



**Vanguard**<sup>®</sup>



**Annual Report** | January 31, 2018

# Vanguard Precious Metals and Mining Fund

# 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:** Nautical images have been part of Vanguard's rich heritage since its start in 1975. For an incoming ship, a lighthouse offers a beacon and safe path to shore. You can similarly depend on Vanguard to put you first—and light the way—as you strive to meet your financial goals. Our client focus and low costs, stemming from our unique ownership structure, assure that your interests are paramount.

## Your Fund's Performance at a Glance

- For the 12 months ended January 31, 2018, Vanguard Precious Metals and Mining Fund returned -1.56%. That result significantly trailed the return of the benchmark S&P Global Custom Metals and Mining Index (+14.87%) but surpassed the average return of peer funds (-5.20%).
- Keep in mind that these negative returns are indicative of a highly volatile segment of the market. The fund, which invests in companies that are involved in the mining of or exploration for precious and rare metals and minerals, surged about 76% the previous fiscal year after a half decade of negative results.
- The fund's high allocation to and selection in gold-mining stocks notably detracted from performance. The fund was also considerably hurt by having less exposure than the benchmark to diversified metals and mining companies.
- On a more positive note, relative to the benchmark, the fund benefited from its precious metals and minerals and silver holdings.

### Total Returns: Fiscal Year Ended January 31, 2018

	Total Returns
Vanguard Precious Metals and Mining Fund	-1.56%
S&P Global Custom Metals and Mining Index	14.87
Precious Metals Equity Funds Average	-5.20

Precious Metals Equity Funds Average: Derived from data provided by Lipper, a Thomson Reuters Company.

### Total Returns: Ten Years Ended January 31, 2018

	Average Annual Return
Precious Metals and Mining Fund	-6.75%
S&P Global Custom Metals and Mining Index	-1.95
Precious Metals Equity Funds Average	-4.51

Precious Metals Equity Funds Average: Derived from data provided by Lipper, a Thomson Reuters Company.

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 month-end, visit our website at [vanguard.com/performance](http://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 Fund Compared With Its Peer Group

	Fund	Peer Group Average
Precious Metals and Mining Fund	0.43%	1.38%

The fund expense ratio shown is from the prospectus dated May 25, 2017, and represents estimated costs for the current fiscal year. For the fiscal year ended January 31, 2018, the fund's expense ratio was 0.36%. The change from the estimated expense ratio reflects a performance-based investment advisory fee adjustment. The peer-group expense ratio is derived from data provided by Lipper, a Thomson Reuters Company, and captures information through year-end 2017.

Peer group: Precious Metals Equity Funds.

# CEO's Perspective



**Tim Buckley**  
President and Chief Executive Officer

Dear Shareholder,

When you start a new job, it's natural to reflect on both the past and the future. And so it is in my case, having begun my service as just the fourth chief executive in Vanguard's history.

I feel extremely fortunate to have the chance to lead a company filled with people who come to work every day passionate about Vanguard's core purpose: to take a stand for all investors, to treat them fairly, and to give them the best chance for investment success.

## **Making a real difference**

When I joined Vanguard in 1991, I found a mission-driven team focused on improving lives—helping people retire more comfortably, put their children through college, and achieve financial security. I found a company with purpose in an industry ripe for improvement.

It was clear, even early in my career, that the cards were stacked against most investors. Hidden fees, performance-chasing, and poor advice were relentlessly eroding investors' dreams.

We knew Vanguard could be different and, as a result, could make a real difference. Over the past 25 years, for example, Vanguard has lowered our funds' asset-weighted average expense ratio

from 0.31% to 0.12%. And over the past decade, 94% of our funds have beaten the average annual return of their peers.<sup>1</sup>

### Focused on your success

Vanguard is built for Vanguard investors—as a client-owned company, we focus solely on you, our fund shareholders. Everything we do is designed to give our clients the best chance for investment success. In my new role as CEO, I intend to keep this priority front and center. We're proud of what we've achieved, but we're even more excited about what's to come.

As I write this, we've experienced a period of pronounced market volatility. Strong economic growth and budding signs of inflation have raised concerns about a more aggressive Federal Reserve. Although volatility can test investors' nerves, we sometimes think of this as "Vanguard weather"—a time when having a disciplined, low-cost, and long-term approach to investment management serves investors well.

### Market Barometer

	Average Annual Total Returns Periods Ended January 31, 2018		
	One Year	Three Years	Five Years
<b>Stocks</b>			
Russell 1000 Index (Large-caps)	25.84%	14.28%	15.72%
Russell 2000 Index (Small-caps)	17.18	12.12	13.33
Russell 3000 Index (Broad U.S. market)	25.16	14.11	15.53
FTSE All-World ex US Index (International)	29.63	10.20	7.48
<b>Bonds</b>			
Bloomberg Barclays U.S. Aggregate Bond Index (Broad taxable market)	2.15%	1.14%	2.01%
Bloomberg Barclays Municipal Bond Index (Broad tax-exempt market)	3.52	1.97	2.69
Citigroup Three-Month U.S. Treasury Bill Index	0.91	0.41	0.25
<b>CPI</b>			
Consumer Price Index	2.07%	1.98%	1.48%

*The performance data shown represent past performance, which is not a guarantee of future results.*

<sup>1</sup> For the ten-year period through December 31, 2017, 9 of 9 Vanguard money market funds, 56 of 60 bond funds, 21 of 22 balanced funds, and 131 of 140 stock funds, or 217 of 231 Vanguard funds, outperformed their peer-group averages. Sources: Vanguard, based on data from Lipper, a Thomson Reuters Company.

### **Steady, time-tested guidance**

Our guidance for investors, as always, is to stay the course, tune out the hyperbolic headlines, and focus on your goals and what you can control, such as costs and how much you save. This time-tested advice has served our clients well over the decades.

Regardless of how the markets perform in the short term, I'm incredibly optimistic about the future for our investors. We have a dedicated team serving you, and we will never stop striving to make Vanguard the best place for you to invest through our high-quality funds and services, advice and

guidance to help you meet your financial goals, and an experience that makes you feel good about entrusting us with your hard-earned savings.

Thank you for your continued loyalty.

Sincerely,

A handwritten signature in black ink, appearing to read "Mortimer J. Buckley". The signature is fluid and cursive, with a long horizontal stroke at the end.

Mortimer J. Buckley  
President and Chief Executive Officer  
February 15, 2018

# Advisor's Report

Vanguard Precious Metals and Mining Fund returned -1.56% for the fiscal year ended January 31, 2018. The fund lagged its customized benchmark, which returned 14.87%, but exceeded the average return of -5.20% for the precious metals-oriented funds peer group.

## Market environment

Stock markets maintained a generally upward trend during the fiscal year, thanks to ongoing global economic growth that has helped drive up earnings. The Federal Reserve and the European Central Bank both took steps to start scaling back supportive measures for their economies.

Late in 2017, President Trump signed a major tax bill into law. Investors broadly welcomed the move, expecting lower taxes to provide a boost for business and economic growth both in the United States and abroad.

In this largely buoyant environment, shares in diversified metals and mining companies were the strongest performers over the 12 months, while gold, precious metals, and silver underperformed the benchmark.

## The fund's performance

Despite the strong returns for diversified metals and miners, the fund's light exposure compared with the benchmark's hurt performance, as did an overweight position in gold producers. A relatively large exposure to precious metals and silver detracted, although stock selection in both categories was positive.

In terms of detractors, the fund's performance was held back by certain stocks that had exposure to heightened geopolitical risk and, therefore, operational uncertainty. Tahoe Resources, Eldorado Gold, and Acacia Mining all came under such pressure during the fiscal year.

A holding in Canadian copper miner Nevsun Resources also detracted. Despite this disappointing performance, Nevsun arguably has one of the best undeveloped copper deposits in its Timok project in Serbia.

Turning to contributors, Dominion Diamond was a significant performer following a cash takeover bid by The Washington Companies. Independence Group, an Australian gold, nickel, cobalt, and zinc producer, also contributed. The company is benefiting from revived industrial production as well as demand for nickel and cobalt because of heightened interest in electric vehicles. The firm has reached an inflection point in the lifecycle of its Nova nickel, copper, and cobalt assets; capital expenditures have come down, and the business has become more productive.

Similarly, KAZ Minerals has reached a capital expenditure cash-flow inflection point. KAZ is also benefiting from a supportive copper environment. Other contributors included IAMGOLD, which has executed on its business plan.



## Portfolio activity

Amid ongoing recovery in global industrial production, we have been slowly increasing our exposure to diversified metals and miners, while trimming our presence in precious metals.

We added to our position in Glencore, which has benefited from a strong zinc market. However, the company is exposed to a difficult political backdrop in the Democratic Republic of the Congo, where it has some promising copper and cobalt assets.

We also increased our exposure to Rio Tinto. The company has a strong cash flow and is deleveraging its balance sheet. We are underweighted in the stock, which has a significant exposure to the iron ore market. We believe that all-time-high inventories in China and slowing demand will lead to lower iron ore prices, thus presenting a better buying opportunity.

We sold our position in BHP Billiton because of our persistent concerns about its management's execution and strategy. Furthermore, we were not able to benefit from its oil exposure. BHP has been under pressure to unlock value, leading to share-price gains. We took advantage of a rally toward the end of the year to sell the stock. We instead recreated similar exposure to iron ore and copper through our positions in Southern Copper and Grupo Mexico and through some new additions to the portfolio, including KAZ

Minerals and Fortescue Metals. In our opinion, these companies offer better opportunities.

We started a new position in Canadian zinc miner Trevali Mining. The company's asset base significantly improved after it bought a portfolio of zinc assets from Glencore. Trevali has a solid management team whose interests are closely aligned with those of the company's shareholders.

Other purchases in the diversified metals space included new positions in U.S.-listed Compass Minerals International, Mexico-based smelting and refining company Industrias Penoles, East Africa-focused Base Resources, Canadian-based Arizona Mining, and Australian mining company Independence Group.

Although we reduced our weighting in precious metals, we started new positions in some promising gold companies. One of those is Evolution Mining, an Australian gold producer. The company is well-run, with a focus on resources-into-reserves conversion, and has the potential for longer-term regional exploration.

Other new positions included Australian gold firms Regis Resources, Northern Star Resources, and Newcrest Mining. These firms' management teams focus on reducing all-in sustaining costs and improving return on invested capital. They also have clean balance sheets and are not overlevered.

We sold our position in Canadian-listed Yamana Gold because of corporate governance concerns. We also sold a number of holdings because of possible geopolitical risk, including Torex Gold Resources (Mexico) and AngloGold Ashanti (Tanzania and South Africa).

Takeover activity resulted in some companies leaving the portfolio. For example, U.S. platinum miner Stillwater Mining was taken over by Sibanye. Elsewhere, Newcastle Gold was acquired in a three-way merger with Trek Mining and Anfield Gold to create Equinox Gold, while Integra Gold was acquired by Canada's Eldorado Gold. And as mentioned earlier, The Washington Companies bought Dominion Diamond.

We sold our holding in Asanko Gold, locking in profits. Similarly, we sold out of Boliden at favorable valuations. We closed our position in First Majestic Silver over concerns about its acquisition strategy, cash flow, and productive ability. Further, we have been reducing Acacia Mining for some time, and we finally exited the position. We also sold some highly illiquid holdings, including Balmoral Resources, Bluestone Resources, and Atalaya Mining.

### **Portfolio positioning and outlook**

Ongoing global growth suggests we are switching from a deflationary to an inflationary backdrop. In this environment,

as copper tends to act as an inflation hedge, we look to increase our exposure to companies that are exposed to copper in the diversified metals and miners sphere. Overall, we expect to increase our weighting in diversified metals and miners relative to precious metals.

We expect one or two more years of stronger global growth and industrial production before rising input costs start to affect margins. In our view, many companies should benefit from strong free cash flow and deleveraging in the short term.

Risks remain, however, as cyclical companies are often tempted to use positive free cash flow for mergers and acquisitions. Indeed, as global growth and industrial production improve over the coming year, it is likely that smaller companies will pique the interest of larger, cyclical companies. Though we do hold some firms that could be interesting potential targets, holdings in the portfolio need to be compelling assets in their own right.

Jamie J. Horvat  
Portfolio Manager

M&G Investment Management Limited

February 21, 2018

## Results of Proxy Voting

At a special meeting of shareholders on November 15, 2017, fund shareholders approved the following proposals:

### Proposal 1—Elect trustees for the fund.\*

The individuals listed in the table below were elected as trustees for the fund. All trustees with the exception of Ms. Mulligan, Ms. Raskin, and Mr. Buckley (each of whom already serves as a director of The Vanguard Group, Inc.) served as trustees to the funds prior to the shareholder meeting.

Trustee	For	Withheld	Percentage For
Mortimer J. Buckley	2,503,465,695	87,490,567	96.6%
Emerson U. Fullwood	2,500,061,682	90,894,579	96.5%
Amy Gutmann	2,498,574,662	92,381,600	96.4%
JoAnn Heffernan Heisen	2,502,785,690	88,170,572	96.6%
F. Joseph Loughrey	2,501,562,489	89,393,773	96.6%
Mark Loughridge	2,503,584,454	87,371,807	96.6%
Scott C. Malpass	2,499,755,273	91,200,989	96.5%
F. William McNabb III	2,498,986,712	91,969,550	96.5%
Deanna Mulligan	2,503,553,783	87,402,478	96.6%
André F. Perold	2,453,401,594	137,554,668	94.7%
Sarah Bloom Raskin	2,500,665,258	90,291,004	96.5%
Peter F. Volanakis	2,501,344,074	89,612,188	96.5%

\* Results are for all funds within the same trust.

### Proposal 3—Approve a manager-of-managers arrangement with wholly owned subsidiaries of Vanguard.

This arrangement enables Vanguard or the fund to enter into and materially amend investment advisory arrangements with wholly owned subsidiaries of Vanguard, subject to the approval of the fund's board of trustees and any conditions imposed by the Securities and Exchange Commission (SEC), while avoiding the costs and delays associated with obtaining future shareholder approval. The ability of the fund to operate in this manner is contingent upon the SEC's approval of a pending application for an order of exemption.

Vanguard Fund	For	Abstain	Against	Broker Non-Votes	Percentage For
Precious Metals and Mining Fund	134,843,574	9,843,366	10,095,140	29,209,656	73.3%

Fund shareholders did not approve the following proposal:

**Proposal 7**—Institute transparent procedures to avoid holding investments in companies that, in management’s judgment, substantially contribute to genocide or crimes against humanity, the most egregious violations of human rights. Such procedures may include time-limited engagement with problem companies if management believes that their behavior can be changed.

The trustees recommended a vote against the proposal for the following reasons: (1) Vanguard is fully compliant with all applicable U.S. laws and regulations that prohibit the investment in any company owned or controlled by the government of Sudan; (2) the addition of further investment constraints is not in fund shareholders’ best interests if those constraints are unrelated to a fund’s stated investment objective, policies, and strategies; and (3) divestment is an ineffective means to implement social change, as it often puts the shares into the hands of another owner with no direct impact to the company’s capitalization.

Vanguard Fund	For	Abstain	Against	Broker Non-Votes	Percentage For
Precious Metals and Mining Fund	40,843,642	10,413,097	103,525,340	29,209,656	22.2%

# Precious Metals and Mining Fund

## Fund Profile

As of January 31, 2018

### Portfolio Characteristics

	Fund	S&P Global Custom Metals and Mining Index	DJ U.S. Total Market FA Index
Number of Stocks	77	218	3,765
Median Market Cap	\$3.0B	\$14.1B	\$73.6B
Price/Earnings Ratio	23.3x	18.5x	23.8x
Price/Book Ratio	1.6x	1.7x	3.2x
Return on Equity	-1.5%	-0.1%	14.9%
Earnings Growth Rate	-11.1%	-10.4%	9.1%
Dividend Yield	0.9%	1.9%	1.7%
Foreign Holdings	87.6%	88.3%	0.00%
Turnover Rate	35%	—	—
Ticker Symbol	VGPMX	—	—
Expense Ratio <sup>1</sup>	0.43%	—	—
Short-Term Reserves	1.7%	—	—

### Subindustry Diversification (% of equity exposure)

	Fund	S&P Global Custom Metals and Mining Index
Aluminum	0.0%	4.0%
Agricultural Products	2.0	0.0
Copper	6.1	5.7
Diversified Metals & Mining	11.9	42.7
Gold	64.8	38.6
Precious Metals & Minerals	7.1	4.8
Silver	7.6	4.2
Steel	0.5	0.0

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.

### Volatility Measures

	S&P Global Custom Metals and Mining Index	DJ U.S. Total Market FA Index
R-Squared	0.90	0.01
Beta	1.00	0.40

These measures show the degree and timing of the fund's fluctuations compared with the indexes over 36 months.

### Ten Largest Holdings (% of total net assets)

Newmont Mining Corp.	Gold	6.8%
Agnico Eagle Mines Ltd.	Gold	5.4
B2Gold Corp.	Gold	4.6
Randgold Resources Ltd.	Gold	4.6
Franco-Nevada Corp.	Gold	4.1
Kinross Gold Corp.	Gold	3.5
Endeavour Mining Corp.	Gold	3.1
Hochschild Mining plc	Silver	3.1
Independence Group NL	Diversified Metals & Mining	2.8
Nevsun Resources Ltd.	Copper	2.7
Top Ten		40.7%

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

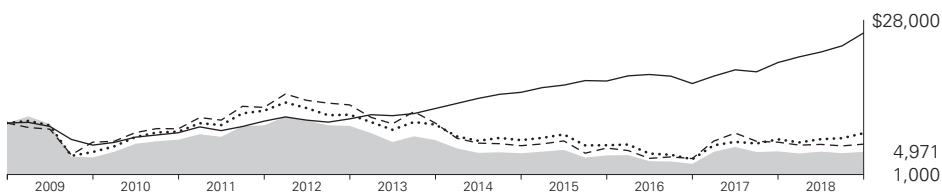
<sup>1</sup> The expense ratio shown is from the prospectus dated May 25, 2017, and represents estimated costs for the current fiscal year. For the fiscal year ended January 31, 2018, the expense ratio was 0.36%.

## 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 fund. (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](http://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 fund distributions or on the sale of fund shares.

### Cumulative Performance: January 31, 2008, Through January 31, 2018

Initial Investment of \$10,000

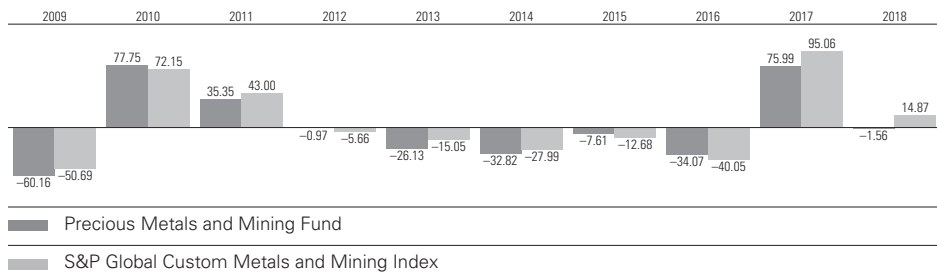


	Average Annual Total Returns Periods Ended January 31, 2018			Final Value of a \$10,000 Investment
	One Year	Five Years	Ten Years	
— Precious Metals and Mining Fund	-1.56%	-6.65%	-6.75%	\$4,971
..... S&P Global Custom Metals and Mining Index	14.87	-3.32	-1.95	8,216
- - - - Precious Metals Equity Funds Average	-5.20	-8.78	-4.51	6,304
— Dow Jones U.S. Total Stock Market Float Adjusted Index	25.16	15.48	9.91	25,724

Precious Metals Equity Funds Average: Derived from data provided by Lipper, a Thomson Reuters Company.

## Precious Metals and Mining Fund

### Fiscal-Year Total Returns (%): January 31, 2008, Through January 31, 2018



### Average Annual Total Returns: Periods Ended December 31, 2017

This table presents returns through the latest calendar quarter—rather than through the end of the fiscal period. Securities and Exchange Commission rules require that we provide this information.

	Inception Date	One Year	Five Years	Ten Years
Precious Metals and Mining Fund	5/23/1984	13.75%	-7.02%	-6.60%

## Financial Statements

### Statement of Net Assets

As of January 31, 2018

The fund 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 fund's semiannual and annual reports to shareholders. For the first and third fiscal quarters, the fund files the lists with the Securities and Exchange Commission on Form N-Q. Shareholders can look up the fund'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).

	Shares	Market Value* (\$000)		Shares	Market Value* (\$000)	
<b>Common Stocks (98.7%)</b>			*	Kinross Gold Corp.	20,649,194	89,411
<b>Agricultural Products (2.0%)</b>			*	Endeavour Mining Corp.	4,371,279	80,709
Bunge Ltd.	644,985	51,231		Royal Gold Inc.	723,226	64,367
<b>Copper (6.1%)</b>			*.1	SEMAFO Inc.	20,803,148	61,564
^1 Nevsun Resources Ltd.	33,775,990	70,572	*	IAMGOLD Corp.	10,265,501	60,425
Lundin Mining Corp.	5,545,622	40,082		Newcrest Mining Ltd.	3,080,111	56,330
Southern Copper Corp.	678,330	32,933		Barrick Gold Corp.	3,604,233	51,829
* KAZ Minerals plc	1,008,549	11,737		OceanaGold Corp.	18,083,577	49,840
		<b>155,324</b>	^.*	Pretium Resources Inc.	6,200,777	43,157
<b>Diversified Metals &amp; Mining (11.7%)</b>			*.1	Guyana Goldfields Inc.	11,186,620	43,018
Independence Group NL	17,654,527	71,078		Alamos Gold Inc.	6,734,248	40,271
Rio Tinto plc	1,017,868	56,658		Agnico Eagle Mines Ltd. (Toronto Shares)	814,545	38,535
Glencore plc	7,063,150	40,482	*	Saracen Mineral Holdings Ltd.	31,715,213	38,279
^.* Trevali Mining Corp.	27,500,000	36,220	*.1	Premier Gold Mines Ltd.	10,858,207	30,632
Grupo Mexico SAB de CV Class B	7,870,822	27,903		Northern Star Resources Ltd.	6,465,904	30,240
*.1 Base Resources Ltd.	69,515,366	15,645		Alacer Gold Corp.	16,682,469	29,025
Compass Minerals International Inc.	184,931	13,481		Goldcorp Inc.	1,987,114	28,455
*.1 Neo Lithium Corp.	7,678,100	12,984		*.1 Roxgold Inc.	29,570,296	26,685
* Arizona Mining Inc.	2,510,118	9,041		Alamos Gold Inc. Class A	3,627,542	21,736
* Orla Mining Ltd.	5,714,300	7,619		Tahoe Resources Inc.	4,678,633	20,539
* Equinox Gold Corp.	4,597,126	4,485		^.* Dacian Gold Ltd.	8,595,089	19,001
^.*.1 Osisko Metals Inc.	6,575,000	4,170		^ Osisko Gold Royalties Ltd.	1,634,820	18,368
*.1 Agua Resources Ltd.	7,705,882	1,875		Evolution Mining Ltd.	6,206,125	14,295
		<b>301,641</b>		Tahoe Resources Inc. (Toronto Shares)	2,689,463	11,873
<b>Gold (63.9%)</b>				*.1 Beadell Resources Ltd.	83,211,152	10,085
Newmont Mining Corp.	4,330,620	175,433		*.1 Nighthawk Gold Corp.	17,775,860	9,683
^ Randgold Resources Ltd. ADR	1,162,627	117,611		^.* Barkerville Gold Mines Ltd.	16,770,771	9,544
* B2Gold Corp.	37,190,786	112,316		* Eldorado Gold Corp.	7,013,293	9,117
Franco-Nevada Corp.	1,373,364	104,911				
Agnico Eagle Mines Ltd.	2,095,594	99,080				



## Precious Metals and Mining Fund

	Shares	Market Value* (\$000)		Shares	Market Value* (\$000)
* Gold Road Resources Ltd.	12,341,066	7,983	<b>Steel (0.5%)</b>		
^* TMAC Resources Inc.	955,700	6,892	Fortescue Metals Group Ltd.		
* B2Gold Corp. (Toronto Shares)	1,860,800	5,628	3,303,268	13,118	
*1 Troilus Gold Corp.	2,798,780	4,551	<b>Total Common Stocks (Cost \$2,151,122)</b>		
* Osisko Gold Royalties Warrants Expire 02/26/2019	231,787	196	<b>Temporary Cash Investment (3.0%)</b>		
* Primero Mining Corp. Warrants Expire 06/25/2018	638,250	3	<b>Money Market Fund (3.0%)</b>		
		<u>1,641,617</u>	4.5 Vanguard Market Liquidity Fund, 1.545% (Cost \$75,588)		
			755,874	75,587	
			<b>Total Investments (101.7%) (Cost \$2,226,710)</b>		
			<b>2,611,253</b>		
<b>Other (0.0%)</b>			<b>Other Assets and Liabilities (-1.7%)</b>		
*.2 Americas Silver Corp. Warrants Expire 06/09/2021	7,108,333	121	Other Assets		
*.2 Nighthawk Gold Corp. Warrants Expire 09/02/2018	5,729,647	—	Liabilities <sup>5</sup>		
* Osisko Mining Inc. Warrants Expire 08/25/2018	4,500,000	—	4,204		
* Osisko Metals Inc. Warrants Expire 07/18/2019	3,287,500	—	<u>(46,983)</u>		
* Troilus Gold Inc. Warrants Expire 5/21/2020	3,048,780	—	<b>(42,779)</b>		
* Barkerville Gold Mines Warrants Expire 11/18/2018	263,158	—	<b>Net Assets (100%)</b>		
*.2,3 Rescue Radio Corp.	15,955	—	Applicable to 242,951,701 outstanding \$ .001 par value shares of beneficial interest (unlimited authorization)		
		<u>121</u>	<b>2,568,474</b>		
			<b>Net Asset Value Per Share</b>		
			<b>\$10.57</b>		
			Amount (\$000)		
<b>Precious Metals &amp; Minerals (7.0%)</b>			<b>Statement of Assets and Liabilities</b>		
*.1 Osisko Mining Inc.	18,547,050	53,681	<b>Assets</b>		
^*.1 Dalradian Resources Inc.	45,625,000	45,996	Investments in Securities, at Value		
Fresnillo plc	2,076,917	39,764	Unaffiliated Issuers		
Industrias Penoles SAB de CV	1,040,706	24,120	2,057,484		
Lucara Diamond Corp.	6,088,724	12,623	Affiliated Vanguard Fund		
^*. Mountain Province Diamonds Inc.	1,435,700	3,980	75,587		
		<u>180,164</u>	Other Affiliated Issuers		
			<u>478,182</u>		
			<b>Total Investments in Securities</b>		
			<b>2,611,253</b>		
<b>Silver (7.5%)</b>			Investment in Vanguard		
Hochschild Mining plc	24,351,353	79,310	142		
*.1 Fortuna Silver Mines Inc.	10,080,774	48,519	Receivables for Investment		
* MAG Silver Corp.	2,703,673	29,015	Securities Sold		
Wheaton Precious Metals Corp.	1,208,644	26,109	175		
*.1 Americas Silver Corp.	2,369,444	9,497	Receivables for Accrued Income		
		<u>192,450</u>	371		
			Receivables for Capital Shares Issued		
			3,249		
			Other Assets		
			267		
			<b>Total Assets</b>		
			<b>2,615,457</b>		
			<b>Liabilities</b>		
			Payables for Investment		
			Securities Purchased		
			5,608		
			Collateral for Securities on Loan		
			32,497		
			Payables to Investment Advisor		
			468		
			Payables for Capital Shares Redeemed		
			2,070		
			Payables to Vanguard		
			5,826		
			Other Liabilities		
			514		
			<b>Total Liabilities</b>		
			<b>46,983</b>		
			<b>Net Assets</b>		
			<b>2,568,474</b>		

## Precious Metals and Mining Fund

At January 31, 2018, net assets consisted of:

	Amount (\$000)
Paid-in Capital	4,307,910
Overdistributed Net Investment Income	(111,067)
Accumulated Net Realized Losses	(2,012,935)
Unrealized Appreciation (Depreciation)	
Investment Securities	384,543
Foreign Currencies	23
<b>Net Assets</b>	<b>2,568,474</b>

• See Note A in Notes to Financial Statements.

<sup>A</sup> Includes partial security positions on loan to broker-dealers.  
The total value of securities on loan is \$27,513,000.

\* Non-income-producing security.

1 Considered an affiliated company of the fund as the fund owns more than 5% of the outstanding voting securities of such company.

2 Restricted securities totaling \$121,000, representing 0.0% of net assets.

3 Certain of the fund's securities are valued using significant unobservable inputs.

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

5 Includes \$32,497,000 of collateral received for securities on loan.

ADR—American Depositary Receipt.

## Statement of Operations

	Year Ended January 31, 2018
	(\$000)
<b>Investment Income</b>	
<b>Income</b>	
Dividends Received from Unaffiliated Issuers <sup>1</sup>	15,582
Dividends Received from Affiliated Issuers <sup>2</sup>	3,372
Interest Received from Affiliated Vanguard Fund	930
Securities Lending—Net	1,523
Total Income	21,407
<b>Expenses</b>	
Investment Advisory Fees—Note B	
Basic Fee	3,504
Performance Adjustment	(63)
The Vanguard Group—Note C	
Management and Administrative	5,022
Marketing and Distribution	439
Custodian Fees	113
Auditing Fees	33
Shareholders' Reports and Proxy	260
Trustees' Fees and Expenses	7
Total Expenses	9,315
<b>Net Investment Income</b>	<b>12,092</b>
<b>Realized Net Gain (Loss)</b>	
Investment Securities Sold—Unaffiliated Issuers <sup>3</sup>	(63,216)
Investment Securities Sold—Affiliated Issuers	(22,314)
Foreign Currencies	(322)
<b>Realized Net Gain (Loss)</b>	<b>(85,852)</b>
<b>Change in Unrealized Appreciation (Depreciation)</b>	
Investment Securities—Unaffiliated Issuers <sup>3</sup>	23,579
Investment Securities—Affiliated Issuers	1,406
Foreign Currencies	36
<b>Change in Unrealized Appreciation (Depreciation)</b>	<b>25,021</b>
<b>Net Increase (Decrease) in Net Assets Resulting from Operations</b>	<b>(48,739)</b>

1 Dividends are net of foreign withholding taxes of \$537,000.

2 Dividends are net of foreign withholding taxes of \$341,000.

3 Includes precious metals.

## Statement of Changes in Net Assets

	Year Ended January 31,	
	2018 (\$000)	2017 (\$000)
<b>Increase (Decrease) in Net Assets</b>		
<b>Operations</b>		
Net Investment Income	12,092	15,861
Realized Net Gain (Loss)	(85,852)	(289,478)
Change in Unrealized Appreciation (Depreciation)	25,021	1,394,398
Net Increase (Decrease) in Net Assets Resulting from Operations	(48,739)	1,120,781
<b>Distributions</b>		
Net Investment Income	(591)	(39,024)
Realized Capital Gain	—	—
Total Distributions	(591)	(39,024)
<b>Capital Share Transactions</b>		
Issued	813,768	1,114,214
Issued in Lieu of Cash Distributions	540	36,059
Redeemed	(808,977)	(1,084,078)
Net Increase (Decrease) from Capital Share Transactions	5,331	66,195
Total Increase (Decrease)	(43,999)	1,147,952
<b>Net Assets</b>		
Beginning of Period	2,612,473	1,464,521
End of Period <sup>1</sup>	2,568,474	2,612,473

<sup>1</sup> Net Assets—End of Period includes undistributed (overdistributed) net investment income of (\$111,067,000) and (\$143,537,000).

## Financial Highlights

For a Share Outstanding Throughout Each Period	Year Ended January 31,				
	2018	2017	2016	2015	2014
<b>Net Asset Value, Beginning of Period</b>	<b>\$10.74</b>	<b>\$6.22</b>	<b>\$9.59</b>	<b>\$10.38</b>	<b>\$15.46</b>
<b>Investment Operations</b>					
Net Investment Income	.049 <sup>1</sup>	.066 <sup>1,2</sup>	.175 <sup>1,3</sup>	.130	.243 <sup>1</sup>
Net Realized and Unrealized Gain (Loss) on Investments	(.217)	4.615	(3.397)	(.920)	(5.315)
Total from Investment Operations	(.168)	4.681	(3.222)	(.790)	(5.072)
<b>Distributions</b>					
Dividends from Net Investment Income	(.002)	(.161)	(.148)	—	(.007)
Distributions from Realized Capital Gains	—	—	—	—	—
Return of Capital	—	—	—	—	(.001)
Total Distributions	(.002)	(.161)	(.148)	—	(.008)
<b>Net Asset Value, End of Period</b>	<b>\$10.57</b>	<b>\$10.74</b>	<b>\$6.22</b>	<b>\$9.59</b>	<b>\$10.38</b>
<b>Total Return<sup>4</sup></b>	<b>-1.56%</b>	<b>75.99%</b>	<b>-34.07%</b>	<b>-7.61%</b>	<b>-32.82%</b>

### Ratios/Supplemental Data

Net Assets, End of Period (Millions)	\$2,568	\$2,612	\$1,465	\$2,087	\$2,302
Ratio of Total Expenses to Average Net Assets <sup>5</sup>	0.36%	0.43%	0.35%	0.29%	0.25%
Ratio of Net Investment Income to Average Net Assets	0.47%	0.65% <sup>2</sup>	2.22% <sup>3</sup>	1.33%	2.10%
Portfolio Turnover Rate	35%	29%	8%	62%	34%

1 Calculated based on average shares outstanding.

2 Net investment income per share and the ratio of net investment income to average net assets include \$.012 and 0.12%, respectively, resulting from a special dividend from Lucara Diamond Corp. in September 2016.

3 Net investment income per share and the ratio of net investment income to average net assets include \$.037 and 0.47%, respectively, resulting from a spin-off from BHP Billiton plc in May 2015.

4 Total returns do not include account service fees that may have applied in the periods shown. Fund prospectuses provide information about any applicable account service fees.

5 Includes performance-based investment advisory fee increases (decreases) of 0.00%, 0.06%, (0.02%), (0.08%), and (0.09%).

## Notes to Financial Statements

Vanguard Precious Metals and Mining Fund is registered under the Investment Company Act of 1940 as an open-end investment company, or mutual fund. The fund invests in securities of foreign issuers, which may subject it to investment risks not normally associated with investing in securities of U.S. corporations.

A. The following significant accounting policies conform to generally accepted accounting principles for U.S. investment companies. The fund 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 fund's pricing time but after the close of the securities' primary markets, are valued at their fair values calculated according to procedures adopted by the board of trustees. These procedures include obtaining quotations from an independent pricing service, monitoring news to identify significant market- or security-specific events, and evaluating changes in the values of foreign market proxies (for example, ADRs, futures contracts, or exchange-traded funds), between the time the foreign markets close and the fund's pricing time. When fair-value pricing is employed, the prices of securities used by a fund to calculate its net asset value may differ from quoted or published prices for the same securities. Precious metals are valued at the latest quoted bid prices. Investments in Vanguard Market Liquidity Fund are valued at that fund's net asset value.

2. **Foreign Currency:** Securities and other assets and liabilities denominated in foreign currencies are translated into U.S. dollars using exchange rates obtained from an independent third party as of the fund's pricing time on the valuation date. Realized gains (losses) and unrealized appreciation (depreciation) on investment securities include the effects of changes in exchange rates since the securities were purchased, combined with the effects of changes in security prices. Fluctuations in the value of other assets and liabilities resulting from changes in exchange rates are recorded as unrealized foreign currency gains (losses) until the assets or liabilities are settled in cash, at which time they are recorded as realized foreign currency gains (losses).

3. **Federal Income Taxes:** The fund intends to continue to qualify as a regulated investment company and distribute all of its taxable income. Management has analyzed the fund's tax positions taken for all open federal income tax years (January 31, 2015–2018), and has concluded that no provision for federal income tax is required in the fund's financial statements.

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

5. **Securities Lending:** To earn additional income, the fund lends its securities to qualified institutional borrowers. Security loans are subject to termination by the fund 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 fund 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 fund 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 fund; however, such actions may be subject to legal proceedings. While collateral mitigates counterparty risk, in the event of a default, the fund may experience delays and costs in recovering the securities loaned. The fund 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. 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 fund is entitled to all distributions made on or in respect of the loaned securities.

6. Credit Facility: The fund 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 fund'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 fund's board of trustees and included in Management and Administrative expenses on the fund'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 fund had no borrowings outstanding at January 31, 2018, 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. 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. M&G Investment Management Limited provides investment advisory services to the fund for a fee calculated at an annual percentage rate of average net assets. The basic fee is subject to quarterly adjustments based on the fund's performance relative to the S&P Global Custom Metals and Mining Index for the preceding three years. For the year ended January 31, 2018, the investment advisory fee represented an effective annual basic rate of 0.14% of the fund's average net assets before a decrease of \$63,000 (0.00%) based on performance.

C. In accordance with the terms of a Funds' Service Agreement (the "FSA") between Vanguard and the fund, Vanguard furnishes to the fund 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 fund 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 fund's liability for these costs of operations is included in Payables to Vanguard on the Statement of Assets and Liabilities.

Upon the request of Vanguard, the fund may invest up to 0.40% of its net assets as capital in Vanguard. At January 31, 2018, the fund had contributed to Vanguard capital in the amount of \$142,000, representing 0.01% of the fund's net assets and 0.06% of Vanguard's capitalization. The fund's trustees and officers are also directors and employees, respectively, of Vanguard.

D. Various inputs may be used to determine the value of the fund'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 fund's own assumptions used to determine the fair value of investments). Any investments valued with significant unobservable inputs are noted on the Statement of Net Assets.

The following table summarizes the market value of the fund's investments as of January 31, 2018, based on the inputs used to value them:

Investments	Level 1 (\$000)	Level 2 (\$000)	Level 3 (\$000)
Common Stocks	2,029,665	506,001	—
Temporary Cash Investments	75,587	—	—
Total	2,105,252	506,001	—

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.

Certain of the fund's investments are in securities considered to be passive foreign investment companies, for which any unrealized appreciation and/or realized gains are required to be included in distributable net income for tax purposes. During the year ended January 31, 2018, the fund realized gains on the sale of passive foreign investment companies of \$21,375,000, which have been included in current and prior periods' taxable income; accordingly, such gains have been reclassified from accumulated net realized losses to overdistributed net investment income. Passive foreign investment companies held at January 31, 2018, had unrealized appreciation of \$133,725,000.

For tax purposes, at January 31, 2018, the fund had \$28,201,000 of ordinary income available for distribution. The fund had available capital losses totaling \$2,012,967,000 that may be carried forward indefinitely to offset future net capital gains.



## Precious Metals and Mining Fund

At January 31, 2018, the cost of investment securities for tax purposes was \$2,360,435,000. Net unrealized appreciation of investment securities for tax purposes was \$250,818,000, consisting of unrealized gains of \$406,927,000 on securities that had risen in value since their purchase and \$156,109,000 in unrealized losses on securities that had fallen in value since their purchase.

The Tax Cuts and Jobs Act (TCJA) was signed into law in December 2017, and contains provisions that make significant changes to the Internal Revenue Code. In applying the provisions of the TCJA, the fund is required to recognize income from certain foreign investment holdings resulting in a temporary difference that may materially increase the fund's ordinary income available for distribution, offset by a decrease in the unrealized appreciation on investment securities for tax purposes. Management of the fund is currently assessing the impact, if any, that these provisions may have on the fund.

F. During the year ended January 31, 2018, the fund purchased \$926,459,000 of investment securities and sold \$857,038,000 of investment securities, other than temporary cash investments.

G. Capital shares issued and redeemed were:

	Year Ended January 31,	
	2018	2017
	Shares	Shares
	(000)	(000)
Issued	77,469	111,872
Issued in Lieu of Cash Distributions	52	4,303
Redeemed	(77,802)	(108,532)
Net Increase (Decrease) in Shares Outstanding	(281)	7,643

H. Certain of the fund's investments are in companies that are considered to be affiliated companies of the fund because the fund owns more than 5% of the outstanding voting securities of the company or the issuer is another member of The Vanguard Group. Transactions during the period in securities of these companies were as follows:

	Jan. 31, 2017	Current Period Transactions					Jan. 31, 2018
		Market Value (\$000)	Purchases at Cost (\$000)	Proceeds from Sold Securities (\$000)	Realized Net Gain (Loss) (\$000)	Change in Unrealized App. (Dep.) Income (\$000)	
Agua Resources Ltd.	2,373	—	—	—	(498)	—	1,875
Alacer Gold Corp.	NA <sup>1</sup>	16,371	—	—	(1,657)	—	29,025
Americas Silver Corp.	8,048	—	—	—	1,449	—	9,497
Base Resources	—	13,884	—	—	1,761	—	15,645
Beadell Resources Ltd.	NA <sup>1</sup>	7,238	—	—	(7,021)	—	10,085
Dalradian Resources Inc.	46,633	—	—	—	(637)	—	45,996

Precious Metals and Mining Fund

	Jan. 31, 2017 Market Value (\$000)	Current Period Transactions						Jan. 31, 2018 Market Value (\$000)
		Purchases at Cost (\$000)	Proceeds from Securities Sold (\$000)	Realized Net Gain (Loss) (\$000)	Change in Unrealized App. (Dep.) (\$000)	Income (\$000)	Capital Gain Distributions Received (\$000)	
Dominion Diamond Corp.	65,235	—	84,393	(23,397)	42,555	520	—	—
Fortuna Silver Mines Inc.	NA <sup>1</sup>	17,581	—	—	(8,446)	—	—	48,519
Guyana Goldfields Inc.	NA <sup>1</sup>	28,415	—	—	(7,446)	—	—	43,018
Hochschild Mining plc	83,056	—	7,789	(2,014)	6,057	700	—	NA <sup>2</sup>
Neo Lithium Corp.	—	11,122	7,297	2,859	6,300	—	—	12,984
Nevsun Resources Ltd	113,348	—	5,142	(1,341)	(36,293)	1,222	—	70,572
Nighthawk Gold Corp.	NA <sup>1</sup>	6,093	—	—	580	—	—	9,683
Osisko Metals Inc.	—	4,071	—	—	99	—	—	4,170
Osisko Mining Inc.	24,355	27,287	—	—	2,039	—	—	53,681
Premier Gold Mines Ltd.	32,001	—	10,093	3,434	5,290	—	—	30,632
Roxgold Inc.	34,541	—	—	—	(7,856)	—	—	26,685
SEMAFO Inc.	82,882	8,641	20,723	(1,936)	(7,300)	—	—	61,564
Trevali Mining Corp.	—	24,740	—	—	11,480	—	—	NA <sup>3</sup>
Troilus Gold Corp	—	3,917	412	91	955	—	—	4,551
Vanguard Market Liquidity Fund	163,010	NA <sup>4</sup>	NA <sup>4</sup>	(10)	(5)	930	—	75,587
<b>Total</b>	<b>655,482</b>			<b>(22,314)</b>	<b>1,406</b>	<b>3,372</b>	<b>—</b>	<b>553,769</b>

1 Not applicable—at January 31, 2017, the issuer was not an affiliated company of the fund.

2 Not applicable—at January 31, 2018, the security was still held, but the issuer was no longer an affiliated company of the fund.

3 Not applicable—at January 31, 2017, and January 31, 2018, the issuer was not an affiliated company of the fund, but it was affiliated during the year.

4 Not applicable—purchases and sales are for temporary cash investment purposes.

I. Management has determined that no material events or transactions occurred subsequent to January 31, 2018, that would require recognition or disclosure in these financial statements.

# Report of Independent Registered Public Accounting Firm

To the Board of Trustees of Vanguard Specialized Funds and Shareholders of Vanguard Precious Metals and Mining Fund

## Opinion on the Financial Statements

We have audited the accompanying statement of net assets and statement of assets and liabilities of Vanguard Precious Metals and Mining Fund (one of the funds constituting Vanguard Specialized Funds, referred to hereafter as the "Fund") as of January 31, 2018, the related statement of operations for the year ended January 31, 2018, the statement of changes in net assets for each of the two years in the period ended January 31, 2018, including the related notes, and the financial highlights for each of the five years in the period ended January 31, 2018 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Fund as of January 31, 2018, 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 January 31, 2018 and the financial highlights for each of the five years in the period ended January 31, 2018 in conformity with accounting principles generally accepted in the United States of America.

## Basis for Opinion

These financial statements are the responsibility of the Fund's management. Our responsibility is to express an opinion on the Fund'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 Fund in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits 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 January 31, 2018 by correspondence with the custodian and brokers and by agreement to the underlying ownership records of the transfer agent; 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  
March 15, 2018

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

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**Special 2017 tax information (unaudited) for Vanguard Precious Metals and Mining Fund**

This information for the fiscal year ended January 31, 2018, is included pursuant to provisions of the Internal Revenue Code.

The fund distributed \$591,000 of qualified dividend income to shareholders during the fiscal year.

The fund designates to shareholders foreign source income of \$13,415,000 and foreign taxes paid of \$878,000. Shareholders received more detailed information with their Form 1099-DIV in January 2018 to determine the calendar-year amounts to be included on their 2017 tax returns.

For corporate shareholders, 7.4% of investment income (dividend income plus short-term gains, if any) qualifies for the dividends-received deduction.

## Your Fund's After-Tax Returns

This table presents returns for your fund both before and after taxes. The after-tax returns are shown in two ways: (1) assuming that an investor owned the fund during the entire period and paid taxes on the fund's distributions, and (2) assuming that an investor paid taxes on the fund's distributions *and* sold all shares at the end of each period.

Calculations are based on the highest individual federal income tax and capital gains tax rates in effect at the times of the distributions and the hypothetical sales. State and local taxes were not considered. After-tax returns reflect any qualified dividend income, using actual prior-year figures and estimates for 2018. (In the example, returns after the sale of fund shares may be higher than those assuming no sale. This occurs when the sale would have produced a capital loss. The calculation assumes that the investor received a tax deduction for the loss.)

Please note that your actual after-tax returns will depend on your tax situation and may differ from those shown. Also note that if you own the fund in a tax-deferred account, such as an individual retirement account or a 401(k) plan, this information does not apply to you. Such accounts are not subject to current taxes.

Finally, keep in mind that a fund's performance—whether before or after taxes—does not guarantee future results.

### Average Annual Total Returns: Precious Metals and Mining Fund

Periods Ended January 31, 2018

	One Year	Five Years	Ten Years
Returns Before Taxes	-1.56%	-6.65%	-6.75%
Returns After Taxes on Distributions	-1.54	-6.79	-7.50
Returns After Taxes on Distributions and Sale of Fund Shares	-0.90	-4.90	-4.35

## About Your Fund's Expenses

As a shareholder of the fund, 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 fund's gross income, directly reduce the investment return of the fund.

A fund'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 fund 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 fund's costs in two ways:

- **Based on actual fund 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 fund'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 fund. 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 fund under the heading "Expenses Paid During Period."

- **Based on hypothetical 5% yearly return.** This section is intended to help you compare your fund's costs with those of other mutual funds. It assumes that the fund 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 fund'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 fund'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 fund for buying and selling securities. Further, the expenses do not include any purchase, redemption, or account service fees described in the fund prospectus. If such fees were applied to your account, your costs would be higher. Your fund does not carry a "sales load."

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 fund'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 fund's current prospectus.

Six Months Ended January 31, 2018

	Beginning Account Value 7/31/2017	Ending Account Value 1/31/2018	Expenses Paid During Period
Precious Metals and Mining Fund			
Based on Actual Fund Return	\$1,000.00	\$994.36	\$1.66
Based on Hypothetical 5% Yearly Return	1,000.00	1,023.54	1.68

The calculations are based on expenses incurred in the most recent six-month period. The fund's annualized six-month expense ratio for that period is 0.33%. 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).

# Glossary

**Beta.** A measure of the magnitude of a fund'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 fund 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 fund and the index. Note that a fund's beta should be reviewed in conjunction with its R-squared (see definition). The lower the R-squared, the less correlation there is between the fund and the index, and the less reliable beta is as an indicator of volatility.

**Dividend Yield.** Dividend income earned by stocks, expressed as a percentage of the aggregate market value (or of net asset value, for a fund). The yield is determined by dividing the amount of the annual dividends by the aggregate value (or net asset value) at the end of the period. For a fund, the dividend yield is based solely on stock holdings and does not include any income produced by other investments.

**Earnings Growth Rate.** The average annual rate of growth in earnings over the past five years for the stocks now in a fund.

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

**Expense Ratio.** A fund's total annual operating expenses expressed as a percentage of the fund's average net assets. The expense ratio includes management and administrative expenses, but does not include the transaction costs of buying and selling portfolio securities.

**Foreign Holdings.** The percentage of a fund represented by securities or depository receipts of companies based outside the United States.

**Inception Date.** The date on which the assets of a fund (or one of its share classes) are first invested in accordance with the fund's investment objective. For funds with a subscription period, the inception date is the day after that period ends. Investment performance is measured from the inception date.

**Median Market Cap.** An indicator of the size of companies in which a fund invests; the midpoint of market capitalization (market price x shares outstanding) of a fund's stocks, weighted by the proportion of the fund's assets invested in each stock. Stocks representing half of the fund's assets have market capitalizations above the median, and the rest are below it.

**Price/Book Ratio.** The share price of a stock divided by its net worth, or book value, per share. For a fund, the weighted average price/book ratio of the stocks it holds.

**Price/Earnings Ratio.** The ratio of a stock's current price to its per-share earnings over the past year. For a fund, the weighted average P/E of the stocks it holds. P/E is an indicator of market expectations about corporate prospects; the higher the P/E, the greater the expectations for a company's future growth.

**R-Squared.** A measure of how much of a fund's past returns can be explained by the returns from the market in general, as measured by a given index. If a fund's total returns were precisely synchronized with an index's returns, its R-squared would be 1.00. If the fund'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 fund and the index.



**Return on Equity.** The annual average rate of return generated by a company during the past five years for each dollar of shareholder's equity (net income divided by shareholder's equity). For a fund, the weighted average return on equity for the companies whose stocks it holds.

**Short-Term Reserves.** The percentage of a fund invested in highly liquid, short-term securities that can be readily converted to cash.

**Turnover Rate.** An indication of the fund's trading activity. Funds with high turnover rates incur higher transaction costs and may be more likely to distribute capital gains (which may be taxable to investors). The turnover rate excludes in-kind transactions, which have minimal impact on costs.

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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. The independent board members have distinguished backgrounds in business, academia, and public service. Each of the trustees and executive officers oversees 201 Vanguard funds.

Information for each trustee and executive officer of the fund appears below. 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](http://vanguard.com).

## Interested Trustees<sup>1</sup>

### F. William McNabb III

Mr. McNabb has served as chairman of the board of Vanguard and of each of the investment companies served by Vanguard since January 2010; as a trustee of each of the investment companies served by Vanguard since 2009; and as director of Vanguard since 2008. Mr. McNabb served as chief executive officer and president of Vanguard and each of the investment companies served by Vanguard from 2008 to 2017 and as a managing director of Vanguard from 1995 to 2008. Mr. McNabb also serves as a director of Vanguard Marketing Corporation. He was born in 1957.

### Mortimer J. Buckley

Mr. Buckley has served as chief executive officer of Vanguard since January 2018; as chief executive officer, president, and trustee of each of the investment companies served by Vanguard since January 2018; and as president and director of Vanguard since 2017. Previous positions held by Mr. Buckley at Vanguard include chief investment officer (2013–2017), head of the Retail Investor Group (2006–2012), and chief information officer (2001–2006). Mr. Buckley also served as chairman of the board of the Children's Hospital of Philadelphia from 2011 to 2017. He was born in 1969.

## Independent Trustees

### Emerson U. Fullwood

Mr. Fullwood has served as trustee since July 2008. Mr. Fullwood is the former executive chief staff and marketing officer for North America and corporate vice president (retired 2008) of Xerox Corporation (document management products and services). Previous positions held at Xerox by Mr. Fullwood include president of the Worldwide Channels Group, president of Latin America, executive chief staff officer of Developing Markets, and president of Worldwide Customer Services. Mr. Fullwood is the executive in residence at the Rochester Institute of Technology, where he was the 2009–2010 Distinguished Minett Professor. Mr. Fullwood serves as lead director of SPX FLOW, Inc. (multi-industry manufacturing); director of the University of Rochester Medical Center, the Monroe Community College Foundation, the United Way of Rochester, North Carolina A&T University, and Roberts Wesleyan College; and a trustee of the University of Rochester. He was born in 1948.

### Amy Gutmann

Dr. Gutmann has served as trustee since June 2006. Dr. Gutmann has served as the president of the University of Pennsylvania since 2004. She is the Christopher H. Browne Distinguished Professor of Political Science, School of Arts and Sciences, and Professor of Communication, Annenberg School for

<sup>1</sup> Mr. McNabb and Mr. Buckley are considered "interested persons," as defined in the Investment Company Act of 1940, because they are officers of the Vanguard funds.

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. Dr. Gutmann also serves as a trustee of the National Constitution Center. She was born in 1949.

#### **JoAnn Heffernan Heisen**

Ms. Heisen has served as trustee since July 1998. Ms. Heisen is the former corporate vice president of Johnson & Johnson (pharmaceuticals/medical devices/consumer products) and a former member of its executive committee (1997–2008). During her tenure at Johnson & Johnson, Ms. Heisen held multiple roles, including: chief global diversity officer (retired 2008), vice president and chief information officer (1997–2006), controller (1995–1997), treasurer (1991–1995), and assistant treasurer (1989–1991). Ms. Heisen serves as a director of Skytop Lodge Corporation (hotels) and the Robert Wood Johnson Foundation and as a member of the advisory board of the Institute for Women's Leadership at Rutgers University. She was born in 1950.

#### **F. Joseph Loughrey**

Mr. Loughrey has served as trustee since October 2009. Mr. Loughrey is the former president and chief operating officer (retired 2009) and vice chairman of the board (2008–2009) of Cummins Inc. (industrial machinery). Mr. Loughrey serves as chairman of the board of Hillenbrand, Inc. (specialized consumer services), Oxfam America, and the Lumina Foundation for Education; as a director of the V Foundation for Cancer Research; and as a member of the advisory council for the College of Arts and Letters and chair of the advisory board to the Kellogg Institute for International Studies, both at the University of Notre Dame. He was born in 1949.

#### **Mark Loughridge**

Mr. Loughridge has served as trustee since March 2012. Mr. Loughridge is the former senior vice president and chief financial officer (retired 2013) at IBM (information technology services). Mr. Loughridge also served as a fiduciary member of IBM's retirement plan committee (2004–2013). Previous positions held by Mr. Loughridge at IBM include senior vice president and general manager of Global Financing (2002–2004), vice president and controller (1998–2002), and a variety of management roles. Mr. Loughridge serves as a member of the Council on Chicago Booth. He was born in 1953.

#### **Scott C. Malpass**

Mr. Malpass has served as trustee since March 2012. Mr. Malpass has served as chief investment officer since 1989 and as vice president since 1996 at the University of Notre Dame. Mr. Malpass serves as an assistant professor of finance at the Mendoza College of Business at the University of Notre Dame and is a member of the Notre Dame 403(b) investment committee. Mr. Malpass also serves as chairman of the board of TIFF Advisory Services, Inc.; as a member of the board of Catholic Investment Services, Inc. (investment advisors); as a member of the board of advisors for Spruceview Capital Partners; and as a member of the board of superintendence of the Institute for the Works of Religion. He was born in 1962.

#### **Deanna Mulligan**

Ms. Mulligan has served as trustee since January 2018. Ms. Mulligan has served as president since 2010 and chief executive officer since 2011 at The Guardian Life Insurance Company of America. Previous positions held by Ms. Mulligan at The Guardian Life Insurance Company of America include chief operating officer (2010–2011) and executive vice president of Individual Life and Disability (2008–2010). Ms. Mulligan serves as a board member of The Guardian Life Insurance Company of America, the American Council of Life Insurers, the Partnership for New York City (business leadership), and the Committee Encouraging Corporate Philanthropy. She also serves as a trustee of the Economic Club of New York and the Bruce Museum (arts and science) and as a member of the Advisory Council for the Stanford Graduate School of Business. She was born in 1963.

#### **André F. Perold**

Dr. Perold has served as trustee since December 2004. Dr. Perold is the George Gund Professor of Finance and Banking, Emeritus at the Harvard Business School (retired 2011). Dr. Perold serves as chief investment officer and co-managing partner of HighVista Strategies LLC (private investment firm). Dr. Perold also serves as an overseer of the Museum of Fine Arts Boston. He was born in 1952.

#### **Sarah Bloom Raskin**

Ms. Raskin has served as trustee since January 2018. Ms. Raskin served as deputy secretary of the United States Department of the Treasury (2014–2017), as a governor of the Federal Reserve Board (2010–2014), and as commissioner of financial regulation of the State of Maryland (2007–2010). Ms. Raskin also

served as a member of the Neighborhood Reinvestment Corporation's board of directors (2012–2014). Ms. Raskin serves as a director of i(x) Investments, LLC. She was born in 1961.

#### **Peter F. Volanakis**

Mr. Volanakis has served as trustee since July 2009. Mr. Volanakis is the retired president and chief operating officer (retired 2010) of Corning Incorporated (communications equipment) and a former director of Corning Incorporated (2000–2010) and Dow Corning (2001–2010). Mr. Volanakis served as a director of SPX Corporation (multi-industry manufacturing) (2012) and as an overseer of the Amos Tuck School of Business Administration at Dartmouth College (2001–2013). Mr. Volanakis serves as chairman of the board of trustees of Colby-Sawyer College and is a member of the board of Hypertherm Inc. (industrial cutting systems, software, and consumables). He was born in 1955.

### **Executive Officers**

#### **Glenn Booraem**

Mr. Booraem, a principal of Vanguard, has served as investment stewardship officer of each of the investment companies served by Vanguard since February 2017. Mr. Booraem served as treasurer (2015–2017), controller (2010–2015), and assistant controller (2001–2010) of each of the investment companies served by Vanguard. He was born in 1967.

#### **Christine M. Buchanan**

Ms. Buchanan, a principal of Vanguard, has served as treasurer of each of the investment companies served by Vanguard since November 2017. She also serves as global head of Fund Administration at Vanguard. Ms. Buchanan served as a partner at KPMG LLP (audit, tax, and advisory services) (2005–2017). She was born in 1970.

#### **Thomas J. Higgins**

Mr. Higgins, a principal of Vanguard, has served as chief financial officer of each of the investment companies served by Vanguard since 2008. Mr. Higgins served as treasurer of each of the investment companies served by Vanguard (1998–2008). He was born in 1957.

#### **Peter Mahoney**

Mr. Mahoney, a principal of Vanguard, has served as controller of each of the investment companies served by Vanguard since May 2015. Mr. Mahoney served as head of International Fund Services at Vanguard (2008–2014). He was born in 1974.

#### **Anne E. Robinson**

Ms. Robinson has served as general counsel of Vanguard since September 2016; as secretary of Vanguard and of each of the investment companies served by Vanguard since September 2016; as director and senior vice president of Vanguard Marketing Corporation since September 2016; and as a managing director of Vanguard since August 2016. Ms. Robinson served as managing director and general counsel of Global Cards and Consumer Services at Citigroup (2014–2016). She served as counsel at American Express (2003–2014). She was born in 1970.

#### **Michael Rollings**

Mr. Rollings, a managing director of Vanguard since June 2016, has served as finance director of each of the investment companies served by Vanguard since November 2017 and as a director of Vanguard Marketing Corporation since June 2016. Mr. Rollings served as treasurer of each of the investment companies served by Vanguard from February 2017 to November 2017. He also served as the executive vice president and chief financial officer of MassMutual Financial Group (2006–2016). He was born in 1963.

### **Vanguard Senior Management Team**

#### **Mortimer J. Buckley**

Gregory Davis

John James

Martha G. King

John T. Marcante

Chris D. McIsaac

James M. Norris

Thomas M. Rampulla

Karin A. Risi

Anne E. Robinson

Michael Rollings

### **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



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You can review and copy information about your fund 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 fund 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](mailto: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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