of uncertainty. Investors who can stay focused on these four keys will find themselves well-positioned to weather any market.

As always, thank you for investing with Vanguard.

Sincerely,

Hieliam M MelbIII

F. William McNabb III Chairman and Chief Executive Officer January 12, 2017

### **Market Perspective**

# Stocks ended 2016 with a rally, while bonds trimmed earlier gains

After posting modest gains in the first three quarters of 2016, stocks closed the year with a rally following the U.S. presidential election. In contrast, bonds started with notable price gains but reversed course by the fourth quarter, ending with annual returns that were positive, but lower than those compiled over the first nine months.

The broad U.S. stock market, as measured by the Russell 3000 Index, finished the year up 12.74%. The possibility of less government regulation, more fiscal stimulus in the form of infrastructure spending, and tax-law changes under a new administration contributed to stocks' late advance. Also, the economy continued expanding and corporate earnings began to rise as 2016 progressed.

### U.S. small-capitalization stocks outperformed their large- and mid-cap counterparts, while value stocks outpaced growth. Among sectors, only health care failed to post gains. Notable contributions came from financial and technology stocks, while energy stocks, helped by rising prices, posted the highest total return.

# U.S. bond prices went up, then fell amid economic optimism

Demand for U.S. bonds dropped sharply and yields rose after the election as the markets anticipated faster growth and higher inflation. The bond market's fourth-quarter slump came as job creation remained solid, wages trended higher, and commodity prices recovered modestly. The Federal Reserve, also expecting the economy to continue performing well, raised short-term interest rates in December for the first time in a year and only the second time in a decade.

The yield of the bellwether 10-year U.S. Treasury note, which tumbled over the first half of the year from 2.30% to 1.47%, ended December at 2.45%. The broad U.S. bond market returned 2.65%, as measured by the Bloomberg Barclays U.S. Aggregate Bond Index. Investment-grade corporate bonds outperformed Treasuries and mortgage-backed securities.

## For U.S. investors, a strong dollar muted international stock returns

Outside the United States, equity markets recorded modest gains despite unexpected political developments in 2016, most notably the United Kingdom's June vote to leave the European Union. Gains in non-U.S. stock markets were reduced for U.S. investors because many major currencies, especially the British pound, weakened in relation to the U.S. dollar. The FTSE All-World ex US Index returned 4.80%.

Among non-U.S. sectors, energy and materials performed strongly as they benefited from rising commodity prices. As in the United States, health care stocks globally lost ground.

International bond markets generated positive returns for U.S.-based investors, particularly if the impact of weakening foreign currencies was hedged away. (Currency hedging can have the reverse effect of reducing returns when the dollar weakens.) Continued aggressive stimulus by central banks, including those in Europe and Japan, kept pressure on yields, boosting bond prices. The Bloomberg Barclays Global Aggregate ex-USD Float Adjusted RIC Capped Index (USD Hedged) returned 4.90%.

Market Barometer			
		Average Annual Total Returr Periods Ended December 31, 201	
	One Year	Three Years	Five Years
Stocks			
Russell 1000 Index (Large-caps)	12.05%	8.59%	14.69%
Russell 2000 Index (Small-caps)	21.31	6.74	14.46
Russell 3000 Index (Broad U.S. market)	12.74	8.43	14.67
FTSE All-World ex US Index (International)	4.80	-1.16	5.52
Bonds			
Bloomberg Barclays U.S. Aggregate Bond Index (Broad taxable market)	2.65%	3.03%	2.23%
Bloomberg Barclays Municipal Bond Index (Broad tax-exempt market)	0.25	4.14	3.28
Citigroup Three-Month U.S. Treasury Bill Index	0.27	0.09	0.08
CPI			
Consumer Price Index	2.07%	1.18%	1.36%

### Vanguard<sup>®</sup> Mid-Cap Index Portfolio

U.S. stocks posted solid returns in 2016 as the economy continued to slowly grow, corporate earnings improved, and investors were optimistic later in the year that President-elect Trump's policies would result in further economic expansion.

For the year ended December 31, 2016, Vanguard Mid-Cap Index Portfolio returned about 11%, in line with its benchmark index but more than 5 percentage points behind the average return of its peers.

Please note that the portfolio returns in Vanguard Variable Insurance Fund are different from those in Vanguard Variable Annuity (and other plans that invest in the fund), which take into account insurancerelated expenses.

# A wide variety of sectors registered robust returns

Vanguard Mid-Cap Index Portfolio offers investors broad exposure to the hundreds of mid-capitalization stocks in the U.S. equity market. Stocks of every style and from every industry sector are represented. Over the year, small-cap stocks outpaced mid- and large-caps, and value stocks outperformed their growth counterparts. Financial stocks lifted the portfolio as the anticipation of short-term interest rate hikes by the Federal Reserve, the improving economy, and the rising stock market contributed to the sector's overall strength. Banks and insurance companies were leaders in the sector.

Another source of strength was technology. Communications equipment, hardware, semiconductor, and telecommunications equipment companies played large roles in the sector's strong showing.

The rebound in oil prices helped oil and gas stocks to significant returns. Stocks in industrials, basic materials, and utilities also produced meaningful results. Returns were more modest for consumer goods and services companies.

Health care stocks, the only negative performer, stumbled as observers voiced concerns about rising health care costs and investors mulled the possibility that increased government regulation of prices could dim profits. Biotechnology companies and pharmaceuticals suffered the most.

# Tight tracking prevailed during the previous decade

For the decade through December 31, 2016, the Mid-Cap Index Portfolio recorded an average annual return of 7.55%. This result tightly tracked the portfolio's target index, which has no transaction costs or operating expenses, and exceeded the average annual return of its peers.

First and foremost, the portfolio's objective is to track the index closely, and its success in doing so is a testament to the expertise and experience of the portfolio's advisor, Vanguard Equity Index Group. This group of professionals uses well-honed portfolio construction and trading methodologies that have allowed Vanguard to provide effective index tracking regardless of the market's volatility or direction. The portfolio has also benefited from its low costs, which help close the gap between the index's results and your returns.

### Total Returns

		Ten Years Ended December 31, 2016
	Year Ended December 31, 2016	Average Annual Return
Vanguard Mid-Cap Index Portfolio	11.11%	7.55%
Spliced Mid Cap Index <sup>1</sup>	11.25	7.70
Variable Insurance Mid-Cap Core Funds Average <sup>2</sup>	16.47	7.28

The figures shown represent past performance, which is not a guarantee of future results. (Current performance may be lower or higher than the performance data cited. For performance data current to the most recent monthend, 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.

### **Expense Ratios**

Your Portfolio Compared With Its Peer Group

		Variable Insurance
		Mid-Cap Core
	Portfolio <sup>3</sup>	Funds Average <sup>4</sup>
Mid-Cap Index Portfolio	0.19%	0.78%

1 MSCI US Mid Cap 450 Index through January 30, 2013; CRSP US Mid Cap Index thereafter.

2 Derived from data provided by Lipper, a Thomson Reuters Company.

3 The portfolio expense ratio shown is from the prospectus dated April 29, 2016, and represents estimated costs for the current fiscal year. For the fiscal year ended December 31, 2016, the portfolio's expense ratio was 0.19%.

4 The peer-group expense ratio is derived from data provided by Lipper, a Thomson Reuters Company, and captures information through year-end 2015.

### Portfolio Profile As of December 31, 2016

As of December 31, 2016

### **Portfolio Characteristics**

	Portfolio	Target Index1	Broad Index <sup>2</sup>
Number of Stocks	340	340	3,833
Median Market Cap	\$11.7B	\$11.7B	\$54.1B
Price/Earnings Ratio	26.3x	26.3x	24.4x
Price/Book Ratio	2.6x	2.6x	2.8x
Yield <sup>3</sup>	1.4%	1.6%	2.0%
Return on Equity	15.0%	14.8%	16.5%
Earnings Growth Rate	9.6%	9.6%	8.2%
Foreign Holdings	0.0%	0.0%	0.0%
Turnover Rate	21%	—	_
Expense Ratio <sup>4</sup>	0.19%	_	_
Short-Term Reserves	0.0%	_	_

### Sector Diversification (% of equity exposure)

	Portfolio	Target Index1	Broad Index <sup>2</sup>
Basic Materials	4.3%	4.3%	2.6%
Consumer Goods	13.3	13.4	9.6
Consumer Services	11.7	11.7	13.1
Financials	22.3	22.2	20.8
Health Care	7.9	7.9	12.2
Industrials	16.6	16.6	12.9
Oil & Gas	5.2	5.2	6.9
Technology	12.3	12.3	16.4
Telecommunications	1.1	1.1	2.4
Utilities	5.3	5.3	3.1

### Ten Largest Holdings<sup>6</sup> (% of total net assets)

Equinix Inc.	Specialty REITs	0.8%
Fiserv Inc.	Financial	
	Administration	0.7
Electronic Arts Inc.	Toys	0.7
M&T Bank Corp.	Banks	0.7
Newell Brands Inc.	Durable Household	
	Products	0.7
Amphenol Corp.	Electrical	
	Components	
	& Equipment	0.6
Edwards Lifesciences	Medical	
Corp.	Supplies	0.6
KeyCorp	Banks	0.6
Western Digital Corp.	Computer Hardware	0.6
Concho Resources Inc.	Exploration	
	& Production	0.6
Top Ten		6.6%

### **Investment Focus**

Style		Value	Blend	Growth
Market Cap	Large			
	Medium			
	Small			

### Volatility Measures

	Portfolio Versus	Portfolio Versus
	Spliced Target Index <sup>5</sup>	Broad Index <sup>2</sup>
R-Squared	1.00	0.94
Beta	1.00	1.04

**30-Day SEC Yield.** A portfolio's 30-day SEC yield is derived using a formula specified by the U.S. Securities and Exchange Commission. Under the formula, data related to the portfolio's security holdings in the previous 30 days are used to calculate the portfolio's hypothetical net income for that period, which is then annualized and divided by the portfolio's estimated average net assets over the calculation period. For the purposes of this calculation, a security's income is based on its current market yield to maturity (for bonds), its actual income (for asset-backed securities), or its projected dividend yield (for stocks). Because the SEC yield represents hypothetical annualized income, it will differ—at times significantly—from the portfolio's actual experience. As a result, the portfolio's income distributions may be higher or lower than implied by the SEC yield.

Beta. A measure of the magnitude of a portfolio's past share-price fluctuations in relation to the ups and downs of a given market index. The index is assigned a beta of 1.00. Compared with a given index, a portfolio with a beta of 1.20 typically would have seen its share price rise or fall by 12% when the index rose or fell by 10%. For this report, beta is based on returns over the past 36 months for both the portfolio and the index.

Equity Exposure. A measure that reflects a portfolio's investments in stocks and stock futures. Any holdings in short-term reserves are excluded.

**R-Squared**. A measure of how much of a portfolio's past returns can be explained by the returns from the market in general, as measured by a given index. If a portfolio's total returns were precisely synchronized with an index's returns, its R-squared would be 1.00. If the portfolio's returns bore no relationship to the index's returns, its R-squared would be 0. For this report, R-squared is based on returns over the past 36 months for both the portfolio and the index.

1 CRSP US Mid Cap Index.

2 Dow Jones U.S. Total Stock Market Float Adjusted Index.

3 30-day SEC yield for the portfolio; annualized dividend yield for the indexes.

4 The expense ratio shown is from the prospectus dated April 29, 2016, and represents estimated costs for the current fiscal year. For the fiscal year ended December 31, 2016, the Mid-Cap Index Portfolio's expense ratio was 0.19%.

5 Spliced Mid-Cap Index: MSCI US Mid Cap 450 Index through January 30, 2013; CRSP US Mid Cap Index thereafter.

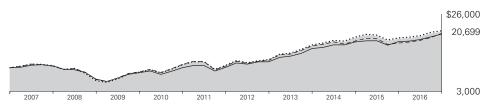
6 The holdings listed exclude any temporary cash investments and equity index products.

### 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.

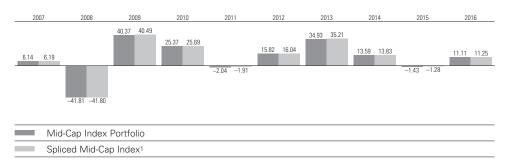
Cumulative Performance: December 31, 2006–December 31, 2016

Initial Investment of \$10,000



	Average Annual Total Returns Periods Ended December 31, 2016			Final Value of a \$10,000
	One Year	Five Years	Ten Years	Investment
Mid-Cap Index Portfolio	11.11%	14.22%	7.55%	\$20,699
 Spliced Mid-Cap Index <sup>1</sup>	11.25	14.42	7.70	20,995
 Variable Insurance Mid-Cap Core Funds Average <sup>2</sup>	16.47	13.94	7.28	20,199
 Dow Jones U.S. Total Stock Market Float Adjusted Index	12.62	14.59	7.18	20,003

### Fiscal Year Total Returns (%): December 31, 2006–December 31, 2016



1 MSCI US Mid Cap 450 Index through January 30, 2013; CRSP US Mid Cap Index thereafter.

2 Derived from data provided by Lipper, a Thomson Reuters Company. See Financial Highlights for dividend and capital gains information.

### **Financial Statements**

### Statement of Net Assets

As of December 31, 2016

The portfolio reports a complete list of its holdings in regulatory filings four times in each fiscal year, at the quarter-ends. For the second and fourth fiscal quarters, the lists appear in the portfolio's semiannual and annual reports to shareholders. For the first and third fiscal quarters, the portfolio files the lists with the Securities and Exchange Commission on Form N-Q. Shareholders can look up the portfolio's Forms N-Q on the SEC's website at sec.gov. Forms N-Q may also be reviewed and copied at the SEC's Public Reference Room (see the back cover of this report for further information).

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		Market	
		Value*	
	Shares	(\$000)	
Common Stocks (99.5%) <sup>1</sup>			
Basic Materials (4.3%)			
Newmont Mining Corp.	241,912	8,242	
Freeport-McMoRan Inc.	558,673	7,369	
Celanese Corp. Class A	65,241	5,137	
Eastman Chemical Co.	63,611	4,784	
Mosaic Co.	159,549	4,680	
Albemarle Corp.	51,314	4,417	
International Flavors	01,011	., ,	
& Fragrances Inc.	32,633	3,845	
Arconic Inc.	199,802	3,704	
FMC Corp.	61,112	3,457	
CF Industries Holdings Inc.			
U	106,330	3,347	
Ashland Global Holdings Inc		3,095	
Avery Dennison Corp.	40,512	2,845	
Axalta Coating Systems Ltd		2,690	
Reliance Steel & Aluminum			
Co.	31,356	2,494	
WR Grace & Co.	31,916	2,159	
Alcoa Corp.	41,467	1,164	
Westlake Chemical Corp.	17,702	991	
	_	64,420	
Consumer Goods (13.3%)		- ,,	
Electronic Arts Inc.	130,602	10,286	
Newell Brands Inc.	219,831	9,816	
Conagra Brands Inc.	199,535	7,892	
Molson Coors Brewing Co.	100,000	7,002	
Class B	79,574	7,743	
Dr Pepper Snapple Group	79,574	7,743	
Inc.	02 600	7,589	
	83,698		
Clorox Co.	58,697	7,045	
JM Smucker Co.	50,405	6,455	
Whirlpool Corp.	34,237	6,223	
Genuine Parts Co.	64,451	6,158	
Mohawk Industries Inc.	28,737	5,738	
Church & Dwight Co. Inc.	118,052	5,217	
McCormick & Co. Inc.	52,292	4,880	
Harley-Davidson Inc.	80,710	4,709	
Bunge Ltd.	63,619	4,596	
Snap-on Inc.	26,421	4,525	
DR Horton Inc.	164,732	4,502	
WhiteWave Foods Co.			
Class A	80,727	4,488	
Coach Inc.	127,939	4,481	
Mattel Inc.	155,985	4,297	
Lear Corp.	32,031	4,240	
Hormel Foods Corp.	120,608	4,198	
Delphi Automotive plc	61,710	4,156	
Tyson Foods Inc. Class A	66,206	4,084	
LKQ Corp.	133,129	4,084	
Hasbro Inc.	51,269	3,988	
BorgWarner Inc.	97,182	3,833	
Lennar Corp. Class A	89,087	3,825	
Coty Inc. Class A	204,032	3,736	
	172,415	3,719	
Hanesbrands Inc.	172,110		
Harman International			
	31,827 147,822	3,538 3,437	

		Shares	Market Value• (\$000)
	PVH Corp.	36,547	3,298
*	Michael Kors Holdings Ltd.	71,155	3,058
*	Lululemon Athletica Inc.	43,578	2,832
*	NVR Inc.	1,643	2,742
*	WABCO Holdings Inc.	23,912	2,538
*	Lamb Weston Holdings Inc.	66,645	2,523
	PulteGroup Inc.	135,823	2,497
*,^	Under Armour Inc. Class A	83,970	2,439
	Ralph Lauren Corp. Class A	25,619	2,314
^	Polaris Industries Inc.	27,731	2,285
•	Under Armour Inc.	85,391	2,149
	Ingredion Inc.	16,508	2,063
•	Edgewell Personal Care Co.	26,375	1,925
	Goodyear Tire & Rubber Co.	59,510	1,837
^	Pilgrim's Pride Corp.	22,822	433
	Lennar Corp. Class B	4,820	166
		1,020	
<u></u>	nsumer Services (11.7%)		198,573
50 F	Dollar Tree Inc.	102,198	7 000
	Ulta Salon Cosmetics &	102,196	7,888
	Fragrance Inc.	27.010	6 006
	0	27,010	6,886
	Nielsen Holdings plc Royal Caribbean Cruises	163,148	6,844
	Ltd.	78,223	6,417
t .	MGM Resorts International	222,086	6,403
	Expedia Inc.	56,318	6,380
	Ross Stores Inc.	90,376	5,929
	CarMax Inc.	86,714	5,584
	Advance Auto Parts Inc.	31,944	5,402
	Best Buy Co. Inc.	123,131	5,254
	Macy's Inc.	140,568	5,034
	Alaska Air Group Inc.	56,274	4,993
•	Chipotle Mexican Grill Inc. Class A	13,201	4,981
*	United Continental Holdings		
	Inc.	62,500	4,555
	Tractor Supply Co.	59,869	4,539
	Whole Foods Market Inc.	145,230	4,467
	Tiffany & Co.	57,031	4,416
	Foot Locker Inc. Interpublic Group of Cos.	60,747	4,306
	Inc.	180,873	4,234
	Darden Restaurants Inc.	56,186	4,086
	Kohl's Corp.	81,846	4,042
	Aramark	111,687	3,989
	Liberty Interactive Corp. QVC Group Class A	180 120	3,785
		189,438	
	Wyndham Worldwide Corp.	49,095	3,749
	Signet Jewelers Ltd.	34,495	3,251
	Wynn Resorts Ltd. Norwegian Cruise Line	37,042	3,204
	Holdings Ltd. FactSet Research Systems	72,544	3,085
	Inc. AmerisourceBergen Corp.	18,155	2,967
	Class A	37,658	2,944
	Liberty Media Corp-Liberty SiriusXM Class C	81,425	2,762

		Shares	Market Value• (\$000)
*	Discovery Communications		
	Inc.	101,576	2,720
	Staples Inc.	296,729	2,685
	Bed Bath & Beyond Inc.	66,043	2,684
	Nordstrom Inc.	55,509	2,661
	Scripps Networks		
	Interactive Inc. Class A	36,987	2,640
	News Corp. Class A	228,753	2,622
*	TripAdvisor Inc.	51,658	2,395
	H&R Block Inc.	100,135	2,302
	Gap Inc.	100,124	2,247
	Rite Aid Corp.	240,249	, 1,980
	Discovery Communications	,	.,
	Inc. Class A	69,092	1,894
	Williams-Sonoma Inc.	36,386	1,761
	AutoNation Inc.	32,271	1,570
	Liberty Media Corp-Liberty	02,271	1,070
	SiriusXM Class A	39,653	1,369
	Hyatt Hotels Corp. Class A	12,230	676
	Hyatt Hotels Colp. Class A	12,230 -	
	: 1 (00 40()		174,582
-Ir	nancials (22.1%)	20 522	11 620
	Equinix Inc.	32,533	11,628
	M&T Bank Corp.	63,524	9,937
	KeyCorp	492,614	9,000
	Citizens Financial Group Inc.	233,286	8,312
	Hartford Financial Services	470 404	0.000
	Group Inc.	172,131	8,202
	Regions Financial Corp.	561,098	8,057
	Principal Financial Group		7 500
	Inc.	131,105	7,586
	Willis Towers Watson plc	59,239	7,244
	Digital Realty Trust Inc.	72,424	7,116
	Moody's Corp.	74,080	6,984
	Essex Property Trust Inc.	29,866	6,944
	Lincoln National Corp.	104,096	6,898
	Realty Income Corp.	117,846	6,774
	Huntington Bancshares Inc.	494,418	6,536
	First Republic Bank	70,086	6,458
	Equifax Inc.	54,617	6,457
	Host Hotels & Resorts Inc.	337,715	6,363
	IHS Markit Ltd.	163,714	5,797
	Invesco Ltd.	186,507	5,659
	AvalonBay Communities Inc.	31,302	5,545
	Markel Corp.	6,063	5,484
	Cincinnati Financial Corp.	71,377	5,407
	Comerica Inc.	78,487	5,346
	Mid-America Apartment	-, -	-,
	Communities Inc.	51,816	5,074
	SL Green Realty Corp.	46,265	4,976
	Liberty Broadband Corp.	66,315	4,912
	Western Union Co.	220,888	4,798
	Federal Realty Investment	,000	.,, 00
	Trust	32,758	4,655
	Unum Group	105,785	4,647
	Annaly Capital Management	100,700	-,047
	Inc.	465,127	4,637
	Kimco Realty Corp.		
ŀ	Arch Capital Group Ltd.	183,974 53.043	4,629 4,577
	Alon Capital Gloup Ltu.	53,043	4,077

		Shares	Market Value• (\$000)
	XL Group Ltd.	122,638	4,569
	UDR Inc.	122,022	4,451
	Macerich Co.	62,354	4,417
*	E*TRADE Financial Corp.	124,931	4,329
	Duke Realty Corp.	161,575	4,291
	Extra Space Storage Inc.	54,498	4,209
*	CBRE Group Inc. Class A	130,641	4,114
	Raymond James Financial		
	Inc.	58,322	4,040
	FNF Group Alexandria Real Estate	118,757	4,033
	Equities Inc.	36,191	4,022
	Zions Bancorporation	92,793	3,994
	CIT Group Inc.	92,102	3,931
	Ally Financial Inc.	204,085	3,882
	Torchmark Corp.	51,402	3,791
	VEREIT Inc.	444,323	3,759
	Iron Mountain Inc.	114,212	3,710
	Reinsurance Group of America Inc. Class A	29,324	3,690
*	Affiliated Managers Group		
	Inc.	24,951	3,625
	Nasdaq Inc.	52,756	3,541
	Voya Financial Inc.	88,814	3,483
	Brixmor Property Group Inc.	138,852	3,391
	MSCI Inc. Class A New York Community	42,813	3,373
	Bancorp Inc.	211,013	3,357
	Camden Property Trust	39,819	3,348
	SEI Investments Co.	65,608	3,238
	Everest Re Group Ltd.	14,700	3,181
	WR Berkley Corp.	41,421	2,755
	People's United Financial		
	Inc.	142,117	2,751
	AGNC Investment Corp.	151,015	2,738
	Axis Capital Holdings Ltd.	40,292	2,630
	Lazard Ltd. Class A	59,284	2,436
	Arthur J Gallagher & Co.	40,519	2,105
	Jones Lang LaSalle Inc.	20,550	2,076
*	Alleghany Corp.	3,341	2,032
	Assurant Inc.	13,064	1,213
*	Navient Corp. Liberty Broadband Corp.	68,823	1,131
	Class A Athene Holding Ltd.	11,412	827
	Class A	10,836	520
-	Santander Consumer USA Holdings Inc.	24,438	330
		-	329,952
He	alth Care (7.8%)		-
*	Edwards Lifesciences Corp.	97,420	9,128
	CR Bard Inc.	33,512	7,529
*	Incyte Corp.	73,017	7,321
*	BioMarin Pharmaceutical	78,310	6 107
		,	6,487
*	Dentsply Sirona Inc. Laboratory Corp. of America	105,241	6,076
	Holdings	46,857	6,016
	Quest Diagnostics Inc.	63,274	5,815
*	Henry Schein Inc.	36,688	5,566
	Perrigo Co. plc	62,166	5,174
*	Quintiles IMS Holdings Inc.	67,396	5,126
*	Hologic Inc.	126,879	5,090
*	IDEXX Laboratories Inc.	40,942	4,801
*	Waters Corp.	34,924	4,693
*	DaVita Inc.	71,961	4,620
	Universal Health Services		
	Inc. Class B	40,776	4,338
~	Centene Corp.	74,043	4,184
	ResMed Inc.	64,358	3,993

		Shares	Market Value• (\$000)
	Cooper Cos. Inc.	22,233	3,889
*	Alkermes plc	69,342	3,854
*	Varian Medical Systems Inc.	42,525	3,818
*	Jazz Pharmaceuticals plc	25,927	2,827
	Mallinckrodt plc	49,012	2,442
	Envision Healthcare Corp.	26,790	1,696
	Seattle Genetics Inc. Patterson Cos. Inc.	20,900 19,108	1,103 784
*	Alnylam Pharmaceuticals Inc		618
		. 10,007	116,988
Ind	ustrials (16.5%)		110,500
*	Fiserv Inc.	98,950	10,516
	Amphenol Corp. Class A	140,688	9,454
	Roper Technologies Inc.	46,214	8,461
	Vulcan Materials Co.	60,290	7,545
	Martin Marietta Materials	~~ ~~~	0.407
	Inc.	28,923	6,407
	Waste Connections Inc. Fastenal Co.	79,765	6,269 6 190
*	FleetCor Technologies Inc.	131,747 42,272	6,190 5,982
	Ball Corp.	79,629	5,978
	WestRock Co.	114,635	5,820
	TransDigm Group Inc.	23,100	5,751
	Alliance Data Systems Corp.	25,004	5,713
*	Verisk Analytics Inc. Class A	68,669	5,574
	Rockwell Collins Inc.	59,440	5,514
^	Textron Inc.	110,955	5,388
~	WW Grainger Inc.	23,095	5,364
	Dover Corp. AMETEK Inc.	70,863 105,496	5,310 5,127
*	Mettler-Toledo International	100,400	0,127
	Inc.	11,958	5,005
	Global Payments Inc.	70,111	4,866
	L-3 Communications		
	Holdings Inc.	31,754	4,830
	CH Robinson Worldwide	04 570	4 700
	Inc. Magaa Corp	64,570	4,730
	Masco Corp. Acuity Brands Inc.	149,593 20,132	4,730 4,648
	Cintas Corp.	38,251	4,420
	Expeditors International of		.,
	Washington Inc.	82,292	4,358
*	Vantiv Inc. Class A	72,251	4,308
	Pentair plc	74,655	4,186
	Kansas City Southern	49,131	4,169
*	United Rentals Inc.	38,414	4,056
	Xylem Inc.	81,840	4,053
	Sealed Air Corp. JB Hunt Transport Services	88,131	3,996
	Inc.	40,824	3,963
	Fortune Brands Home &	10,021	0,000
	Security Inc.	70,438	3,766
	Total System Services Inc.	75,500	3,702
*	Trimble Inc.	114,370	3,448
	Xerox Corp.	393,016	3,431
*	Crown Holdings Inc.	63,769	3,352
	Fluor Corp.	63,520	3,336
*	Wabtec Corp.	38,486	3,195
	Jacobs Engineering Group Inc.	55,088	3,140
*	Sensata Technologies	55,000	0,140
	Holding NV	77,981	3,037
*	Stericycle Inc.	38,880	2,995
	Hubbell Inc. Class B	25,250	2,947
*	Arrow Electronics Inc.	40,884	2,915
	Macquarie Infrastructure		
	Corp.	35,535	2,903
	Flowserve Corp.	59,606	2,864
	B/E Aerospace Inc.	46,361	2,791
	Avnet Inc.	58,348	2,778

		Charac	Market Value•
		Shares	(\$000)
	Robert Half International Inc.	55,945	2,729
	ManpowerGroup Inc.	30,613	2,721
	Owens Corning First Data Corp. Class A	51,634	2,662
	Allison Transmission	163,136	2,315
	Holdings Inc.	67 717	2 201
	FLIR Systems Inc.	67,717 30,867	2,281 1,117
	Fidelity National Information	30,007	1,117
	Services Inc.	2,090	158
ויר	8. Coo (F 20/)		247,264
, , ,	& Gas (5.2%) Concho Resources Inc.	66,567	8,827
	Marathon Oil Corp.	386,710	6,694
	National Oilwell Varco Inc.	172,395	6,454
	Cimarex Energy Co.	43,279	5,882
	Devon Energy Corp.	113,311	5,175
	EQT Corp.	78,780	5,152
	Cabot Oil & Gas Corp.	211,905	4,950
	Tesoro Corp.	53,247	4,656
	Range Resources Corp.	112,725	3,873
	Cheniere Energy Inc.	91,124	3,775
	FMC Technologies Inc.	103,005	3,660
	Helmerich & Payne Inc.	46,778	3,621
	OGE Energy Corp.	91,134	3,048
	HollyFrontier Corp.	80,605	2,641
	Core Laboratories NV	20,067	2,409
	Antero Resources Corp.	100,364	2,373
	Energen Corp.	22,155	1,278
	Murphy Oil Corp.	37,352	1,163
	Weatherford International		.,
	plc	222,796	1,112
	Continental Resources Inc.	21,415	1,104
Γα	abbalagy (12.2%)		77,847
re	chnology (12.3%) Western Digital Corp.	130,067	8,838
	Lam Research Corp.	74,270	7,853
	Autodesk Inc.	96,042	7,108
	Xilinx Inc.	115,072	6,947
	Linear Technology Corp.	109,514	6,828
	Symantec Corp.	284,121	6,788
	Cerner Corp.	139,243	6,596
	Microchip Technology Inc.	98,605	6,326
	Skyworks Solutions Inc.		0,020
			6 320
		84,652 75,631	6,320 6,269
	Motorola Solutions Inc.	75,631	6,269
	Motorola Solutions Inc. Citrix Systems Inc.	75,631 67,574	6,269 6,035
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp.	75,631 67,574 56,676	6,269 6,035 5,808
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc.	75,631 67,574 56,676 81,826	6,269 6,035 5,808 5,703
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc.	75,631 67,574 56,676 81,826 71,236	6,269 6,035 5,808 5,703 5,605
e e	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V	75,631 67,574 56,676 81,826 71,236	6,269 6,035 5,808 5,703 5,605 5,596
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918	6,269 6,035 5,808 5,703 5,605 5,596 5,346
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V	75,631 67,574 56,676 81,826 71,236	6,269 6,035 5,808 5,703 5,605 5,596
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918	6,269 6,035 5,808 5,703 5,605 5,596 5,346
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,652
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. NetApp Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598 127,227	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,652 4,487
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. NetApp Inc. F5 Networks Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598 127,227 29,784	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,968 4,652 4,487 4,310
* * * * * *	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. NetApp Inc. F5 Networks Inc. Twitter Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598 127,227 29,784 261,080	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,652 4,487 4,310 4,256
* * * * * * * *	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. Juniper Networks Inc. F5 Networks Inc. Twitter Inc. CDK Global Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598 127,227 29,784 261,080 68,266	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,968 4,652 4,487 4,310 4,256 4,075
* * * * * * *	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. NetApp Inc. F5 Networks Inc. Twitter Inc. CDK Global Inc. Synopsys Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598 127,227 29,784 261,080 68,266 69,087	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,652 4,487 4,310 4,256 4,075 4,066
* * * * * * * * *	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. Juniper Networks Inc. NetApp Inc. F5 Networks Inc. Twitter Inc. CDK Global Inc. Synopsys Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,588 127,227 29,784 261,080 68,266 69,087 55,729	6,269 6,035 5,808 5,703 5,605 5,596 5,596 5,546 5,202 5,132 5,001 4,988 4,968 4,652 4,487 4,310 4,256 4,075 4,066 3,683
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. Juniper Networks Inc. NetApp Inc. F5 Networks Inc. Twitter Inc. CDK Global Inc. Synopsys Inc. Workday Inc. Class A ANSYS Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598 127,227 29,784 261,080 68,266 69,087 55,729 39,441	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,652 4,487 4,310 4,256 4,075 4,066 3,683 3,648
* * * * * * * * * * * *	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. Juniper Networks Inc. Synopsys Inc. Twitter Inc. CDK Global Inc. Synopsys Inc. Workday Inc. Class A ANSYS Inc. Gartner Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598 127,227 29,784 261,080 68,266 69,087 55,729 39,441 35,857	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,968 4,652 4,487 4,310 4,256 4,075 4,065 3,683 3,648 3,624
	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. Juniper Networks Inc. Synopsys Inc. Twitter Inc. CDK Global Inc. Synopsys Inc. Workday Inc. Class A ANSYS Inc. Gartner Inc. Splunk Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598 127,227 29,784 261,080 68,266 69,087 55,729 39,441 35,857 61,485	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,968 4,968 4,968 4,968 4,968 4,965 4,487 4,310 4,256 4,075 4,066 3,683 3,648 3,648 3,648
•	Motorola Solutions Inc. Citrix Systems Inc. Harris Corp. Red Hat Inc. KLA-Tencor Corp. Dell Technologies Inc. Class V ServiceNow Inc. Micron Technology Inc. Seagate Technology plc Akamai Technologies Inc. Maxim Integrated Products Inc. Palo Alto Networks Inc. Juniper Networks Inc. Juniper Networks Inc. Synopsys Inc. Twitter Inc. CDK Global Inc. Synopsys Inc. Workday Inc. Class A ANSYS Inc. Gartner Inc.	75,631 67,574 56,676 81,826 71,236 101,799 71,918 237,295 134,462 75,006 129,322 39,732 164,598 127,227 29,784 261,080 68,266 69,087 55,729 39,441 35,857	6,269 6,035 5,808 5,703 5,605 5,596 5,346 5,202 5,132 5,001 4,988 4,968 4,652 4,487 4,310 4,256 4,075 4,063 3,683 3,648 3,624

	Shares	Market Value• (\$000)
Marvell Technology Group		
Ltd.	175,195	2,430
Garmin Ltd.	47,250	2,291
Computer Sciences Corp.	32,079	1,906
* Nuance Communications	,	.,
Inc.	65,437	975
* Premier Inc. Class A	22,832	693
		183,655
Telecommunications (1.1%) * Level 3 Communications		,
Inc.	131,182	7,393
* SBA Communications Corp.	101,102	7,000
Class A	56,551	5,839
* Zayo Group Holdings Inc.	66,680	2,191
Frontier Communications	00,000	2,101
Corp.	266,409	901
co.p.	200,100	16,324
Utilities (5.2%)		10,524
WEC Energy Group Inc.	143,872	8,438
DTE Energy Co.	81,726	8,051
Eversource Energy	144,455	7,978
Entergy Corp.	81,595	5,995
American Water Works		-,
Co. Inc.	81,069	5,866
Ameren Corp.	110,574	5,801
ONEOK Inc.	95,955	5,509
CMS Energy Corp.	127,510	5,307
CenterPoint Energy Inc.	186,416	4,593
SCANA Corp.	58,730	4,304
Pinnacle West Capital Corp.	50,769	3,961
Alliant Energy Corp.	103,746	3,931
AES Corp.	300,702	3,494
NiSource Inc.	147,249	3,260
Avangrid Inc.	28,216	1,069
* Calpine Corp.	81,467	931
		78,488
Total Common Stocks		
(Cost \$1,203,406)		1,488,093

	Shares	Market Value• (\$000)
Temporary Cash Investments		
Money Market Fund (0.6%) <sup>2.3</sup> Vanguard Market Liquidity Fund, 0.823%	81,075	8,108
_	Face Amount (\$000)	
U.S. Government and Agency <sup>4,5</sup> Federal Home Loan Bank Discount Notes, 0.481%,	Obligation	s (0.0%)
2/17/17 5 United States Treasury Bill,	200	200
0.618%, 5/25/17	100 _	100
		300
Total Temporary Cash Investn (Cost \$8,408)	nents	8,408
Total Investments (100.1%) (Cost \$1,211,814)		1,496,501
		Amount (\$000)
Other Assets and Liabilities (-(	D.1%)	
Other Assets		
Investment in Vanguard		112
Receivables for Investment Sec		,
Receivables for Accrued Incom		1,876
Receivables for Capital Shares	Issued	1,887
Other Assets <sup>5</sup>		19
Total Other Assets		5,306
Liabilities Payables for Investment Securi	ties	(550)
Purchased Collateral for Securities on Loar	-	(559)
Payables for Capital Shares Rec		(2,261) (2,406)
Payables for Capital Shares Rec Payables to Vanguard	ueenneu	(2,406) (1,300)
Other Liabilities		(1,300) (33)
Total Liabilities		(6,559)
Net Assets (100%)		
	anding	
Applicable to 70,839,182 outst \$.001 par value shares of bene		
•••		1,495,248

At December 31, 2016, net assets consisted of:				
	Amount			
	(\$000)			
Paid-in Capital	1,122,027			
Undistributed Net Investment Income	18,025			
Accumulated Net Realized Gains	70,611			
Unrealized Appreciation (Depreciation)				
Investment Securities	284,687			
Futures Contracts	(102)			
Net Assets 1,495,2				

• See Note A in Notes to Financial Statements.

\* Non-income-producing security.

^ Includes partial security positions on loan to broker-dealers. The total value of securities on loan is \$2,190,000.

1 The portfolio invests a portion of its cash reserves in equity markets through the use of index futures contracts. After giving effect to future investments, the portfolio's effective common stock and temporary cash investment positions represent 100.0% and 0.1%, respectively, of net assets.

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

3 Includes \$2,261,000 of collateral received for securities on loan.

4 The issuer operates under a congressional charter, its securities are generally neither guaranteed by the U.S. Treasury nor backed by the full faith and credit of the U.S. government.

5 Securities with a value of \$300,000 and cash of \$17,000 have been segregated as initial margin for open futures contracts.

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

### Statement of Operations

### Year Ended December 31, 2016 (\$000)

	(2000)
Investment Income	
Income	
Dividends	21,965
Interest <sup>1</sup>	21
Securities Lending—Net	189
Total Income	22,175
Expenses	
The Vanguard Group—Note B	
Investment Advisory Services	206
Management and Administrative	2,021
Marketing and Distribution	282
Custodian Fees	67
Auditing Fees	35
Shareholders' Reports	30
Trustees' Fees and Expenses	1
Total Expenses	2,642
Net Investment Income	19,533
Realized Net Gain (Loss)	
Investment Securities Sold <sup>1</sup>	69,643
Futures Contracts	1,022
Realized Net Gain (Loss)	70,665
Change in Unrealized Appreciation (Depreciation)	
Investment Securities	57,800
Futures Contracts	(102)
Change in Unrealized Appreciation (Depreciation)	57,698
Net Increase (Decrease) in Net Assets Resulting from Operations	147,896
1 Interact income and realized not gain (less) from an	offiliated

 Interest income and realized net gain (loss) from an affiliated company of the portfolio were \$20,000 and \$1,000, respectively.

### Statement of Changes in Net Assets

	Year Ended December	
	2016	2015
	(\$000)	(\$000
Increase (Decrease) in Net Assets		
Operations		
Net Investment Income	19,533	19,073
Realized Net Gain (Loss)	70,665	94,508
Change in Unrealized Appreciation (Depreciation)	57,698	(135,451
Net Increase (Decrease) in Net Assets Resulting from Operations	147,896	(21,870
Distributions		
Net Investment Income	(18,997)	(16,326
Realized Capital Gain <sup>1</sup>	(94,466)	(73,163
Total Distributions	(113,463)	(89,489
Capital Share Transactions		
Issued	179,071	225,446
Issued in Lieu of Cash Distributions	113,463	89,489
Redeemed	(195,109)	(203,732
Net Increase (Decrease) from Capital Share Transactions	97,425	111,203
Total Increase (Decrease)	131,858	(156
Net Assets		
Beginning of Period	1,363,390	1,363,546
End of Period <sup>2</sup>	1,495,248	1,363,390

1 Includes fiscal 2016 and 2015 short-term gain distributions totaling \$0 and \$2,315,000, respectively. Short-term gain distributions are treated as ordinary income for tax purposes.

2 Net Assets—End of Period includes undistributed (overdistributed) net investment income of \$18,025,000 and \$17,489,000.

## Financial Highlights

For a Share Outstanding			Year Ended December 31,		
Throughout Each Period	2016	2015	2014	2013	2012
Net Asset Value, Beginning of Period	\$20.76	\$22.49	\$20.77	\$16.13	\$14.49
Investment Operations					
Net Investment Income	.280	.291	.266	.203	.205
Net Realized and Unrealized Gain (Loss) on Investments	1.814	(.552)	2.446	5.262	2.071
Total from Investment Operations	2.094	(.261)	2.712	5.465	2.276
Distributions					
Dividends from Net Investment Income	(.292)	(.268)	(.200)	(.200)	(.178)
Distributions from Realized Capital Gains	(1.452)	(1.201)	(.792)	(.625)	(.458)
Total Distributions	(1.744)	(1.469)	(.992)	(.825)	(.636)
Net Asset Value, End of Period	\$21.11	\$20.76	\$22.49	\$20.77	\$16.13
Total Return	11.11%	-1.43%	13.59%	34.93%	15.82%
Ratios/Supplemental Data					
Net Assets, End of Period (Millions)	\$1,495	\$1,363	\$1,364	\$1,172	\$820
Ratio of Total Expenses to Average Net Assets	0.19%	0.19%	0.24%	0.25%	0.26%
Ratio of Net Investment Income to Average Net Assets	1.40%	1.35%	1.29%	1.15%	1.30%
Portfolio Turnover Rate	21%	23%	16%	35%	23%

## Notes to Financial Statements

Vanguard 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 materially 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 board of trustees to represent fair value. Investments in Vanguard Market Liquidity Fund are valued at that fund's net asset value. Temporary cash investments are valued using the latest bid prices or using valuations based on a matrix system (which considers such factors as security prices, yields, maturities, and ratings), both as furnished by independent pricing services.

2. Futures Contracts: The portfolio uses index futures contracts to a limited extent, with the objectives of maintaining full exposure to the stock market, enhancing returns, 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 portfolio may seek to enhance returns by using futures contracts instead of the underlying securities when futures are believed to be priced more attractively than the underlying securities. 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.

Futures contracts are valued at their quoted daily settlement prices. The aggregate settlement values of the contracts are not recorded in the Statement of Net Assets. Fluctuations in the value of the contracts are recorded in the Statement of Net Assets 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 futures gains (losses).

During the year ended December 31, 2016, 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 aggregate settlement values 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 all of its taxable income. Management has analyzed the portfolio's tax positions taken for all open federal income tax years (December 31, 2013–2016), and has concluded that no provision for federal income tax is required in the portfolio's financial statements.

4. Distributions: Distributions to shareholders are recorded on the ex-dividend date.

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 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 absence 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 Net Assets for the return of the collateral, during the period the securities are on loan. 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 Facility: The portfolio and certain other funds managed by The Vanguard Group ("Vanguard") participate in a \$3.1 billion committed credit facility provided by a syndicate of lenders pursuant to a credit agreement that may be renewed annually; each fund is individually liable for its borrowings, if any, under the credit facility. Borrowings may be utilized for temporary and emergency purposes, and are subject to the portfolio's regulatory and contractual borrowing restrictions. The participating funds are charged administrative fees and an annual commitment fee of 0.10% of the undrawn amount of the facility; these fees 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 this facility bear interest at a rate based upon the higher of the one-month London Interbank Offered Rate, federal funds effective rate, or overnight bank funding rate plus an agreed-upon spread.

The portfolio had no borrowings outstanding at December 31, 2016, or at any time during the period then ended.

7. Other: Dividend income is recorded on the ex-dividend date. Interest income includes income distributions received from Vanguard Market Liquidity Fund and is accrued daily. Premiums and discounts on debt securities purchased are amortized and accreted, respectively, to interest income over the lives of the respective securities. 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. Vanguard does not require reimbursement in the current period for certain costs of operations (such as deferred compensation/benefits and risk/insurance costs); the portfolio's liability for these costs of operations is included in Payables to Vanguard on the Statement of Net Assets.

Upon the request of Vanguard, the portfolio may invest up to 0.40% of its net assets as capital in Vanguard. At December 31, 2016, the portfolio had contributed to Vanguard capital in the amount of \$112,000, representing 0.01% of the portfolio's net assets and 0.04% of Vanguard's capitalization. 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. 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).

The following table summarizes the market value of the portfolio's investments as of December 31, 2016, based on the inputs used to value them:

Investments	Level 1 (\$000)	Level 2 (\$000)	Level 3 (\$000)
Common Stocks	1,488,093	—	_
Temporary Cash Investments	8,108	300	_
Futures Contracts—Liabilities <sup>1</sup>	(24)	_	_
Total	1,496,177	300	_

1 Represents variation margin on the last day of the reporting period.

**D.** At December 31, 2016, the aggregate settlement value of open futures contracts and the related unrealized appreciation (depreciation) were:

				(\$000)
Futures Contracts	Expiration	Number of Long (Short) Contracts	Aggregate Settlement Value Long (Short)	Unrealized Appreciation (Depreciation)
E-mini S&P Mid-Cap 400 Index	March 2017	29	4,811	(92)
E-mini S&P 500 Index	March 2017	17	1,901	(10)
				(102)

Unrealized appreciation (depreciation) on open futures contracts is required to be treated as realized gain (loss) for tax purposes.

E. Distributions are determined on a tax basis and may differ from net investment income and realized capital gains for financial reporting purposes. Differences may be permanent or temporary. Permanent differences are reclassified among capital accounts in the financial statements to reflect their tax character. Temporary differences arise when certain items of income, expense, gain, or loss are recognized in different periods for financial statement and tax purposes. These differences will reverse at some time in the future. Differences in classification may also result from the treatment of short-term gains as ordinary income for tax purposes.

For tax purposes, at December 31, 2016, the portfolio had \$20,374,000 of ordinary income and \$69,319,000 of long-term capital gains available for distribution.

At December 31, 2016, the cost of investment securities for tax purposes was \$1,211,814,000. Net unrealized appreciation of investment securities for tax purposes was \$284,687,000, consisting of unrealized gains of \$336,642,000 on securities that had risen in value since their purchase and \$51,955,000 in unrealized losses on securities that had fallen in value since their purchase.

F. During the year ended December 31, 2016, the portfolio purchased \$291,091,000 of investment securities and sold \$292,900,000 of investment securities, other than temporary cash investments.

The fund 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, 2016, such purchases and sales were \$19,961,000 and \$46,660,000, respectively; these amounts are included in the purchases and sales of investment securities noted above.

G. Capital shares issued and redeemed were:

	Year Ended De	Year Ended December 31,	
	2016	2015 Shares (000)	
	Shares (000)		
Issued	8,958	10,312	
Issued in Lieu of Cash Distributions	6,032	4,130	
Redeemed	(9,815)	(9,404)	
Net Increase (Decrease) in Shares Outstanding	5,175	5,038	

At December 31, 2016, 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 47% of the portfolio's net assets. If the shareholder were to redeem its investment in the portfolio, the redemption might result in an increase in the portfolio's expense ratio or cause the portfolio to incur higher transaction costs.

**H.** Management has determined that no material events or transactions occurred subsequent to December 31, 2016, 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 the Shareholders of Mid-Cap Index Portfolio:

In our opinion, the accompanying statement of net assets and the related statements of operations and of changes in net assets and the financial highlights present fairly, in all material respects, the financial position of Mid-Cap Index Portfolio (constituting a separate portfolio of Vanguard Variable Insurance Funds, hereafter referred to as the "Portfolio") at December 31, 2016, the results of its operations for the year then ended, the changes in its net assets for each of the two years in the period then ended, and the financial highlights for each of the five years in the period then ended, in conformity with accounting principles generally accepted in the United States of America. These financial statements and financial highlights (hereafter referred to as "financial statements") are the responsibility of the Portfolio's management. Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits, which included confirmation of securities at December 31, 2016 by correspondence with the custodian and brokers and by agreement to the underlying ownership records of the transfer agent, provide a reasonable basis for our opinion.

/s/PricewaterhouseCoopers LLP Philadelphia, Pennsylvania February 13, 2017

Special 2016 tax information (unaudited) for corporate shareholders only for Vanguard Mid-Cap Index Portfolio, a portfolio of Vanguard Variable Insurance Funds

This information for the fiscal year ended December 31, 2016, is included pursuant to provisions of the Internal Revenue Code for corporate shareholders only.

The portfolio distributed \$94,466,000 as capital gain dividends (20% rate gain distributions) to shareholders during the fiscal year.

For corporate shareholders, 82.8% of investment income (dividend income plus short-term gains, if any) qualifies for the dividends-received deduction.

## 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 in the Financial Statements section. For additional information on operating expenses and other shareholder costs, please refer to the prospectus.

### Six Months Ended December 31, 2016

	Beginning	Ending	Expenses
	Account Value	Account Value	Paid During
Mid-Cap Index Portfolio	6/30/2016	12/31/2016	Period <sup>1</sup>
Based on Actual Portfolio Return	\$1,000.00	\$1,073.75	\$0.99
Based on Hypothetical 5% Yearly Return	1,000.00	1,024.18	0.97

<sup>1</sup> 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 0.19%. 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 (184/366).

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## The People Who Govern Your Fund

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

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.

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

#### F. William McNabb III

Born 1957. Trustee Since July 2009. Chairman of the Board. Principal Occupation(s) During the Past Five Years and Other Experience: Chairman of the Board of The Vanguard Group, Inc., and of each of the investment companies served by The Vanguard Group, since January 2010; Director of The Vanguard Group since 2008; Chief Executive Officer and President of The Vanguard Group, and of each of the investment companies served by The Vanguard Group, since 2008; Director of Vanguard Marketing Corporation; Managing Director of The Vanguard Group (1995–2008).

### Independent Trustees

#### Emerson U. Fullwood

Born 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); Executive in Residence and 2009–2010 Distinguished Minett Professor at the Rochester Institute of Technology; Lead Director of SPX FLOW, Inc. (multi-industry manufacturing); Director of the United Way of Rochester, the University of Rochester Medical Center, Monroe Community College Foundation, North Carolina A&T University, and Roberts Wesleyan College.

#### Rajiv L. Gupta

Born 1945. Trustee Since December 2001.<sup>2</sup> Principal Occupation(s) During the Past Five Years and Other Experience: Chairman and Chief Executive Officer (retired 2009) and President (2006–2008) of Rohm and Haas Co. (chemicals); Director of Tyco International plc (diversified manufacturing and services), HP Inc. (printer and personal computer manufacturing), and Delphi Automotive plc (automotive components); Senior Advisor at New Mountain Capital.

#### Amy Gutmann

Born 1949. Trustee Since June 2006. Principal Occupation(s) During the Past Five Years and Other Experience: President of the University of Pennsylvania; Christopher H. Browne Distinguished Professor of Political Science, School of Arts and Sciences, and Professor of Communication, Annenberg School for Communication, with secondary faculty appointments in the Department of Philosophy, School of Arts and Sciences, and at the Graduate School of Education, University of Pennsylvania; Trustee of the National Constitution Center; Chair of the Presidential Commission for the Study of Bioethical Issues.

#### JoAnn Heffernan Heisen

Born 1950. Trustee Since July 1998. Principal Occupation(s) During the Past Five Years and Other Experience: Corporate Vice President and Chief Global Diversity Officer (retired 2008) and

Member of the Executive Committee (1997–2008) of Johnson & Johnson (pharmaceuticals/medical devices/consumer products); Director of Skytop Lodge Corporation (hotels) and the Robert Wood Johnson Foundation; Member of the Advisory Board of the Institute for Women's Leadership at Rutgers University.

#### F. Joseph Loughrey

Born 1949. Trustee Since October 2009. Principal Occupation(s) During the Past Five Years and Other Experience: President and Chief Operating Officer (retired 2009) of Cummins Inc. (industrial machinery); Chairman of the Board of Hillenbrand, Inc. (specialized consumer services), and of Oxfam America; Director of SKF AB (industrial machinery), Hyster-Yale Materials Handling, Inc. (forklift trucks), the Lumina Foundation for Education, and the V Foundation for Cancer Research; Member of the Advisory Council for the College of Arts and Letters and of the Advisory Board to the Kellogg Institute for International Studies, both at the University of Notre Dame.

#### Mark Loughridge

Born 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) at IBM (information technology services); Fiduciary Member of IBM's Retirement Plan Committee (2004–2013); Director of the Dow Chemical Company; Member of the Council on Chicago Booth.

#### Scott C. Malpass

Born 1962. Trustee Since March 2012. Principal Occupation(s) During the Past Five Years and Other Experience: Chief Investment Officer and Vice President at the University of Notre Dame; Assistant Professor of Finance at the Mendoza College of Business at Notre Dame; Member of the Notre Dame 403(b) Investment Committee, the Board of Advisors for Spruceview Capital Partners, and the Investment Advisory Committee of Major League Baseball; Board Member of TIFF Advisory Services, Inc., and Catholic Investment Services, Inc. (investment advisors).

### André F. Perold

Born 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 Managing Partner of HighVista Strategies LLC (private investment firm); Director of Rand Merchant Bank; Overseer of the Museum of Fine Arts Boston.

### Peter F. Volanakis

Born 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); Chairman of the Board of Trustees of Colby-Sawyer College; Member of the Advisory Board of the Norris Cotton Cancer Center.

The independent board members have distinguished backgrounds in business, academia, and public service. Each of the trustees and executive officers oversees 198 Vanguard funds.

The following table provides information for each trustee and executive officer of the fund. 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.

#### Executive Officers

#### Glenn Booraem

Born 1967. Treasurer Since May 2015. Principal Occupation(s) During the Past Five Years and Other Experience: Principal of The Vanguard Group, Inc.; Treasurer of each of the investment companies served by The Vanguard Group; Controller of each of the investment companies served by The Vanguard Group (2010–2015); Assistant Controller of each of the investment companies served by The Vanguard Group (2001–2010).

### Thomas J. Higgins

Born 1957. Chief Financial Officer Since September 2008. Principal Occupation(s) During the Past Five Years and Other Experience: Principal of The Vanguard Group, Inc.; Chief Financial Officer of each of the investment companies served by The Vanguard Group; Treasurer of each of the investment companies served by The Vanguard Group (1998–2008).

### Peter Mahoney

Born 1974. Controller Since May 2015. Principal Occupation(s) During the Past Five Years and Other Experience: Head of Global Fund Accounting at The Vanguard Group, Inc.; Controller of each of the investment companies served by The Vanguard Group; Head of International Fund Services at The Vanguard Group (2008–2014).

### Anne E. Robinson

Born 1970. Secretary Since September 2016. Principal Occupation(s) During the Past Five Years and Other Experience: Managing Director of The Vanguard Group, Inc.; General Counsel of The Vanguard Group; Secretary of The Vanguard Group and of each of the investment companies served by The Vanguard Group; Director and Senior Vice President of Vanguard Marketing Corporation; Managing Director and General Counsel of Global Cards and Consumer Services at Citigroup (2014–2016); Counsel at American Express (2003–2014).

#### Vanguard Senior Management Team

Mortimer J. Buckley	Thomas M. Rampulla
Martha G. King	Glenn W. Reed
John T. Marcante	Karin A. Risi
Chris D. McIsaac	Michael Rollings
James M. Norris	

#### Chairman Emeritus and Senior Advisor

John J. Brennan Chairman, 1996–2009 Chief Executive Officer and President, 1996–2008

### Founder

John C. Bogle Chairman and Chief Executive Officer, 1974–1996

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

2 December 2002 for Vanguard Equity Income Fund, the Vanguard Municipal Bond Funds, and the Vanguard State Tax-Exempt Funds.



P.O. Box 2600 Valley Forge, PA 19482-2600

### **Connect with Vanguard**<sup>®</sup> > vanguard.com

Fund Information > 800-662-7447

Annuity and Insurance Services > 800-522-5555

Institutional Investor Services > 800-523-1036

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

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

You can review and copy information about your portfolio at the SEC's Public Reference Room in Washington, D.C. To find out more about this public service, call the SEC at 202-551-8090. Information about your portfolio is also available on the SEC's website, and you can receive copies of this information, for a fee, by sending a request in either of two ways: via email addressed to publicinfo@sec.gov or via regular mail addressed to the Public Reference Section, Securities and Exchange Commission, Washington, DC 20549-1520.

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