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Putnam Variable Trust

Semiannual report

6 | 30 | 17

Putnam VT
Global Health Care Fund

Message from the Trustees

August 14, 2017

Dear Shareholder:

A fair amount of investor optimism has helped to fuel financial markets in 2017, and global stock and bond markets have generally fared well. At the same time, however, a number of macroeconomic and political risks around the world could disrupt the positive momentum.

While calm markets are generally welcome, we believe investors should continue to remember time-tested strategies: maintain a well-diversified portfolio, keep a long-term view, and speak regularly with your financial advisor. In the following pages, you will find a summary of your fund's performance for the reporting period.

We would like to take this opportunity to announce some changes to your fund's Board of Trustees. First, we are pleased to welcome the arrival of Catharine Bond Hill and Manoj P. Singh, who bring extensive professional and directorship experience to their new roles as Putnam Trustees. In addition, we would like to extend our appreciation and best wishes to Robert J. Darretta, John A. Hill, and W. Thomas Stephens, who retired from the Board, effective June 30, 2017. We are grateful for their years of work on behalf of you and your fellow shareholders, and we wish them well in their future endeavors.

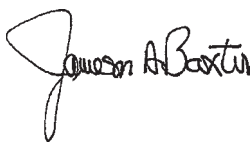
Thank you for investing with Putnam.

Respectfully yours,



Robert L. Reynolds

President and Chief Executive Officer
Putnam Investments



Jameson A. Baxter

Chair, Board of Trustees

The views expressed in this report are exclusively those of Putnam Management and are subject to change. They are not meant as investment advice. Please note that the holdings discussed in this report may not have been held by the fund for the entire period. Portfolio composition is subject to review in accordance with the fund's investment strategy and may vary in the future.

Consider these risks before investing: International investing involves currency, economic, and political risks. Emerging-market securities carry illiquidity and volatility risks. Investments in small and/or midsize companies increase the risk of greater price fluctuations. The health-care industries may be affected by technological obsolescence; changes in regulatory approval policies for drugs, medical devices, or procedures; and changes in governmental and private payment systems. The fund concentrates on a limited group of industries and is non-diversified. Because the fund may invest in fewer issuers, it is vulnerable to common economic forces and may result in greater losses and volatility. Growth stocks may be more susceptible to earnings disappointments, and value stocks may fail to rebound. The use of short selling may result in losses if the securities appreciate in value. Risks associated with derivatives include increased investment exposure (which may be considered leverage) and, in the case of over-the-counter instruments, the potential inability to terminate or sell derivatives positions and the potential failure of the other party to the instrument to meet its obligations. Stock prices may fall or fail to rise over time for several reasons, including general financial market conditions, changing market perceptions, changes in government intervention in financial markets, and factors related to a specific issuer or industry. You can lose money by investing in the fund.

Performance summary (as of 6/30/17)

Investment objective

Capital appreciation

Net asset value June 30, 2017

Class IA: \$16.85

Class IB: \$16.39

Total return at net asset value

(as of 6/30/17)	Class IA shares*	Class IB shares*	MSCI World Health Care Index (ND)†
6 months	15.12%	14.95%	15.96%
1 year	10.52	10.24	9.83
5 years	117.22	114.54	100.27
Annualized	16.78	16.49	14.90
10 years	150.77	144.52	128.65
Annualized	9.63	9.35	8.62
Life	267.55	251.69	—
Annualized	7.03	6.78	—

For a portion of the periods, the fund had expense limitations, without which returns would have been lower.

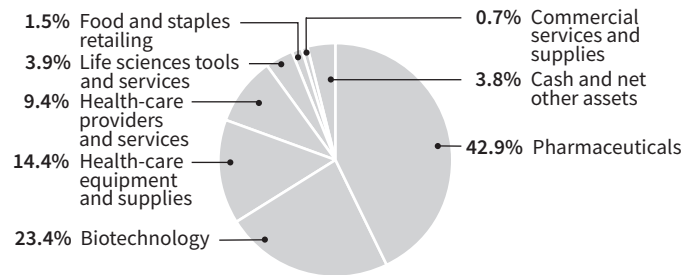
* Class inception date: April 30, 1998.

† The fund's benchmark, the MSCI World Health Care Index (ND), was introduced on 1/1/01, which post-dates the inception of the fund's class IA shares.

The MSCI World Health Care Index (ND) is a free float-adjusted market capitalization weighted index that is designed to measure the equity market performance of developed markets in the health-care sector. Calculated with net dividends (ND), this total return index reflects the reinvestment of dividends after the deduction of withholding taxes, using a tax rate applicable to non-resident institutional investors who do not benefit from double taxation treaties.

Data represent past performance. Past performance does not guarantee future results. More recent returns may be less or more than those shown. Investment return and principal value will fluctuate, and you may have a gain or a loss when you sell your shares. Performance information does not reflect any deduction for taxes a shareholder may owe on fund distributions or on the redemption of fund shares. All total return figures are at net asset value and exclude contract charges and expenses, which are added to the variable annuity contracts to determine total return at unit value. Had these charges and expenses been reflected, performance would have been lower. For more recent performance, contact your variable annuity provider who can provide you with performance that reflects the charges and expenses at your contract level.

Portfolio composition



Allocations are shown as a percentage of the fund's net assets. Cash and net other assets, if any, represent the market value weights of cash, derivatives, short-term securities, and other unclassified assets in the portfolio. Summary information may differ from the portfolio schedule included in the financial statements due to the inclusion of derivative securities, any interest accruals, the exclusion of as-of-trades, if any, the use of different classifications of securities for presentation purposes, and rounding. Holdings and allocations may vary over time.

Understanding your fund's expenses

As an investor in a variable annuity product that invests in a registered investment company, you pay ongoing expenses, such as management fees, distribution fees (12b-1 fees), and other expenses. Using the following information, you can estimate how these expenses affect your investment and compare them with the expenses of other funds. You may also pay one-time transaction expenses, which are not shown in this section and would result in higher total expenses. Charges and expenses at the insurance company separate account level are not reflected. For more information, see your fund's prospectus or talk to your financial representative.

Review your fund's expenses

The two left-hand columns of the Expenses per \$1,000 table show the expenses you would have paid on a \$1,000 investment in your fund from 1/1/17 to 6/30/17. They also show how much a \$1,000 investment would be worth at the close of the period, *assuming actual returns and expenses*. To estimate the ongoing expenses you paid over the period, divide your account value by \$1,000, then multiply the result by the number in the first line for the class of shares you own.

Compare your fund's expenses with those of other funds

The two right-hand columns of the Expenses per \$1,000 table show your fund's expenses based on a \$1,000 investment, *assuming a hypothetical 5% annualized return*. You can use this information to compare the ongoing expenses (but not transaction expenses or total costs) of investing in the fund with those of other funds. All shareholder reports of mutual funds and funds serving as variable annuity vehicles will provide this information to help you make this comparison. Please note that you cannot use this information to estimate your actual ending account balance and expenses paid during the period.

Expense ratios

	Class IA	Class IB
Total annual operating expenses for the fiscal year ended 12/31/16	0.77%	1.02%
Annualized expense ratio for the six-month period ended 6/30/17	0.78%	1.03%

Fiscal-year expense information in this table is taken from the most recent prospectus, is subject to change, and may differ from that shown for the annualized expense ratio and in the financial highlights of this report.

Expenses are shown as a percentage of average net assets.

Expenses per \$1,000

	Expenses and value for a \$1,000 investment, assuming actual returns for the 6 months ended 6/30/17		Expenses and value for a \$1,000 investment, assuming a hypothetical 5% annualized return for the 6 months ended 6/30/17	
	Class IA	Class IB	Class IA	Class IB
Expenses paid per \$1,000*†	\$4.16	\$5.49	\$3.91	\$5.16
Ending value (after expenses)	\$1,151.20	\$1,149.50	\$1,020.93	\$1,019.69

*Expenses for each share class are calculated using the fund's annualized expense ratio for each class, which represents the ongoing expenses as a percentage of average net assets for the six months ended 6/30/17. The expense ratio may differ for each share class.

†Expenses based on actual returns are calculated by multiplying the expense ratio by the average account value for the period; then multiplying the result by the number of days in the period; and then dividing that result by the number of days in the year. Expenses based on a hypothetical 5% return are calculated by multiplying the expense ratio by the average account value for the six-month period; then multiplying the result by the number of days in the six-month period; and then dividing that result by the number of days in the year.

Your fund's managers



Portfolio Manager **Samuel Cox** is Co-Director of Equity Research at Putnam. He joined Putnam in 2014 and has been in the investment industry since 2002.

In addition to Sam, your fund is managed by Isabel Buccellati and Michael J. Maguire, CFA.

Your fund's managers also manage other accounts advised by Putnam Management or an affiliate, including retail mutual fund counterparts to the funds in Putnam Variable Trust.

The fund's portfolio 6/30/17 (Unaudited)

COMMON STOCKS (96.4%)*	Shares	Value
Biotechnology (23.1%)		
Amgen, Inc.	51,855	\$8,930,987
Array BioPharma, Inc. † ^S	40,500	338,985
Biogen, Inc. †	20,800	5,644,288
Bioverativ, Inc. †	19,984	1,202,437
Celgene Corp. †	38,600	5,012,982
China Biologic Products, Inc. (China) †	6,097	689,571
Clovis Oncology, Inc. †	21,303	1,994,600
Gilead Sciences, Inc.	40,992	2,901,414
Grifols SAADR (Spain)	50,600	1,069,178
Neurocrine Biosciences, Inc. † ^S	13,800	634,800
Ovid Therapeutics, Inc. † ^F	35,717	337,204
Regeneron Pharmaceuticals, Inc. †	5,800	2,848,612
Shire PLC (United Kingdom)	58,932	3,252,918
TESARO, Inc. † ^S	1,600	223,776
		35,081,752
Commercial services and supplies (0.7%)		
Stericycle, Inc. †	13,200	1,007,424
		1,007,424
Food and staples retail (1.5%)		
AIN Holdings, Inc. (Japan)	12,300	887,984
Walgreens Boots Alliance, Inc.	18,200	1,425,242
		2,313,226
Health-care equipment and supplies (14.5%)		
Becton Dickinson and Co.	36,700	7,160,537
Boston Scientific Corp. †	143,100	3,966,732
Danaher Corp.	61,300	5,173,107
DENTSPLY Sirona, Inc.	36,100	2,340,724
Intuitive Surgical, Inc. †	2,500	2,338,425
Penumbra, Inc. † ^S	10,861	953,053
		21,932,578
Health-care providers and services (9.4%)		
Fresenius Medical Care AG & Co., KGaA (Germany)	7,276	699,476
Humana, Inc.	9,100	2,189,642
McKesson Corp.	21,000	3,455,340
Sinopharm Group Co. (China)	31,600	142,874
UnitedHealth Group, Inc.	41,700	7,732,014
		14,219,346
Health-care technology (—%)		
HTG Molecular Diagnostics, Inc. †	5,301	14,101
		14,101
Life sciences tools and services (4.0%)		
Agilent Technologies, Inc.	49,200	2,918,052
Bio-Rad Laboratories, Inc. Class A †	5,600	1,267,336
Clinigen Group PLC (United Kingdom)	93,111	1,044,155
Illumina, Inc. †	4,400	763,488
		5,993,031
Pharmaceuticals (43.2%)		
Aclaris Therapeutics, Inc. †	31,800	862,416
Aspen Pharmacare Holdings, Ltd. (South Africa)	23,685	519,776
AstraZeneca PLC (United Kingdom)	65,291	4,366,714
Aurobindo Pharma, Ltd. (India)	54,642	578,734
Bayer AG (Germany)	47,747	6,173,274
Bristol-Myers Squibb Co.	40,700	2,267,804
Chugai Pharmaceutical Co., Ltd. (Japan)	52,600	1,966,508
GlaxoSmithKline PLC (United Kingdom)	92,632	1,973,206
Jazz Pharmaceuticals PLC †	48,100	7,479,550
Johnson & Johnson	45,100	5,966,279
Medicines Co. (The) † ^S	39,212	1,490,448

COMMON STOCKS (96.4%)* cont.	Shares	Value
Pharmaceuticals cont.		
Merck & Co., Inc.	131,500	\$8,427,832
Nippon Shinyaku Co., Ltd. (Japan)	12,100	773,496
Novartis AG (Switzerland)	76,936	6,402,641
Pacira Pharmaceuticals, Inc. †	33,700	1,607,490
Pfizer, Inc.	101,703	3,416,204
Roche Holding AG (Switzerland)	16,979	4,323,988
Sanofi (France)	54,875	5,249,697
Shionogi & Co., Ltd. (Japan)	29,100	1,619,355
		65,465,412
Total common stocks (cost \$113,334,903)		\$146,026,870

CONVERTIBLE BONDS AND NOTES (0.3%)*	Principal amount	Value
Neurocrine Biosciences, Inc. 144A cv. sr. unsec. notes 2.25%, 5/15/24	\$399,000	\$396,257
Total convertible bonds and notes (cost \$399,000)		\$396,257

WARRANTS (—%)* †	Expiration date	Strike price	Warrants	Value
Neuralstem, Inc. Ser. K ^F	1/9/22	\$42.00	2,050	\$—
Total warrants (cost \$—)				\$—

SHORT-TERM INVESTMENTS (5.6%)	Shares	Value
Putnam Cash Collateral Pool, LLC 1.24% ^d	2,444,375	\$2,444,375
Putnam Short Term Investment Fund 1.07% ^L	6,094,978	6,094,978
Total short-term investments (cost \$8,539,353)		\$8,539,353
Total investments (cost \$122,273,256)		\$154,962,480

Key to holding's abbreviations

ADR American Depository Receipts: represents ownership of foreign securities on deposit with a custodian bank

Notes to the fund's portfolio

Unless noted otherwise, the notes to the fund's portfolio are for the close of the fund's reporting period, which ran from January 1, 2017 through June 30, 2017 (the reporting period). Within the following notes to the portfolio, references to "ASC 820" represent Accounting Standards Codification 820 *Fair Value Measurements and Disclosures*, references to "Putnam Management" represent Putnam Investment Management, LLC, the fund's manager, an indirect wholly-owned subsidiary of Putnam Investments, LLC and references to "OTC", if any, represent over-the-counter.

* Percentages indicated are based on net assets of \$151,543,091.

† This security is non-income-producing.

^d Affiliated company. See Notes 1 and 5 to the financial statements regarding securities lending. The rate quoted in the security description is the annualized 7-day yield of the fund at the close of the reporting period.

^F This security is valued by Putnam Management at fair value following procedures approved by the Trustees. Securities may be classified as Level 2 or Level 3 for ASC 820 based on the securities' valuation inputs (Note 1).

^L Affiliated company (Note 5). The rate quoted in the security description is the annualized 7-day yield of the fund at the close of the reporting period.

^S Security on loan, in part or in entirety, at the close of the reporting period (Note 1).

At the close of the reporting period, the fund maintained liquid assets totaling \$5,431 to cover certain derivative contracts.

Unless otherwise noted, the rates quoted in Short-term investments security descriptions represent the weighted average yield to maturity.

Debt obligations are considered secured unless otherwise indicated.

144A after the name of an issuer represents securities exempt from registration under Rule 144A of the Securities Act of 1933, as amended. These securities may be resold in transactions exempt from registration, normally to qualified institutional buyers.

The dates shown on debt obligations are the original maturity dates.

DIVERSIFICATION BY COUNTRY Δ

Distribution of investments by country of risk at the close of the reporting period, excluding collateral received, if any (as a percentage of Portfolio Value):

United States	72.6%	Japan	3.4%
Switzerland	7.0	Spain	0.7
United Kingdom	7.0	China	0.5
Germany	4.5	Other	0.9
France	3.4	Total	100.0%

Δ Methodology differs from that used for purposes of complying with the fund's policy regarding investments in securities of foreign issuers, as discussed further in the fund's prospectus.

FORWARD CURRENCY CONTRACTS at 6/30/17 (aggregate face value \$8,783,336) (Unaudited)

Counterparty	Currency	Contract type	Delivery date	Value	Aggregate face value	Unrealized appreciation/ (depreciation)
Bank of America N.A.						
	Euro	Buy	9/20/17	\$3,094,043	\$3,042,985	\$51,058
Citibank, N.A.						
	Danish Krone	Buy	9/20/17	1,446,275	1,422,297	23,978
Credit Suisse International						
	Japanese Yen	Buy	8/16/17	1,533,370	1,540,363	(6,993)
HSBC Bank USA, National Association						
	Australian Dollar	Buy	7/19/17	1,384,457	1,367,081	17,376
JPMorgan Chase Bank N.A.						
	Swiss Franc	Buy	9/20/17	1,425,136	1,410,610	14,526
Total						\$99,945

ASC 820 establishes a three-level hierarchy for disclosure of fair value measurements. The valuation hierarchy is based upon the transparency of inputs to the valuation of the fund's investments. The three levels are defined as follows:

Level 1: Valuations based on quoted prices for identical securities in active markets.

Level 2: Valuations based on quoted prices in markets that are not active or for which all significant inputs are observable, either directly or indirectly.

Level 3: Valuations based on inputs that are unobservable and significant to the fair value measurement.

The following is a summary of the inputs used to value the fund's net assets as of the close of the reporting period:

	Valuation inputs		
	Level 1	Level 2	Level 3
Investments in securities:			
Common stocks*:			
Consumer staples	\$2,313,226	\$—	\$—
Health care	142,369,016	—	337,204
Industrials	1,007,424	—	—
Total common stocks	145,689,666	—	337,204
Convertible bonds and notes	—	396,257	—
Warrants	—	—	—
Short-term investments	6,094,978	2,444,375	—
Totals by level	\$151,784,644	\$2,840,632	\$337,204

	Valuation inputs		
	Level 1	Level 2	Level 3
Other financial instruments:			
Forward currency contracts	\$—	\$99,945	\$—
Totals by level	\$—	\$99,945	\$—

* Common stock classifications are presented at the sector level, which may differ from the fund's portfolio presentation.

During the reporting period, transfers within the fair value hierarchy, if any, did not represent, in the aggregate, more than 1% of the fund's net assets measured as of the end of the period. Transfers are accounted for using the end of period pricing valuation method.

At the start and close of the reporting period, Level 3 investments in securities represented less than 1% of the fund's net assets and were not considered a significant portion of the fund's portfolio.

The accompanying notes are an integral part of these financial statements.

Statement of assets and liabilities

6/30/17 (Unaudited)

Assets	
Investment in securities, at value, including \$2,384,589 of securities on loan (Note 1):	
Unaffiliated issuers (identified cost \$113,733,903)	\$146,423,127
Affiliated issuers (identified cost \$8,539,353) (Notes 1 and 5)	8,539,353
Foreign currency (cost \$2,736) (Note 1)	2,736
Dividends, interest and other receivables	232,328
Receivable for shares of the fund sold	78,217
Foreign tax reclaim	169,132
Unrealized appreciation on forward currency contracts (Note 1)	106,938
Total assets	155,551,831
Liabilities	
Payable for investments purchased	784,122
Payable for shares of the fund repurchased	532,256
Payable for compensation of Manager (Note 2)	77,569
Payable for custodian fees (Note 2)	9,832
Payable for investor servicing fees (Note 2)	14,675
Payable for Trustee compensation and expenses (Note 2)	83,663
Payable for administrative services (Note 2)	578
Payable for distribution fees (Note 2)	21,265
Unrealized depreciation on forward currency contracts (Note 1)	6,993
Collateral on securities loaned, at value (Note 1)	2,444,375
Other accrued expenses	33,412
Total liabilities	4,008,740
Net assets	\$151,543,091
Represented by	
Paid-in capital (Unlimited shares authorized) (Notes 1 and 4)	\$100,673,173
Undistributed net investment income (Note 1)	1,014,089
Accumulated net realized gain on investments and foreign currency transactions (Note 1)	17,059,775
Net unrealized appreciation of investments and assets and liabilities in foreign currencies	32,796,054
Total — Representing net assets applicable to capital shares outstanding	\$151,543,091
Computation of net asset value Class IA	
Net assets	\$47,562,970
Number of shares outstanding	2,823,433
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$16.85
Computation of net asset value Class IB	
Net assets	\$103,980,121
Number of shares outstanding	6,344,790
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$16.39

The accompanying notes are an integral part of these financial statements.

Statement of operations

Six months ended 6/30/17 (Unaudited)

Investment income

Dividends (net of foreign tax of \$84,579)	\$1,535,896
Interest (including interest income of \$23,027 from investments in affiliated issuers) (Note 5)	24,666
Securities lending (net of expenses) (Note 1)	9,761
Total investment income	1,570,323

Expenses

Compensation of Manager (Note 2)	453,973
Investor servicing fees (Note 2)	51,250
Custodian fees (Note 2)	10,100
Trustee compensation and expenses (Note 2)	5,144
Distribution fees (Note 2)	123,990
Administrative services (Note 2)	1,696
Other	45,710
Total expenses	691,863

Expense reduction (Note 2)	(3,111)
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Net expenses	688,752
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Net investment income	881,571
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Net realized gain on securities from unaffiliated issuers (Notes 1 and 3)	17,540,559
Net increase from payments by affiliates (Note 2)	48,028
Net realized gain on forward currency contracts (Note 1)	93,789
Net realized loss on foreign currency transactions (Note 1)	(1,382)
Net unrealized appreciation of securities in unaffiliated issuers and TBA sale commitments during the period	1,207,576
Net unrealized appreciation of forward currency contracts during the period	422,343
Net unrealized appreciation of assets and liabilities in foreign currencies during the period	8,686

Net gain on investments	19,319,599
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Net increase in net assets resulting from operations	\$20,201,170
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Statement of changes in net assets

	Six months ended 6/30/17*	Year ended 12/31/16
Increase (decrease) in net assets		
Operations:		
Net investment income	\$881,571	\$980,190
Net realized gain on investments and foreign currency transactions	17,680,994	12,804,783
Net unrealized appreciation (depreciation) of investments and assets and liabilities in foreign currencies	1,638,605	(35,274,352)
Net increase (decrease) in net assets resulting from operations	20,201,170	(21,489,379)
Distributions to shareholders (Note 1):		
From ordinary income		
Net investment income		
Class IA	(360,046)	(488,646)
Class IB	(533,121)	(1,072,439)
From net realized long-term gain on investments		
Class IA	(3,862,556)	(5,674,893)
Class IB	(8,642,488)	(12,454,759)
Increase (decrease) from capital share transactions (Note 4)	7,173,854	(19,544,733)
Total increase (decrease) in net assets	13,976,813	(60,724,849)
Net assets:		
Beginning of period	137,566,278	198,291,127
End of period (including undistributed net investment income of \$1,014,089 and \$1,025,685, respectively)	\$151,543,091	\$137,566,278

* Unaudited.

The accompanying notes are an integral part of these financial statements.

Financial highlights (For a common share outstanding throughout the period)

Period ended	INVESTMENT OPERATIONS:				LESS DISTRIBUTIONS:			RATIOS AND SUPPLEMENTAL DATA:					
	Net asset value, beginning of period	Net investment income (loss) ^a	Net realized and unrealized gain (loss) on investments	Total from investment operations	From net investment income	From net realized gain on investments	Total distributions	Net asset value, end of period	Total return at net asset value (%) ^{b, c}	Net assets, end of period (in thousands)	Ratio of expenses to average net assets (%) ^{b, d}	Ratio of net investment income (loss) to average net assets (%)	Portfolio turnover (%)
Class IA													
6/30/17†	\$16.10	.11	2.24	2.35	(.14)	(1.46)	(1.60)	\$16.85	15.12*	\$47,563	.39*	.69*	40*
12/31/16	20.52	.13	(2.41)	(2.28)	—	(2.14)	(2.14)	16.10	(11.14)	44,197	.77 ^e	.78 ^e	24
12/31/15	20.52	.12	1.57	1.69	—	(1.69)	(1.69)	20.52	8.06	63,810	.75	.57	16
12/31/14	17.75	.14	4.42	4.56	(.06)	(1.73)	(1.79)	20.52	27.96	61,107	.79	.74	27
12/31/13	13.11	.15	5.17	5.32	(.20)	(.48)	(.68)	17.75	41.98	53,545	.82	.97	30
12/31/12	11.85	.17	2.36	2.53	(.20)	(1.07)	(1.27)	13.11	22.57	42,239	.84	1.38	30
Class IB													
6/30/17†	\$15.68	.09	2.17	2.26	(.09)	(1.46)	(1.55)	\$16.39	14.95*	\$103,980	.51*	.56*	40*
12/31/16	20.09	.09	(2.36)	(2.27)	—	(2.14)	(2.14)	15.68	(11.35)	93,369	1.02 ^e	.53 ^e	24
12/31/15	20.17	.06	1.55	1.61	—	(1.69)	(1.69)	20.09	7.79	134,481	1.00	.31	16
12/31/14	17.48	.09	4.35	4.44	(.02)	(1.73)	(1.75)	20.17	27.64	114,213	1.04	.49	27
12/31/13	12.92	.11	5.10	5.21	(.17)	(.48)	(.65)	17.48	41.66	90,726	1.07	.71	30
12/31/12	11.69	.14	2.33	2.47	(.17)	(1.07)	(1.24)	12.92	22.27	66,503	1.09	1.13	30

* Not annualized.

† Unaudited.

^a Per share net investment income (loss) has been determined on the basis of the weighted average number of shares outstanding during the period.

^b The charges and expenses at the insurance company separate account level are not reflected.

^c Total return assumes dividend reinvestment.

^d Includes amounts paid through expense offset and brokerage/service arrangements, if any (Note 2). Also excludes acquired fund fees and expenses, if any.

^e Reflects a voluntary waiver of certain fund expenses in effect during the period. As a result of such waivers, the expenses of each class reflect a reduction of less than .01% as a percentage of average net assets per share for each class (Note 2).

The accompanying notes are an integral part of these financial statements.

Notes to financial statements 6/30/17 (Unaudited)

Within the following Notes to financial statements, references to “State Street” represent State Street Bank and Trust Company, references to “the SEC” represent the Securities and Exchange Commission, references to “Putnam Management” represent Putnam Investment Management, LLC, the fund’s manager, an indirect wholly-owned subsidiary of Putnam Investments, LLC and references to “OTC”, if any, represent over-the-counter. Unless otherwise noted, the “reporting period” represents the period from January 1, 2017 through June 30, 2017.

Putnam VT Global Health Care Fund (the fund) is a non-diversified series of Putnam Variable Trust (the Trust), a Massachusetts business trust registered under the Investment Company Act of 1940, as amended, as an open-end management investment company. The goal of the fund is to seek capital appreciation. For this non-diversified fund concentrating in the health care industries, the fund invests mainly in common stocks (growth or value stocks or both) of large and midsize companies worldwide that Putnam Management believes have favorable investment potential. Under normal circumstances, Putnam Management invests at least 80% of the fund’s net assets in securities of companies in the health care industries. This policy may be changed only after 60 days’ notice to shareholders. Potential investments include companies that manufacture health care supplies or provide health care-related services, and companies in the research, development, production and marketing of pharmaceuticals and biotechnology products. The fund may purchase stocks of companies with stock prices that reflect a value lower than that which Putnam Management places on the company. The fund may also consider other factors that it believes will cause the stock price to rise. Putnam Management may consider, among other factors, a company’s valuation, financial strength, growth potential, competitive position in its industry, projected future earnings, cash flows and dividends when deciding whether to buy or sell investments. Putnam Management may also use derivatives, such as futures, options, certain foreign currency transactions, warrants and swap contracts, for both hedging and non-hedging purposes, and may engage in short sales of securities.

The fund offers class IA and class IB shares of beneficial interest. Class IA shares are offered at net asset value and are not subject to a distribution fee. Class IB shares are offered at net asset value and pay an ongoing distribution fee, which is identified in Note 2.

In the normal course of business, the fund enters into contracts that may include agreements to indemnify another party under given circumstances. The fund’s maximum exposure under these arrangements is unknown as this would involve future claims that may be, but have not yet been, made against the fund. However, the fund’s management team expects the risk of material loss to be remote.

The fund has entered into contractual arrangements with an investment adviser, administrator, distributor, shareholder servicing agent and custodian, who each provide services to the fund. Unless expressly stated otherwise, shareholders are not parties to, or intended beneficiaries of these contractual arrangements, and these contractual arrangements are not intended to create any shareholder right to enforce them against the service providers or to seek any remedy under them against the service providers, either directly or on behalf of the fund.

Under the fund’s Declaration of Trust, any claims asserted against or on behalf of the Putnam Funds, including claims against Trustees and Officers, must be brought in state and federal courts located within the Commonwealth of Massachusetts.

Note 1 — Significant accounting policies

The following is a summary of significant accounting policies consistently followed by the fund in the preparation of its financial statements. The preparation of financial statements is in conformity with accounting principles generally accepted in the United States of America and requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities in the financial statements and the reported amounts of increases and decreases in net assets from operations. Actual results could differ from those estimates. Subsequent events after the Statement of assets and liabilities date through the date that the financial statements were issued have been evaluated in the preparation of the financial statements.

Investment income, realized and unrealized gains and losses and expenses of the fund are borne pro-rata based on the relative net assets of each class to the total net assets of the fund, except that each class bears expenses unique to that class (including the distribution fees applicable to such classes). Each class votes as a class only with respect to its own distribution plan or other matters on which a class vote is required by law or determined by the Trustees. If the fund

were liquidated, shares of each class would receive their pro-rata share of the net assets of the fund. In addition, the Trustees declare separate dividends on each class of shares.

Security valuation Portfolio securities and other investments are valued using policies and procedures adopted by the Board of Trustees. The Trustees have formed a Pricing Committee to oversee the implementation of these procedures and have delegated responsibility for valuing the fund’s assets in accordance with these procedures to Putnam Management. Putnam Management has established an internal Valuation Committee that is responsible for making fair value determinations, evaluating the effectiveness of the pricing policies of the fund and reporting to the Pricing Committee.

Investments for which market quotations are readily available are valued at the last reported sales price on their principal exchange, or official closing price for certain markets, and are classified as Level 1 securities under Accounting Standards Codification 820 *Fair Value Measurements and Disclosures* (ASC 820). If no sales are reported, as in the case of some securities that are traded OTC, a security is valued at its last reported bid price and is generally categorized as a Level 2 security.

Investments in open-end investment companies (excluding exchange-traded funds), if any, which can be classified as Level 1 or Level 2 securities, are valued based on their net asset value. The net asset value of such investment companies equals the total value of their assets less their liabilities and divided by the number of their outstanding shares.

Many securities markets and exchanges outside the U.S. close prior to the scheduled close of the New York Stock Exchange and therefore the closing prices for securities in such markets or on such exchanges may not fully reflect events that occur after such close but before the scheduled close of the New York Stock Exchange. Accordingly, on certain days, the fund will fair value certain foreign equity securities taking into account multiple factors including movements in the U.S. securities markets, currency valuations and comparisons to the valuation of American Depository Receipts, exchange-traded funds and futures contracts. The foreign equity securities, which would generally be classified as Level 1 securities, will be transferred to Level 2 of the fair value hierarchy when they are valued at fair value. The number of days on which fair value prices will be used will depend on market activity and it is possible that fair value prices will be used by the fund to a significant extent. Securities quoted in foreign currencies, if any, are translated into U.S. dollars at the current exchange rate. Short-term securities with remaining maturities of 60 days or less are valued using an independent pricing service approved by the Trustees, and are classified as Level 2 securities.

To the extent a pricing service or dealer is unable to value a security or provides a valuation that Putnam Management does not believe accurately reflects the security’s fair value, the security will be valued at fair value by Putnam Management in accordance with policies and procedures approved by the Trustees. Certain investments, including certain restricted and illiquid securities and derivatives, are also valued at fair value following procedures approved by the Trustees. These valuations consider such factors as significant market or specific security events such as interest rate or credit quality changes, various relationships with other securities, discount rates, U.S. Treasury, U.S. swap and credit yields, index levels, convexity exposures, recovery rates, sales and other multiples and resale restrictions. These securities are classified as Level 2 or as Level 3 depending on the priority of the significant inputs.

To assess the continuing appropriateness of fair valuations, the Valuation Committee reviews and affirms the reasonableness of such valuations on a regular basis after considering all relevant information that is reasonably available. Such valuations and procedures are reviewed periodically by the Trustees. The fair value of securities is generally determined as the amount that the fund could reasonably expect to realize from an orderly disposition of such securities over a reasonable period of time. By its nature, a fair value price is a good faith estimate of the value of a security in a current sale and does not reflect an actual market price, which may be different by a material amount.

Security transactions and related investment income Security transactions are recorded on the trade date (the date the order to buy or sell is executed). Gains or losses on securities sold are determined on the identified cost basis.

Interest income, net of any applicable withholding taxes, is recorded on the accrual basis. Dividend income, net of any applicable withholding taxes, is recognized on the ex-dividend date except that certain dividends from foreign securities, if any, are recognized as soon as the fund is informed of the ex-dividend date. Non-cash

dividends, if any, are recorded at the fair value of the securities received. Dividends representing a return of capital or capital gains, if any, are reflected as a reduction of cost and/or as a realized gain. All premiums/discounts are amortized/accrued on a yield-to-maturity basis.

Foreign currency translation The accounting records of the fund are maintained in U.S. dollars. The fair value of foreign securities, currency holdings, and other assets and liabilities is recorded in the books and records of the fund after translation to U.S. dollars based on the exchange rates on that day. The cost of each security is determined using historical exchange rates. Income and withholding taxes are translated at prevailing exchange rates when earned or incurred. The fund does not isolate that portion of realized or unrealized gains or losses resulting from changes in the foreign exchange rate on investments from fluctuations arising from changes in the market prices of the securities. Such gains and losses are included with the net realized and unrealized gain or loss on investments. Net realized gains and losses on foreign currency transactions represent net realized exchange gains or losses on disposition of foreign currencies, currency gains and losses realized between the trade and settlement dates on securities transactions and the difference between the amount of investment income and foreign withholding taxes recorded on the fund's books and the U.S. dollar equivalent amounts actually received or paid. Net unrealized appreciation and depreciation of assets and liabilities in foreign currencies arise from changes in the value of assets and liabilities other than investments at the period end, resulting from changes in the exchange rate.

Forward currency contracts The fund buys and sells forward currency contracts, which are agreements between two parties to buy and sell currencies at a set price on a future date. These contracts are used to hedge foreign exchange risk, for hedging currency exposures and to gain exposure to currencies.

The U.S. dollar value of forward currency contracts is determined using current forward currency exchange rates supplied by a quotation service. The fair value of the contract will fluctuate with changes in currency exchange rates. The contract is marked to market daily and the change in fair value is recorded as an unrealized gain or loss. The fund records a realized gain or loss equal to the difference between the value of the contract at the time it was opened and the value at the time it was closed when the contract matures or by delivery of the currency. The fund could be exposed to risk if the value of the currency changes unfavorably, if the counterparties to the contracts are unable to meet the terms of their contracts or if the fund is unable to enter into a closing position. Risks may exceed amounts recognized on the Statement of assets and liabilities.

Forward currency contracts outstanding at period end, if any, are listed after the fund's portfolio.

Master agreements The fund is a party to ISDA (International Swaps and Derivatives Association, Inc.) Master Agreements (Master Agreements) with certain counterparties that govern OTC derivative and foreign exchange contracts entered into from time to time. The Master Agreements may contain provisions regarding, among other things, the parties' general obligations, representations, agreements, collateral requirements, events of default and early termination. With respect to certain counterparties, in accordance with the terms of the Master Agreements, collateral posted to the fund is held in a segregated account by the fund's custodian and, with respect to those amounts which can be sold or repledged, is presented in the fund's portfolio.

Collateral pledged by the fund is segregated by the fund's custodian and identified in the fund's portfolio. Collateral can be in the form of cash or debt securities issued by the U.S. Government or related agencies or other securities as agreed to by the fund and the applicable counterparty. Collateral requirements are determined based on the fund's net position with each counterparty.

Termination events applicable to the fund may occur upon a decline in the fund's net assets below a specified threshold over a certain period of time. Termination events applicable to counterparties may occur upon a decline in the counterparty's long-term and short-term credit ratings below a specified level. In each case, upon occurrence, the other party may elect to terminate early and cause settlement of all derivative and foreign exchange contracts outstanding, including the payment of any losses and costs resulting from such early termination, as reasonably determined by the terminating party. Any decision by one or more of the fund's counterparties to elect early termination could impact the fund's future derivative activity.

At the close of the reporting period, the fund had a net liability position of \$6,993 on open derivative contracts subject to the Master Agreements. There was no collateral posted by the fund at period end for these agreements.

Securities lending The fund may lend securities, through its agent, to qualified borrowers in order to earn additional income. The loans are collateralized by cash

in an amount at least equal to the fair value of the securities loaned. The fair value of securities loaned is determined daily and any additional required collateral is allocated to the fund on the next business day. The remaining maturities of the securities lending transactions are considered overnight and continuous. The risk of borrower default will be borne by the fund's agent; the fund will bear the risk of loss with respect to the investment of the cash collateral. Income from securities lending, net of expenses, is included in investment income on the Statement of operations. Cash collateral is invested in Putnam Cash Collateral Pool, LLC, a limited liability company managed by an affiliate of Putnam Management. Investments in Putnam Cash Collateral Pool, LLC are valued at its closing net asset value each business day. There are no management fees charged to Putnam Cash Collateral Pool, LLC. At the close of the reporting period, the fund received cash collateral of \$2,444,375 and the value of securities loaned amounted to \$2,384,589.

Interfund lending The fund, along with other Putnam funds, may participate in an interfund lending program pursuant to an exemptive order issued by the SEC. This program allows the fund to borrow from or lend to other Putnam funds that permit such transactions. Interfund lending transactions are subject to each fund's investment policies and borrowing and lending limits. Interest earned or paid on the interfund lending transaction will be based on the average of certain current market rates. During the reporting period, the fund did not utilize the program.

Lines of credit The fund participates, along with other Putnam funds, in a \$317.5 million unsecured committed line of credit and a \$235.5 million unsecured uncommitted line of credit, both provided by State Street. Borrowings may be made for temporary or emergency purposes, including the funding of shareholder redemption requests and trade settlements. Interest is charged to the fund based on the fund's borrowing at a rate equal to the higher of (1) the Federal Funds rate and (2) the overnight LIBOR plus 1.25% for the committed line of credit and the Federal Funds rate plus 1.30% for the uncommitted line of credit. A closing fee equal to 0.04% of the committed line of credit plus a \$25,000 flat fee and 0.04% of the uncommitted line of credit has been paid by the participating funds. In addition, a commitment fee of 0.21% per annum on any unutilized portion of the committed line of credit is allocated to the participating funds based on their relative net assets and paid quarterly. During the reporting period, the fund had no borrowings against these arrangements.

Federal taxes It is the policy of the fund to distribute all of its taxable income within the prescribed time period and otherwise comply with the provisions of the Internal Revenue Code of 1986, as amended (the Code), applicable to regulated investment companies.

The fund is subject to the provisions of Accounting Standards Codification 740 *Income Taxes* (ASC 740). ASC 740 sets forth a minimum threshold for financial statement recognition of the benefit of a tax position taken or expected to be taken in a tax return. The fund did not have a liability to record for any unrecognized tax benefits in the accompanying financial statements. No provision has been made for federal taxes on income, capital gains or unrealized appreciation on securities held nor for excise tax on income and capital gains. Each of the fund's federal tax returns for the prior three fiscal years remains subject to examination by the Internal Revenue Service.

The fund may also be subject to taxes imposed by governments of countries in which it invests. Such taxes are generally based on either income or gains earned or repatriated. The fund accrues and applies such taxes to net investment income, net realized gains and net unrealized gains as income and/or capital gains are earned. In some cases, the fund may be entitled to reclaim all or a portion of such taxes, and such reclaim amounts, if any, are reflected as an asset on the fund's books. In many cases, however, the fund may not receive such amounts for an extended period of time, depending on the country of investment.

The aggregate identified cost on a tax basis is \$122,632,713, resulting in gross unrealized appreciation and depreciation of \$34,615,249 and \$2,285,482, respectively, or net unrealized appreciation of \$32,329,767.

Distributions to shareholders Distributions to shareholders from net investment income are recorded by the fund on the ex-dividend date. Distributions from capital gains, if any, are recorded on the ex-dividend date and paid at least annually. The amount and character of income and gains to be distributed are determined in accordance with income tax regulations, which may differ from generally accepted accounting principles. Dividend sources are estimated at the time of declaration. Actual results may vary. Any non-taxable return of capital cannot be determined until final tax calculations are completed after the end of the fund's fiscal year. Reclassifications are made to the fund's capital accounts to reflect income and gains available for distribution (or available capital loss carryovers) under income tax regulations.

Expenses of the Trust Expenses directly charged or attributable to any fund will be paid from the assets of that fund. Generally, expenses of the Trust will be allocated among and charged to the assets of each fund on a basis that the Trustees deem fair and equitable, which may be based on the relative assets of each fund or the nature of the services performed and relative applicability to each fund.

Beneficial interest At the close of the reporting period, insurance companies or their separate accounts were record owners of all but a de minimis number of the shares of the fund. Approximately 33.7% of the fund is owned by accounts of one insurance company.

Note 2 — Management fee, administrative services and other transactions

The fund pays Putnam Management a management fee (based on the fund's average net assets and computed and paid monthly) at annual rates that may vary based on the average of the aggregate net assets of all open-end mutual funds sponsored by Putnam Management (excluding net assets of funds that are invested in, or that are invested in by, other Putnam funds to the extent necessary to avoid "double counting" of those assets). Such annual rates may vary as follows:

0.780%	of the first \$5 billion,
0.730%	of the next \$5 billion,
0.680%	of the next \$10 billion,
0.630%	of the next \$10 billion,
0.580%	of the next \$50 billion,
0.560%	of the next \$50 billion,
0.550%	of the next \$100 billion and
0.545%	of any excess thereafter.

For the reporting period, the management fee represented an effective rate (excluding the impact from any expense waivers in effect) of 0.310% of the fund's average net assets.

Putnam Management has contractually agreed, through April 30, 2019, to waive fees or reimburse the fund's expenses to the extent necessary to limit the cumulative expenses of the fund, exclusive of brokerage, interest, taxes, investment-related expenses, extraordinary expenses, acquired fund fees and expenses and payments under the fund's investor servicing contract, investment management contract and distribution plans, on a fiscal year-to-date basis to an annual rate of 0.20% of the fund's average net assets over such fiscal year-to-date period. During the reporting period, the fund's expenses were not reduced as a result of this limit.

Putnam Investments Limited (PIL), an affiliate of Putnam Management, is authorized by the Trustees to manage a separate portion of the assets of the fund as determined by Putnam Management from time to time. Putnam Management pays a quarterly sub-management fee to PIL for its services at an annual rate of 0.35% of the average net assets of the portion of the fund managed by PIL.

The Putnam Advisory Company, LLC (PAC), an affiliate of Putnam Management, is authorized by the Trustees to manage a separate portion of the assets of the fund, as designated from time to time by Putnam Management or PIL. PAC did not manage any portion of the assets of the fund during the reporting period. If Putnam Management or PIL were to engage the services of PAC, Putnam Management or PIL, as applicable, would pay a quarterly sub-advisory fee to PAC for its services at the annual rate of 0.35% of the average net assets of the portion of the fund's assets for which PAC is engaged as sub-adviser.

Putnam Management voluntarily reimbursed the fund \$48,028 for a trading error which occurred during the reporting period. The effect of the loss incurred and the reimbursement by Putnam Management of such amounts had no material impact on total return.

The fund reimburses Putnam Management an allocated amount for the compensation and related expenses of certain officers of the fund and their staff who provide administrative services to the fund. The aggregate amount of all such reimbursements is determined annually by the Trustees.

Custodial functions for the fund's assets are provided by State Street. Custody fees are based on the fund's asset level, the number of its security holdings and transaction volumes.

Putnam Investor Services, Inc., an affiliate of Putnam Management, provides investor servicing agent functions to the fund. Putnam Investor Services, Inc. was

paid a monthly fee for investor servicing at an annual rate of 0.07% of the fund's average daily net assets. During the reporting period, the expenses for each class of shares related to investor servicing fees were as follows:

Class IA	\$16,250
Class IB	35,000
Total	\$51,250

The fund has entered into expense offset arrangements with Putnam Investor Services, Inc. and State Street whereby Putnam Investor Services, Inc.'s and State Street's fees are reduced by credits allowed on cash balances. The fund also reduced expenses through brokerage/service arrangements. For the reporting period, the fund's expenses were reduced by \$3 under the expense offset arrangements and by \$3,108 under the brokerage/service arrangements.

Each Independent Trustee of the fund receives an annual Trustee fee, of which \$112, as a quarterly retainer, has been allocated to the fund, and an additional fee for each Trustees meeting attended. Trustees also are reimbursed for expenses they incur relating to their services as Trustees.

The fund has adopted a Trustee Fee Deferral Plan (the Deferral Plan) which allows the Trustees to defer the receipt of all or a portion of Trustees fees payable on or after July 1, 1995. The deferred fees remain invested in certain Putnam funds until distribution in accordance with the Deferral Plan.

The fund has adopted an unfunded noncontributory defined benefit pension plan (the Pension Plan) covering all Trustees of the fund who have served as a Trustee for at least five years and were first elected prior to 2004. Benefits under the Pension Plan are equal to 50% of the Trustee's average annual attendance and retainer fees for the three years ended December 31, 2005. The retirement benefit is payable during a Trustee's lifetime, beginning the year following retirement, for the number of years of service through December 31, 2006. Pension expense for the fund is included in Trustee compensation and expenses in the Statement of operations. Accrued pension liability is included in Payable for Trustee compensation and expenses in the Statement of assets and liabilities. The Trustees have terminated the Pension Plan with respect to any Trustee first elected after 2003.

The fund has adopted a distribution plan (the Plan) with respect to its class IB shares pursuant to Rule 12b-1 under the Investment Company Act of 1940. The purpose of the Plan is to compensate Putnam Retail Management Limited Partnership, an indirect wholly-owned subsidiary of Putnam Investments, LLC, for services provided and expenses incurred in distributing shares of the fund. The Plan provides for payment by the fund to Putnam Retail Management Limited Partnership at an annual rate of up to 0.35% of the average net assets attributable to the fund's class IB shares. The Trustees have approved payment by the fund at an annual rate of 0.25% of the average net assets attributable to the fund's class IB shares. The expenses related to distribution fees during the reporting period are included in Distribution fees in the Statement of operations.

Note 3 — Purchases and sales of securities

During the reporting period, the cost of purchases and the proceeds from sales, excluding short-term investments, were as follows:

	Cost of purchases	Proceeds from sales
Investments in securities (Long-term)	\$56,049,273	\$63,097,437
U.S. government securities (Long-term)	—	—
Total	\$56,049,273	\$63,097,437

The fund may purchase or sell investments from or to other Putnam funds in the ordinary course of business, which can reduce the fund's transaction costs, at prices determined in accordance with SEC requirements and policies approved by the Trustees. During the reporting period, purchases or sales of long-term securities from or to other Putnam funds, if any, did not represent more than 5% of the fund's total cost of purchases and/or total proceeds from sales.

Note 4 — Capital shares

At the close of the reporting period, there were an unlimited number of shares of beneficial interest authorized. Transactions in capital shares were as follows:

	Class IA shares				Class IB shares			
	Six months ended 6/30/17		Year ended 12/31/16		Six months ended 6/30/17		Year ended 12/31/16	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
Shares sold	65,829	\$1,098,812	88,450	\$1,559,863	340,546	\$5,674,091	375,086	\$6,268,781
Shares issued in connection with reinvestment of distributions	264,574	4,222,602	381,880	6,163,539	590,451	9,175,609	858,870	13,527,198
	330,403	5,321,414	470,330	7,723,402	930,997	14,849,700	1,233,956	19,795,979
Shares repurchased	(252,221)	(4,203,311)	(834,690)	(14,280,221)	(541,645)	(8,793,949)	(1,972,181)	(32,783,893)
Net increase (decrease)	78,182	\$1,118,103	(364,360)	\$(6,556,819)	389,352	\$6,055,751	(738,225)	\$(12,987,914)

Note 5 — Affiliated transactions

Transactions during the reporting period with any company which is under common ownership or control were as follows:

Affiliate	Fair value as of 12/31/16	Purchase cost	Sale proceeds	Investment income	Shares outstanding and Fair value as of 6/30/17
Short-term investments					
Putnam Cash Collateral Pool, LLC *	\$952,469	\$19,256,966	\$17,765,060	\$12,717	\$2,444,375
Putnam Short Term Investment Fund **	3,033,230	29,977,340	26,915,592	23,027	6,094,978
Total Short-term investments	\$3,985,699	\$49,234,306	\$44,680,652	\$35,744	\$8,539,353

* No management fees are charged to Putnam Cash Collateral Pool, LLC (Note 1). Investment income shown is included in securities lending income on the Statement of operations. There were no realized or unrealized gains or losses during the period.

** Management fees charged to Putnam Short Term Investment Fund have been waived by Putnam Management. There were no realized or unrealized gains or losses during the period.

Note 6 — Market, credit and other risks

In the normal course of business, the fund trades financial instruments and enters into financial transactions where risk of potential loss exists due to changes in the market (market risk) or failure of the contracting party to the transaction to perform (credit risk). The fund may be exposed to additional credit risk that an

institution or other entity with which the fund has unsettled or open transactions will default. Investments in foreign securities involve certain risks, including those related to economic instability, unfavorable political developments, and currency fluctuations. The fund concentrates a majority of its investments in the health sector, which involves more risk than a fund that invests more broadly.

Note 7 — Summary of derivative activity

The volume of activity for the reporting period for any derivative type that was held during the period is listed below and was based on an average of the holdings at the end of each fiscal quarter:

Forward currency contracts (contract amount)	\$8,600,000
Warrants (number of warrants)	16,000

The following is a summary of the fair value of derivative instruments as of the close of the reporting period:

Fair value of derivative instruments as of the close of the reporting period

Derivatives not accounted for as hedging instruments under ASC 815	Asset derivatives		Liability derivatives	
	Statement of assets and liabilities location	Fair value	Statement of assets and liabilities location	Fair value
Foreign exchange contracts	Receivables	\$106,938	Payables	\$6,993
Total		\$106,938		\$6,993

The following is a summary of realized and change in unrealized gains or losses of derivative instruments in the Statement of operations for the reporting period (Note 1):

Amount of realized gain or (loss) on derivatives recognized in net gain or (loss) on investments

Derivatives not accounted for as hedging instruments under ASC 815	Forward currency contracts	Total
Foreign exchange contracts	\$93,789	\$93,789
Total	\$93,789	\$93,789

Change in unrealized appreciation or (depreciation) on derivatives recognized in net gain or (loss) on investments

Derivatives not accounted for as hedging instruments under ASC 815	Forward currency contracts	Total
Foreign exchange contracts	\$422,343	\$422,343
Total	\$422,343	\$422,343

Note 8 — Offsetting of financial and derivative assets and liabilities

The following table summarizes any derivatives, repurchase agreements and reverse repurchase agreements, at the end of the reporting period, that are subject to an enforceable master netting agreement or similar agreement. For securities lending transactions or borrowing transactions associated with securities sold short, if any, see Note 1. For financial reporting purposes, the fund does not offset financial assets and financial liabilities that are subject to the master netting agreements in the Statement of assets and liabilities.

	Bank of America N.A.	Citibank, N.A.	Credit Suisse International	HSBC Bank USA, National Association	JPMorgan Chase Bank N.A.	Total
Assets:						
Forward currency contracts [#]	\$51,058	\$23,978	\$—	\$17,376	\$14,526	\$106,938
Total Assets	\$51,058	\$23,978	\$—	\$17,376	\$14,526	\$106,938
Liabilities:						
Forward currency contracts [#]	—	—	6,993	—	—	6,993
Total Liabilities	\$—	\$—	\$6,993	\$—	\$—	\$6,993
Total Financial and Derivative Net Assets	\$51,058	\$23,978	\$(6,993)	\$17,376	\$14,526	\$99,945
Total collateral received (pledged) ^{†##}	\$—	\$—	\$—	\$—	\$—	
Net amount	\$51,058	\$23,978	\$(6,993)	\$17,376	\$14,526	

† Additional collateral may be required from certain brokers based on individual agreements.

Covered by master netting agreement (Note 1).

Any over-collateralization of total financial and derivative net assets is not shown. Collateral may include amounts related to unsettled agreements.

Note 9 — New pronouncements

In October 2016, the SEC adopted amendments to rules under the Investment Company Act of 1940 (“final rules”) intended to modernize the reporting and disclosure of information by registered investment companies. The final rules amend Regulation S-X and require funds to provide standardized, enhanced derivative disclosure in fund financial statements in a format designed for individual investors. The amendments to Regulation S-X also update the disclosures for

other investments and investments in and advances to affiliates and amend the rules regarding the general form and content of fund financial statements. The compliance date for the amendments to Regulation S-X is August 1, 2017. Putnam Management has evaluated the amendments and its adoption will have no effect on the fund’s net assets or results of operations.

Trustee approval of management contract

General conclusions

The Board of Trustees of The Putnam Funds oversees the management of each fund and, as required by law, determines annually whether to approve the continuance of your fund's management contract with Putnam Investment Management, LLC ("Putnam Management"), the sub-management contract with respect to your fund between Putnam Management and its affiliate, Putnam Investments Limited ("PIL"), and the sub-advisory contract among Putnam Management, PIL, and another affiliate, The Putnam Advisory Company ("PAC"). The Board, with the assistance of its Contract Committee, requests and evaluates all information it deems reasonably necessary under the circumstances in connection with its annual contract review. The Contract Committee consists solely of Trustees who are not "interested persons" (as this term is defined in the Investment Company Act of 1940, as amended (the "1940 Act")) of The Putnam Funds ("Independent Trustees").

At the outset of the review process, members of the Board's independent staff and independent legal counsel discussed with representatives of Putnam Management the annual contract review materials furnished to the Contract Committee during the course of the previous year's review, identifying possible changes in these materials that might be necessary or desirable for the coming year. Following these discussions and in consultation with the Contract Committee, the Independent Trustees' independent legal counsel requested that Putnam Management and its affiliates furnish specified information, together with any additional information that Putnam Management considered relevant, to the Contract Committee. Over the course of several months ending in June 2017, the Contract Committee met on a number of occasions with representatives of Putnam Management, and separately in executive session, to consider the information that Putnam Management provided. Throughout this process, the Contract Committee was assisted by the members of the Board's independent staff and by independent legal counsel for The Putnam Funds and the Independent Trustees.

In May 2017, the Contract Committee met in executive session to discuss and consider its recommendations with respect to the continuance of the contracts. At the Trustees' June 2017 meeting, the Contract Committee met in executive session with the other Independent Trustees to review a summary of the key financial, performance and other data that the Contract Committee considered in the course of its review. The Contract Committee then presented its written report, which summarized the key factors that the Committee had considered and set forth its recommendations. The Contract Committee recommended, and the Independent Trustees approved, the continuance of your fund's management, sub-management and sub-advisory contracts, effective July 1, 2017. (Because PIL and PAC are affiliates of Putnam Management and Putnam Management remains fully responsible for all services provided by PIL and PAC, the Trustees have not attempted to evaluate PIL or PAC as separate entities, and all subsequent references to Putnam Management below should be deemed to include reference to PIL and PAC as necessary or appropriate in the context.)

The Independent Trustees' approval was based on the following conclusions:

- That the fee schedule in effect for your fund represented reasonable compensation in light of the nature and quality of the services being provided to the fund, the fees paid by competitive funds, the costs incurred by Putnam Management in providing services to the fund,

and the continued application of certain reductions and waivers noted below; and

- That the fee schedule in effect for your fund represented an appropriate sharing between fund shareholders and Putnam Management of such economies of scale as may exist in the management of the fund at current asset levels.

These conclusions were based on a comprehensive consideration of all information provided to the Trustees and were not the result of any single factor. Some of the factors that figured particularly in the Trustees' deliberations and how the Trustees considered these factors are described below, although individual Trustees may have evaluated the information presented differently, giving different weights to various factors. It is also important to recognize that the management arrangements for your fund and the other Putnam funds are the result of many years of review and discussion between the Independent Trustees and Putnam Management, that some aspects of the arrangements may receive greater scrutiny in some years than others, and that the Trustees' conclusions may be based, in part, on their consideration of fee arrangements in previous years. For example, with some minor exceptions, the funds' current fee arrangements under the management contracts were first implemented at the beginning of 2010 following extensive review by the Contract Committee and discussions with representatives of Putnam Management, as well as approval by shareholders.

Management fee schedules and total expenses

The Trustees reviewed the management fee schedules in effect for all Putnam funds, including fee levels and breakpoints. The Trustees also reviewed the total expenses of each Putnam fund, recognizing that in most cases management fees represented the major, but not the sole, determinant of total costs to fund shareholders. (In a few instances, funds have implemented so-called "all-in" management fees covering substantially all routine fund operating costs.)

In reviewing fees and expenses, the Trustees generally focus their attention on material changes in circumstances — for example, changes in assets under management, changes in a fund's investment strategy, changes in Putnam Management's operating costs or profitability, or changes in competitive practices in the mutual fund industry — that suggest that consideration of fee changes might be warranted. The Trustees concluded that the circumstances did not indicate that changes to the management fee structure for your fund would be appropriate at this time.

Under its management contract, your fund has the benefit of breakpoints in its management fee schedule that provide shareholders with economies of scale in the form of reduced fee rates as assets under management in the Putnam family of funds increase. The Trustees concluded that the fee schedule in effect for your fund represented an appropriate sharing of economies of scale between fund shareholders and Putnam Management.

As in the past, the Trustees also focused on the competitiveness of each fund's total expense ratio. In order to support the effort to have fund expenses meet competitive standards, the Trustees and Putnam Management have implemented a contractual expense limitation applicable to specified open-end funds, including your fund, of 20 basis points on so-called "other expenses" (i.e., all expenses exclusive of management fees, distribution fees, investor servicing fees, investment-related expenses, interest, taxes, brokerage commissions, acquired fund fees and

expenses and extraordinary expenses). This expense limitation attempts to maintain competitive expense levels for the funds. Most funds, including your fund, had sufficiently low expenses that this expense limitation was not operative during their fiscal years ending in 2016. Putnam Management has agreed to maintain this expense limitation until at least April 30, 2019 and has agreed to implement a contractual expense limitation applicable to specified retail open-end funds, including your fund, of 25 basis points on investor servicing fees and expenses until at least August 31, 2018. Putnam Management's support for these expense limitation arrangements was an important factor in the Trustees' decision to approve the continuance of your fund's management, sub-management and sub-advisory contracts.

The Trustees reviewed comparative fee and expense information for a custom group of competitive funds selected by Broadridge Financial Solutions, Inc. ("Broadridge"). This comparative information included your fund's percentile ranking for effective management fees and total expenses (excluding any applicable 12b-1 fee), which provides a general indication of your fund's relative standing. In the custom peer group, your fund ranked in the first quintile in effective management fees (determined for your fund and the other funds in the custom peer group based on fund asset size and the applicable contractual management fee schedule) and in the first quintile in total expenses (excluding any applicable 12b-1 fees) as of December 31, 2016. The first quintile represents the least expensive funds and the fifth quintile the most expensive funds. The fee and expense data reported by Broadridge as of December 31, 2016 reflected the most recent fiscal year-end data available in Broadridge's database at that time.

In connection with their review of fund management fees and total expenses, the Trustees also reviewed the costs of the services provided and the profits realized by Putnam Management and its affiliates from their contractual relationships with the funds. This information included trends in revenues, expenses and profitability of Putnam Management and its affiliates relating to the investment management, investor servicing and distribution services provided to the funds. In this regard, the Trustees also reviewed an analysis of Putnam Management's revenues, expenses and profitability, allocated on a fund-by-fund basis, with respect to the funds' management, distribution, and investor servicing contracts. For each fund, the analysis presented information about revenues, expenses and profitability for each of the agreements separately and for the agreements taken together on a combined basis. The Trustees concluded that, at current asset levels, the fee schedules in place represented reasonable compensation for the services being provided and represented an appropriate sharing between fund shareholders and Putnam Management of such economies of scale as may exist in the management of the Putnam funds at that time.

The information examined by the Trustees in connection with their annual contract review for the Putnam funds included information regarding fees charged by Putnam Management and its affiliates to institutional clients, including defined benefit pension and profit-sharing plans, charities, college endowments, foundations, sub-advised third-party mutual funds, state, local and non-U.S. government entities, and corporations. This information included, in cases where an institutional product's investment strategy corresponds with a fund's strategy, comparisons of those fees with fees charged to the Putnam funds, as well as an assessment of the differences in the services provided to these different types of clients as compared to the services provided to the Putnam Funds. The Trustees observed that the differences in fee rates between these clients and the Putnam funds are by no means uniform when examined

by individual asset sectors, suggesting that differences in the pricing of investment management services to these types of clients may reflect, among other things, historical competitive forces operating in separate markets. The Trustees considered the fact that in many cases fee rates across different asset classes are higher on average for mutual funds than for institutional clients, as well as the differences between the services that Putnam Management provides to the Putnam funds and those that it provides to its other clients. The Trustees did not rely on these comparisons to any significant extent in concluding that the management fees paid by your fund are reasonable.

Investment performance

The quality of the investment process provided by Putnam Management represented a major factor in the Trustees' evaluation of the quality of services provided by Putnam Management under your fund's management contract. The Trustees were assisted in their review of the Putnam funds' investment process and performance by the work of the investment oversight committees of the Trustees, which meet on a regular basis with the funds' portfolio teams and with the Chief Investment Officers and other senior members of Putnam Management's Investment Division throughout the year. In addition, in response to a request from the Independent Trustees, Putnam Management provided the Trustees with in-depth presentations regarding each of the equity and fixed income investment teams, including the operation of the teams and their investment approaches. The Trustees concluded that Putnam Management generally provides a high-quality investment process — based on the experience and skills of the individuals assigned to the management of fund portfolios, the resources made available to them, and in general Putnam Management's ability to attract and retain high-quality personnel — but also recognized that this does not guarantee favorable investment results for every fund in every time period.

The Trustees considered that 2016 was a challenging year for the performance of the Putnam funds, with generally disappointing results for the international and global equity funds and taxable fixed income funds, mixed results for small-cap equity, Spectrum, global asset allocation, equity research and tax exempt fixed income funds, but generally strong results for U.S. equity funds. The Trustees noted, however, that they were encouraged by the positive performance trend since mid-year 2016 across most Putnam Funds. In particular, from May 1, 2016 through April 30, 2017, 51% of Putnam Fund assets were in the top quartile and 87% were above the median of the Putnam Funds' competitive industry rankings. They noted that the longer-term performance of the Putnam funds generally continued to be strong, exemplified by the fact that the Putnam funds were ranked by the Barron's/Lipper Fund Families survey as the 5th-best performing mutual fund complex out of 54 complexes for the five-year period ended December 31, 2016. In addition, while the survey ranked the Putnam Funds 52nd out of 61 mutual fund complexes for the one-year period ended 2016, the Putnam Funds have ranked 1st or 2nd in the survey for the one-year period three times since 2009 (most recently in 2013). They also noted, however, the disappointing investment performance of some funds for periods ended December 31, 2016 and considered information provided by Putnam Management regarding the factors contributing to the underperformance and actions being taken to improve the performance of these particular funds. The Trustees indicated their intention to continue to monitor closely the performance of those funds, including the effectiveness of any efforts Putnam Management has undertaken to address underperformance and whether additional actions to address areas of underperformance are warranted.

For purposes of the Trustees' evaluation of the Putnam Funds' investment performance, the Trustees generally focus on a competitive industry ranking of each fund's total net return over a one-year, three-year and five-year period. For a number of Putnam funds with relatively unique investment mandates for which Putnam Management informed the Trustees that meaningful competitive performance rankings are not considered to be available, the Trustees evaluated performance based on their total gross and net returns and, in most cases, comparisons of those returns with the returns of selected investment benchmarks. In the case of your fund, the Trustees considered information about your fund's total return and its performance relative to its benchmark over the one-year, three-year and five-year periods ended December 31, 2016. Your fund's class IA shares' return net of fees and expenses was negative and trailed the return of its benchmark over the one-year period and was positive and exceeded the return of its benchmark over the three-year and five-year periods. (When considering performance information, shareholders should be mindful that past performance is not a guarantee of future results.)

The Trustees expressed concern in particular about your fund's underperformance relative to its benchmark over the one-year period ended December 31, 2016 and considered the circumstances that may have contributed to this disappointing performance. The Trustees considered Putnam Management's observation that the fund's underperformance over the one-year period was due in significant part to the fund's overweight (relative to the benchmark) exposure to the biotechnology industry (which was affected, among other things, by higher sensitivity to drug price regulation) and its underweight (relative to the benchmark) exposure to the pharmaceutical industry.

The Trustees considered that Putnam Management made portfolio manager changes in 2016 and that Putnam Management was confident in the investment process of your fund's current portfolio managers. The Trustees also considered Putnam Management's continued efforts to support fund performance through initiatives including structuring compensation for portfolio managers and research analysts to enhance accountability for fund performance, emphasizing accountability in the portfolio management process, and affirming its commitment to a fundamental-driven approach to investing. The Trustees noted further that Putnam Management continued to strengthen its fundamental research capabilities by adding new investment personnel.

As a general matter, the Trustees believe that cooperative efforts between the Trustees and Putnam Management represent the most effective way to address investment performance concerns that may arise from time to time. The Trustees noted that investors in the Putnam funds have, in effect, placed their trust in the Putnam organization, under the oversight of the funds' Trustees, to make appropriate decisions regarding the management of the funds. Based on Putnam Management's willingness

to take appropriate measures to address fund performance issues and Putnam Management's responsiveness to Trustee concerns about investment performance, the Trustees concluded that it continues to be advisable to seek change within Putnam Management to address performance shortcomings. In the Trustees' view, the alternative of engaging a new investment adviser for an underperforming fund would entail significant disruptions and would not likely provide any greater assurance of improved investment performance.

Brokerage and soft-dollar allocations; investor servicing

The Trustees considered various potential benefits that Putnam Management may receive in connection with the services it provides under the management contract with your fund. These include benefits related to brokerage allocation and the use of soft dollars, whereby a portion of the commissions paid by a fund for brokerage may be used to acquire research services that are expected to be useful to Putnam Management in managing the assets of the fund and of other clients. Subject to policies established by the Trustees, soft dollars generated by these means are used predominantly to acquire brokerage and research services (including third-party research and market data) that enhance Putnam Management's investment capabilities and supplement Putnam Management's internal research efforts. However, the Trustees noted that a portion of available soft dollars continues to be used to pay fund expenses. The Trustees indicated their continued intent to monitor regulatory and industry developments in this area with the assistance of their Brokerage Committee, including any developments with respect to the European Union's updated Markets in Financial Instruments Directive and its potential impact on PIL's use of client commissions to obtain investment research. The Trustees also indicated their continued intent to monitor the allocation of the Putnam funds' brokerage in order to ensure that the principle of seeking best price and execution remains paramount in the portfolio trading process.

Putnam Management may also receive benefits from payments that the funds make to Putnam Management's affiliates for investor or distribution services. In conjunction with the annual review of your fund's management, sub-management and sub-advisory contracts, the Trustees reviewed your fund's investor servicing agreement with Putnam Investor Services, Inc. ("PSERV") and its distributor's contracts and distribution plans with Putnam Retail Management Limited Partnership ("PRM"), both of which are affiliates of Putnam Management. The Trustees concluded that the fees payable by the funds to PSERV and PRM, as applicable, for such services are reasonable in relation to the nature and quality of such services, the fees paid by competitive funds, and the costs incurred by PSERV and PRM, as applicable, in providing such services. Furthermore, the Trustees believed that the services provided were required for the operation of the funds, and that they were of a quality at least equal to those provided by other providers.

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Other important information

Proxy voting

Putnam is committed to managing our mutual funds in the best interests of our shareholders. The Putnam funds' proxy voting guidelines and procedures, as well as information regarding how your fund voted proxies relating to portfolio securities during the 12-month period ended June 30, 2017, are available in the Individual Investors section of putnam.com and on the Securities and Exchange Commission's [SEC] website, www.sec.gov. If you have questions about finding forms on the SEC's website, you may call the SEC at 1-800-SEC-0330. You may also obtain the Putnam funds' proxy voting guidelines and procedures at no charge by calling Putnam's Shareholder Services at 1-800-225-1581.

Fund portfolio holdings

Each Putnam VT fund will file a complete schedule of its portfolio holdings with the SEC for the first and third quarters of each fiscal year on Form N-Q. Shareholders may obtain the fund's Form N-Q on the SEC's website at www.sec.gov. In addition, the fund's Form N-Q may be reviewed and copied at the SEC's Public Reference Room in Washington, D.C. You may call the SEC at 1-800-SEC-0330 for information about the SEC's website or the operation of the Public Reference Room.

Fund information

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Custodian

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Legal Counsel

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Trustees

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Kenneth R. Leibler, *Vice Chair*
Liaquat Ahamed
Ravi Akhoury
Barbara M. Baumann
Katinka Domotorffy
Catharine Bond Hill
Paul L. Joskow
Robert E. Patterson
George Putnam, III
Robert L. Reynolds
Manoj P. Singh

The fund's Statement of Additional Information contains additional information about the fund's Trustees and is available without charge upon request by calling 1-800-225-1581.

