

Putnam Variable Trust

Putnam VT Small Cap Value Fund

Semiannual report

6 | 30 | 19

IMPORTANT NOTICE: Delivery of paper fund reports

In accordance with regulations adopted by the Securities and Exchange Commission, beginning on or after January 1, 2021, at the election of your insurance provider, you may not receive paper reports like this one in the mail from the insurance provider that offers your variable annuity contract or variable life insurance policy unless you specifically request it. Instead, they will be available on a website, and your insurance provider will notify you by mail whenever a new one is available, and provide you with a website link to access the report.

If you wish to continue to receive paper reports free of charge after January 1, 2021, please contact your insurance provider.

If you already receive these reports electronically, no action is required.

Message from the Trustees

August 5, 2019

Dear Shareholder:

If there is any lesson to be learned from constantly changing financial markets, it is the importance of positioning your investment portfolio for your long-term goals. We believe that one strategy is to diversify across different asset classes and investment approaches.

We also believe your mutual fund investment offers a number of advantages, including constant monitoring by experienced investment professionals who maintain a long-term perspective. Putnam's portfolio managers and analysts take a research-intensive approach that includes risk management strategies designed to serve you through changing conditions.

Another key strategy, in our view, is seeking the counsel of a financial advisor. For over 80 years, Putnam has recognized the importance of professional investment advice. Your financial advisor can help in many ways, including defining and planning for goals such as retirement, evaluating the level of risk appropriate for you, and reviewing your investments on a regular basis and making adjustments as necessary.

As always, your fund's Board of Trustees remains committed to protecting the interests of Putnam shareholders like you, and we thank you for investing with Putnam.

Respectfully yours,



Robert L. Reynolds
President and Chief Executive Officer
Putnam Investments



Kenneth R. Leibler
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: Investments in small and/or midsize companies increase the risk of greater price fluctuations. Value stocks may fail to rebound, and the market may not favor value-style investing. The value of investments in the fund's portfolio may fall or fail to rise over extended periods of time for a variety of reasons, including general economic, political or financial market conditions, investor sentiment and market perceptions, government actions, geopolitical events or changes, and factors related to a specific issuer, geography, industry or sector. These and other factors may lead to increased volatility and reduced liquidity in the fund's portfolio holdings. These risks are generally greater for small and midsize companies. From time to time, the fund may invest a significant portion of its assets in companies in one or more related industries or sectors, which would make the fund more vulnerable to adverse developments affecting those industries or sectors. You can lose money by investing in the fund.

Performance summary (as of 6/30/19)

Investment objective

Capital appreciation

Net asset value June 30, 2019

Class IA: \$9.30

Class IB: \$9.14

Total return at net asset value

(as of 6/30/19)	Class IA shares*	Class IB shares*	Russell 2000 Value Index
6 months	15.89%	15.84%	13.47%
1 year	-9.35	-9.51	-6.24
5 years	23.64	22.20	29.99
Annualized	4.34	4.09	5.39
10 years	227.32	219.49	221.80
Annualized	12.59	12.32	12.40
Life	436.77	411.69	460.04
Annualized	8.69	8.43	8.92

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

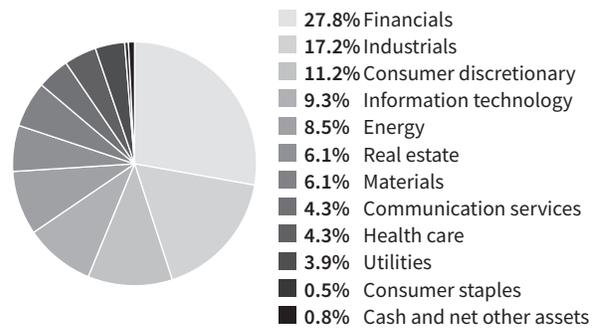
* Class inception date: April 30, 1999.

The Russell 2000 Value Index is an unmanaged index of those companies in the small-cap Russell 2000 Index chosen for their value orientation.

Frank Russell Company is the source and owner of the trademarks, service marks, and copyrights related to the Russell Indexes. Russell® is a trademark of Frank Russell Company.

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 1/1/19 to 6/30/19. 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 12/31/18	1.11%	1.36%
Annualized expense ratio for the six-month period ended 6/30/19	0.84%	1.09%

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.

Prospectus expense information also includes the impact of acquired fund fees and expenses of 0.26%, which is not included in the financial highlights or annualized expense ratios. 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 6/30/19		Expenses and value for a \$1,000 investment, assuming a hypothetical 5% annualized return for the 6 months ended 6/30/19	
	Class IA	Class IB	Class IA	Class IB
Expenses paid per \$1,000*†	\$4.50	\$5.83	\$4.21	\$5.46
Ending value (after expenses)	\$1,158.90	\$1,158.40	\$1,020.63	\$1,019.39

*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 6/30/19. 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 manager



Portfolio Manager **Michael C. Petro, CFA®**, joined Putnam in 2002 and has been in the investment industry since 1999.

Your fund's manager also manages 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 6/30/19 (Unaudited)

COMMON STOCKS (95.7%)*	Shares	Value
Aerospace and defense (2.2%)		
Parsons Corp. † ^S	34,849	\$1,284,534
Vectrus, Inc. †	34,798	1,411,407
		2,695,941
Airlines (2.1%)		
JetBlue Airways Corp. †	55,931	1,034,164
Mesa Air Group, Inc. †	164,400	1,502,616
		2,536,780
Auto components (0.8%)		
Cooper Tire & Rubber Co.	31,423	991,396
		991,396
Banks (15.5%)		
Ameris Bancorp ^S	23,900	936,645
Atlantic Union Bankshares Corp.	24,000	847,920
Camden National Corp.	10,914	500,625
Chemical Financial Corp. ^S	32,600	1,340,186
Coastal Financial Corp. (WA) †	13,698	211,908
ConnectOne Bancorp, Inc.	37,600	852,016
First Horizon National Corp.	88,926	1,327,665
First Merchants Corp.	25,400	962,660
Franklin Financial Network, Inc.	29,338	817,357
Hancock Whitney Corp.	32,050	1,283,923
IBERIABANK Corp.	16,327	1,238,403
Investors Bancorp, Inc.	69,613	776,185
OFG Bancorp (Puerto Rico)	38,700	919,899
Preferred Bank	20,700	978,075
Sterling Bancorp	65,849	1,401,267
Synovus Financial Corp.	37,759	1,321,565
Univest Financial Corp.	44,200	1,160,692
Western Alliance Bancorp †	25,100	1,122,472
Wintrust Financial Corp.	14,600	1,068,136
		19,067,599
Beverages (0.5%)		
Craft Brew Alliance, Inc. †	39,911	558,355
		558,355
Building products (1.5%)		
Apogee Enterprises, Inc.	22,500	977,400
Quanex Building Products Corp.	46,866	885,299
		1,862,699
Capital markets (0.8%)		
Donnelley Financial Solutions, Inc. †	78,448	1,046,496
		1,046,496
Chemicals (3.0%)		
AdvanSix, Inc. †	1,120	27,362
Olin Corp.	40,300	882,973
OMNOVA Solutions, Inc. †	174,600	1,087,758
Tronox Holdings PLC Class A (United Kingdom) ^S	130,700	1,670,346
		3,668,439
Commercial services and supplies (3.3%)		
CECO Environmental Corp. †	80,926	776,080
Herman Miller, Inc.	28,900	1,291,830
Quad/Graphics, Inc. ^S	88,000	696,080
SP Plus Corp. †	39,900	1,274,007
		4,037,997
Communications equipment (1.5%)		
Lumentum Holdings, Inc. †	16,300	870,583
NETGEAR, Inc. †	41,100	1,039,419
		1,910,002

COMMON STOCKS (95.7%)* cont.	Shares	Value
Construction and engineering (2.7%)		
MYR Group, Inc./DE †	29,202	\$1,090,695
Sterling Construction Co., Inc. †	74,017	993,308
WillScot Corp. †	80,600	1,212,224
		3,296,227
Construction materials (0.7%)		
Eagle Materials, Inc.	9,563	886,490
		886,490
Diversified financial services (0.6%)		
Capitol Investment Corp. IV Class A †	77,139	789,132
		789,132
Electric utilities (2.4%)		
ALLETE, Inc.	18,200	1,514,422
Portland General Electric Co.	25,700	1,392,169
		2,906,591
Electronic equipment, instruments, and components (2.7%)		
Bel Fuse, Inc. Class B	10,554	181,212
Jabil, Inc.	49,100	1,551,560
SYNNEX Corp.	16,143	1,588,471
		3,321,243
Energy equipment and services (1.4%)		
ProPetro Holding Corp. †	58,700	1,215,090
Select Energy Services, Inc. Class A †	48,590	564,130
		1,779,220
Entertainment (2.5%)		
IMAX Corp. (Canada) †	53,897	1,088,719
Lions Gate Entertainment Corp. Class A ^S	48,951	599,650
Madison Square Garden Co. (The) Class A †	4,798	1,343,152
		3,031,521
Equity real estate investment trusts (REITs) (6.0%)		
Chatham Lodging Trust ^R	56,200	1,060,494
Columbia Property Trust, Inc. ^R	60,400	1,252,696
Gaming and Leisure Properties, Inc. ^R	29,135	1,135,682
QTS Realty Trust, Inc. Class A ^{R S}	29,245	1,350,534
RLJ Lodging Trust ^R	27,551	488,755
Senior Housing Properties Trust ^R	36,800	304,336
Spirit Realty Capital, Inc. ^{R S}	29,367	1,252,796
STORE Capital Corp. ^R	18,400	610,696
		7,455,989
Health-care providers and services (4.3%)		
Acadia Healthcare Co., Inc. ^S	22,133	773,548
Brookdale Senior Living, Inc. †	199,266	1,436,708
Magellan Health, Inc. †	16,200	1,202,526
Premier, Inc. Class A †	48,900	1,912,479
		5,325,261
Hotels, restaurants, and leisure (4.5%)		
Bloomin' Brands, Inc.	45,896	867,893
Cedar Fair LP	35,804	1,707,493
Cheesecake Factory, Inc. (The) ^S	23,158	1,012,468
Dine Brans Global, Inc. ^S	12,100	1,155,187
Papa John's International, Inc. ^S	18,400	822,848
		5,565,889
Household durables (2.5%)		
William Lyon Homes Class A †	89,700	1,635,231
ZAGG, Inc. †	200,200	1,393,392
		3,028,623
Insurance (2.8%)		
Argo Group International Holdings, Ltd. (Bermuda)	18,800	1,392,140
Heritage Insurance Holdings, Inc.	81,535	1,256,454
Palomar Holdings, Inc. † ^S	36,101	867,868
		3,516,462
Interactive media and services (1.2%)		
Cars.com, Inc. † ^S	31,734	625,794
Meet Group, Inc. (The) †	259,800	904,104
		1,529,898

COMMON STOCKS (95.7%)* cont.	Shares	Value
IT Services (2.2%)		
CACI International, Inc. Class A †	6,500	\$1,329,835
Perficient, Inc. †	41,300	1,417,416
		2,747,251
Leisure products (1.3%)		
Clarus Corp.	71,170	1,027,695
MasterCraft Boat Holdings, Inc. †	30,300	593,577
		1,621,272
Machinery (3.1%)		
Columbus McKinnon Corp./NY	22,200	931,734
Federal Signal Corp.	50,700	1,356,225
Manitex International, Inc. †	58,159	355,351
Rexnord Corp. †	40,800	1,232,976
		3,876,286
Metals and mining (0.7%)		
Ferroglobe Representation & Warranty Insurance Trust †	102,740	—
Mayville Engineering Co., Inc. †	60,511	835,052
		835,052
Mortgage real estate investment trusts (REITs) (2.1%)		
Granite Point Mortgage Trust, Inc. ^R	65,300	1,253,107
Ladder Capital Corp. ^R	82,800	1,375,308
		2,628,415
Multi-utilities (1.1%)		
Unitil Corp.	22,800	1,365,492
		1,365,492
Multiline retail (1.0%)		
Big Lots, Inc.	41,300	1,181,593
		1,181,593
Oil, gas, and consumable fuels (7.1%)		
Arch Coal, Inc. Class A ^S	10,800	1,017,468
Encana Corp. (Canada)	203,403	1,043,457
Magnolia Oil & Gas Corp. Class A † ^S	102,000	1,181,160
Par Pacific Holdings, Inc. †	58,100	1,192,212
Range Resources Corp. ^S	90,200	629,596
Scorpio Tankers, Inc. ^S	63,200	1,865,664
Vermilion Energy, Inc. (Canada) ^S	81,900	1,779,279
		8,708,836
Paper and forest products (1.7%)		
Boise Cascade Co.	39,000	1,096,290
Verso Corp. Class A †	54,300	1,034,415
		2,130,705
Professional services (0.8%)		
BancTec, Inc. 144A CVR ^F	152,299	—
Heidrick & Struggles International, Inc.	34,000	1,018,980
		1,018,980
Real estate management and development (0.5%)		
Newmark Group, Inc. Class A	68,900	618,722
		618,722
Semiconductors and semiconductor equipment (1.6%)		
Cohu, Inc.	65,300	1,007,579
Photronics, Inc. †	118,700	973,340
		1,980,919
Software (1.1%)		
j2 Global, Inc.	15,100	1,342,239
		1,342,239
Specialty retail (1.2%)		
American Eagle Outfitters, Inc.	30,016	507,270
Shoe Carnival, Inc. ^S	33,100	913,560
		1,420,830
Thriffs and mortgage finance (2.5%)		
First Defiance Financial Corp.	15,526	443,578
HomeStreet, Inc. †	32,800	972,192
OceanFirst Financial Corp.	21,100	524,335
Walker & Dunlop, Inc.	21,200	1,128,052
		3,068,157

COMMON STOCKS (95.7%)* cont.	Shares	Value		
Trading companies and distributors (1.1%)				
WESCO International, Inc. †	26,600	\$1,347,290		
		1,347,290		
Water utilities (0.5%)				
Consolidated Water Co., Ltd. (Cayman Islands)	41,508	591,904		
		591,904		
Wireless telecommunication services (0.6%)				
Shenandoah Telecommunications Co.	20,700	797,364		
		797,364		
Total common stocks (cost \$116,230,094)		\$118,089,557		
INVESTMENT COMPANIES (3.4%)*				
	Shares	Value		
Ares Capital Corp.	40,800	\$731,952		
Bain Capital Specialty Finance, Inc. ^S	41,899	780,159		
Hercules Capital, Inc.	55,600	712,792		
TPG Specialty Lending, Inc.	48,019	941,172		
TriplePoint Venture Growth BDC Corp.	71,596	1,018,811		
Total investment companies (cost \$4,007,338)		\$4,184,886		
	Expiration date	Strike price	Warrants	Value
WARRANTS (—%)* †				
Capitol Investment Corp. IV	1/1/25	\$11.50	25,714	\$35,742
Total warrants (cost \$32,914)				\$35,742
SHORT-TERM INVESTMENTS (15.7%)*			Shares	Value
Putnam Cash Collateral Pool, LLC 2.51% ^d			18,524,930	\$18,524,930
Putnam Short Term Investment Fund 2.46% ^L			813,276	813,276
Total short-term investments (cost \$19,338,206)				\$19,338,206
Total investments (cost \$139,608,552)				\$141,648,391

Key to holding's abbreviations

CVR Contingent Value Rights

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, 2019 through June 30, 2019 (the reporting period). Within the following notes to the portfolio, 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 "ASC 820" represent Accounting Standards Codification 820 *Fair Value Measurements and Disclosures*.

* Percentages indicated are based on net assets of \$123,390,823.

† 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 are classified as 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.

^R Real Estate Investment Trust.

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

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.

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:

Investments in securities:	Valuation inputs		
	Level 1	Level 2	Level 3
Common stocks*:			
Communication services	\$5,358,783	\$—	\$—
Consumer discretionary	13,809,603	—	—
Consumer staples	558,355	—	—
Energy	10,488,056	—	—
Financials	30,116,261	—	—
Health care	5,325,261	—	—
Industrials	20,672,200	—	—**
Information technology	11,301,654	—	—
Materials	7,520,686	—	—
Real estate	8,074,711	—	—
Utilities	4,863,987	—	—
Total common stocks	118,089,557	—	—**
Investment companies	4,184,886	—	—
Warrants	35,742	—	—
Short-term investments	813,276	18,524,930	—
Totals by level	\$123,123,461	\$18,524,930	\$—**

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

** Value of Level 3 Security is \$—.

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.

Statement of assets and liabilities

6/30/19 (Unaudited)

Assets

Investment in securities, at value, including \$18,173,445 of securities on loan (Note 1):	
Unaffiliated issuers (identified cost \$120,270,346)	\$122,310,185
Affiliated issuers (identified cost \$19,338,206) (Notes 1 and 5)	19,338,206
Dividends, interest and other receivables	311,576
Receivable for shares of the fund sold	19,228
Receivable for investments sold	1,817,482
Receivable for investor servicing fees (Note 2)	117,204
Total assets	143,913,881

Liabilities

Payable for investments purchased	1,600,520
Payable for shares of the fund repurchased	71,672
Payable for compensation of Manager (Note 2)	61,612
Payable for custodian fees (Note 2)	110,809
Payable for Trustee compensation and expenses (Note 2)	88,639
Payable for administrative services (Note 2)	523
Payable for distribution fees (Note 2)	16,457
Collateral on securities loaned, at value (Note 1)	18,524,930
Other accrued expenses	47,896
Total liabilities	20,523,058

Net assets **\$123,390,823**

Represented by

Paid-in capital (Unlimited shares authorized) (Notes 1 and 4)	\$140,679,091
Total distributable earnings (Note 1)	(17,288,268)
Total — Representing net assets applicable to capital shares outstanding	\$123,390,823

Computation of net asset value Class IA

Net assets	\$41,718,645
Number of shares outstanding	4,484,600
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$9.30

Computation of net asset value Class IB

Net assets	\$81,672,178
Number of shares outstanding	8,938,077
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$9.14

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

Statement of operations

Six months ended 6/30/19 (Unaudited)

Investment income

Dividends (net of foreign tax of \$17,234)	\$1,241,344
Interest (including interest income of \$57,603 from investments in affiliated issuers) (Note 5)	66,996
Securities lending (net of expenses) (Notes 1 and 5)	33,119
Total investment income	1,341,459

Expenses

Compensation of Manager (Note 2)	387,656
Investor servicing fees (Note 2)	44,066
Custodian fees (Note 2)	51,353
Trustee compensation and expenses (Note 2)	2,903
Distribution fees (Note 2)	103,515
Administrative services (Note 2)	1,643
Other	40,062
Total expenses	631,198
Expense reduction (Note 2)	(56,726)
Net expenses	574,472
Net investment income	766,987

Realized and unrealized gain (loss)

Net realized gain (loss) on:

Securities from unaffiliated issuers (Notes 1 and 3)	(2,453,411)
Foreign currency transactions (Note 1)	765
Futures contracts (Note 1)	542,079
Written options (Note 1)	146,545
Total net realized loss	(1,764,022)

Change in net unrealized appreciation (depreciation) on:

Securities from unaffiliated issuers	18,889,929
Assets and liabilities in foreign currencies	(2,357)
Written options	(32,599)
Total change in net unrealized appreciation	18,854,973
Net gain on investments	17,090,951
Net increase in net assets resulting from operations	\$17,857,938

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

Statement of changes in net assets

	Six months ended 6/30/19*	Year ended 12/31/18
Increase (decrease) in net assets		
Operations:		
Net investment income	\$766,987	\$1,989,020
Net realized loss on investments and foreign currency transactions	(1,764,022)	(4,211,488)
Change in net unrealized appreciation (depreciation) of investments and assets and liabilities in foreign currencies	18,854,973	(25,222,116)
Net increase (decrease) in net assets resulting from operations	17,857,938	(27,444,584)
Distributions to shareholders (Note 1):		
From ordinary income		
Net investment income		
Class IA	(390,921)	(341,687)
Class IB	(544,443)	(390,264)
Net realized short-term gain on investments		
Class IA	(4,217,836)	(4,376,851)
Class IB	(8,455,360)	(8,331,815)
From net realized long-term gain on investments		
Class IA	(160,484)	(11,275,681)
Class IB	(321,716)	(21,464,489)
Increase from capital share transactions (Note 4)	7,118,041	26,214,379
Total increase (decrease) in net assets	10,885,219	(47,410,992)
Net assets:		
Beginning of period	112,505,604	159,916,596
End of period	\$123,390,823	\$112,505,604

* 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 (%) ^{c, d}	Ratio of net investment income (loss) to average net assets (%)	Portfolio turnover (%)
Class IA													
6/30/19†	\$9.05	.07	1.34	1.41	(.10)	(1.06)	(1.16)	\$9.30	15.89*	\$41,719	.42*	.69*	123*
12/31/18	16.41	.18	(2.62)	(2.44)	(.11)	(4.81)	(4.92)	9.05	(19.42)	38,310	.85	1.51	561
12/31/17	15.94	.10	1.15	1.25	(.15)	(.63)	(.78)	16.41	8.15	55,886	.82	.66	398
12/31/16	14.16	.15	3.28	3.43	(.21)	(1.44)	(1.65)	15.94	27.70	59,872	.78 ^e	1.14 ^e	67
12/31/15	16.70	.20	(.74)	(.54)	(.18)	(1.82)	(2.00)	14.16	(3.90)	52,593	.76	1.30	52
12/31/14	21.02	.17	.47	.64	(.16)	(4.80)	(4.96)	16.70	3.69	63,215	.79	1.01	55
Class IB													
6/30/19†	\$8.89	.05	1.33	1.38	(.07)	(1.06)	(1.13)	\$9.14	15.84*	\$81,672	.54*	.57*	123*
12/31/18	16.20	.15	(2.59)	(2.44)	(.06)	(4.81)	(4.87)	8.89	(19.66)	74,196	1.10	1.26	561
12/31/17	15.75	.06	1.13	1.19	(.11)	(.63)	(.74)	16.20	7.87	104,031	1.07	.41	398
12/31/16	13.99	.12	3.25	3.37	(.17)	(1.44)	(1.61)	15.75	27.49	110,569	1.03 ^e	.89 ^e	67
12/31/15	16.53	.16	(.74)	(.58)	(.14)	(1.82)	(1.96)	13.99	(4.24)	96,438	1.01	1.04	52
12/31/14	20.84	.13	.46	.59	(.10)	(4.80)	(4.90)	16.53	3.43	120,747	1.04	.76	55

* 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 Total return assumes dividend reinvestment.

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

^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 waiver, the expenses of each class reflect a reduction of less than 0.01% as a percentage of average net assets.

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

Notes to financial statements 6/30/19 (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, 2019 through June 30, 2019.

Putnam VT Small Cap Value Fund (the fund) is a 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. The fund invests mainly in common stocks of small U.S. companies, with a focus on value stocks. Value stocks are issued by companies that Putnam Management believes are currently undervalued by the market. If Putnam Management is correct and other investors ultimately recognize the value of the company, the price of its stock may rise. Under normal circumstances, Putnam Management invests at least 80% of the fund’s net assets in companies of a size similar to those in the Russell 2000 Value Index. This policy may be changed only after 60 days’ notice to shareholders. As of March 31, 2019, the index was composed of companies having market capitalizations of between approximately \$24.5 million and \$6.6 billion. 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.

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 Amended and Restated Agreement and 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 and including amortization and accretion of premiums and discounts on debt securities, 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.

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.

Options contracts The fund uses options contracts to hedge against changes in values of securities it owns, owned or expects to own, to generate additional income for the portfolio and to enhance the return on a security owned.

The potential risk to the fund is that the change in value of options contracts may not correspond to the change in value of the hedged instruments. In addition, losses may arise from changes in the value of the underlying instruments if there is an illiquid secondary market for the contracts, if interest or exchange rates move unexpectedly or if the counterparty to the contract is unable to perform. Realized gains and losses on purchased options are included in realized gains and losses on investment securities. If a written call option is exercised, the premium originally received is recorded as an addition to sales proceeds. If a written put option is exercised, the premium originally received is recorded as a reduction to the cost of investments.

Exchange-traded options are valued at the last sale price or, if no sales are reported, the last bid price for purchased options and the last ask price for written options. OTC traded options are valued using prices supplied by dealers.

Options on swaps are similar to options on securities except that the premium paid or received is to buy or grant the right to enter into a previously agreed upon interest rate or credit default contract. Forward premium swap option contracts include premiums that have extended settlement dates. The delayed settlement of the premiums is factored into the daily valuation of the option contracts. In the case of interest rate cap and floor contracts, in return for a premium, ongoing payments between two parties are based on interest rates exceeding a specified rate, in the case of a cap contract, or falling below a specified rate in the case of a floor contract.

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

Futures contracts The fund uses futures contracts to equitize cash.

The potential risk to the fund is that the change in value of futures contracts may not correspond to the change in value of the hedged instruments. In addition, losses may arise from changes in the value of the underlying instruments, if there is an illiquid secondary market for the contracts, if interest or exchange rates move unexpectedly or if the counterparty to the contract is unable to perform. With futures, there is minimal counterparty credit risk to the fund since futures are exchange traded and the exchange's clearinghouse, as counterparty to all exchange traded futures, guarantees the futures against default. Risks may exceed amounts recognized on the Statement of assets and liabilities. When the contract is closed, 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.

Futures contracts are valued at the quoted daily settlement prices established by the exchange on which they trade. The fund and the broker agree to exchange an amount of cash equal to the daily fluctuation in the value of the futures contract. Such receipts or payments are known as "variation margin."

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

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 \$18,524,930 and the value of securities loaned amounted to \$18,303,431. Certain of these securities were sold prior to the close of the reporting period and are included in Receivable for investments sold on the Statement of assets and liabilities.

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 1.25% plus the higher of (1) the Federal Funds rate and (2) the overnight LIBOR 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 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.

Tax cost of investments includes adjustments to net unrealized appreciation (depreciation) which may not necessarily be final tax cost basis adjustments, but closely approximate the tax basis unrealized gains and losses that may be realized and distributed to shareholders. The aggregate identified cost on a tax basis is \$146,407,691, resulting in gross unrealized appreciation and depreciation of \$1,963,585 and \$6,722,885, respectively, or net unrealized depreciation of \$4,759,300.

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 38.7% 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 0.308% of the fund's average net assets.

Putnam Management has contractually agreed, through April 30, 2021, to waive fees and/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. PIL did not manage any portion of the assets of the fund during the reporting period. If Putnam Management were to engage the services of PIL, Putnam Management would pay 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 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	\$14,827
Class IB	29,239
Total	\$44,066

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 \$394 under the expense offset arrangements and by \$56,332 under the brokerage/service arrangements.

Each Independent Trustee of the fund receives an annual Trustee fee, of which \$89, 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)	\$146,812,974	\$147,374,240
U.S. government securities (Long-term)	—	—
Total	\$146,812,974	\$147,374,240

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. Subscriptions and redemptions are presented at the omnibus level. Transactions in capital shares were as follows:

	Class IA shares				Class IB shares			
	Six months ended 6/30/19		Year ended 12/31/18		Six months ended 6/30/19		Year ended 12/31/18	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
Shares sold	209,549	\$2,030,801	293,191	\$3,513,753	293,170	\$2,769,063	405,378	\$4,741,311
Shares issued in connection with reinvestment of distributions	525,826	4,769,241	1,500,396	15,994,219	1,045,013	9,321,519	2,874,911	30,186,567
	735,375	6,800,042	1,793,587	19,507,972	1,338,183	12,090,582	3,280,289	34,927,878
Shares repurchased	(485,312)	(4,686,330)	(964,991)	(11,706,008)	(747,012)	(7,086,253)	(1,356,909)	(16,515,463)
Net increase	250,063	\$2,113,712	828,596	\$7,801,964	591,171	\$5,004,329	1,923,380	\$18,412,415

Note 5 — Affiliated transactions

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

Name of affiliate	Fair value as of 12/31/18	Purchase cost	Sale proceeds	Investment income	Shares outstanding and fair value as of 6/30/19
Short-term investments					
Putnam Cash Collateral Pool, LLC*	\$13,161,273	\$47,304,472	\$41,940,815	\$144,343	\$18,524,930
Putnam Short Term Investment Fund**	3,487,164	30,348,279	33,022,167	57,603	813,276
Total Short-term investments	\$16,648,437	\$77,652,751	\$74,962,982	\$201,946	\$19,338,206

*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.

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:

Purchased equity option contracts (contract amount)	\$20,000
Written equity option contracts (contract amount)	\$13,000
Futures contracts (number of contracts)	—*
Warrants (number of warrants)	11,000

*For the reporting period, there were no holdings at the end of each fiscal quarter and the transactions were considered minimal.

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
Equity contracts	Investments	\$35,742	Payables	\$—
Total		\$35,742		\$—

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	Options	Futures	Total
Equity contracts	\$126,576	\$542,079	\$668,655
Total	\$126,576	\$542,079	\$668,655

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	Warrants	Options	Total
Equity contracts	\$2,828	\$342,439	\$345,267
Total	\$2,828	\$342,439	\$345,267

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") and the sub-management contract with respect to your fund between Putnam Management and its affiliate, Putnam Investments Limited ("PIL"). 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 2019, 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 2019, 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 2019 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 and sub-management contracts, effective July 1, 2019. (Because PIL is an affiliate of Putnam Management and Putnam Management remains fully responsible for all services provided by PIL, the Trustees have not attempted to evaluate PIL as a separate entity, and all subsequent references to Putnam Management below should be deemed to include reference to PIL 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 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. (Two 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 and the funds' investor servicing agent, Putnam Investor Services, Inc. ("PSERV"), have implemented expense limitations that were in effect during your fund's fiscal year ending in 2018. These expense limitations were: (i) a contractual expense limitation applicable to all open-end funds of 25 basis points on investor servicing fees and expenses and (ii) 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). These expense limitations attempt to maintain competitive expense levels for the funds. Most funds, including your fund, had sufficiently low expenses that these expense limitations were not operative during their fiscal years ending in 2018. Putnam Management and PSERV have agreed to maintain these expense limitations until at least April 30, 2021. The support of Putnam Management and PSERV for these expense limitation arrangements was an important factor in the Trustees' decision to approve the continuance of your fund's management and sub-management 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 fees), 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, 2018. 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, 2018 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 and sub-advised mutual funds. 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, and the Trustees also considered 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 and the full Board of 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. 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, after a strong start to the year, 2018 was a mixed year for the Putnam funds, with the Putnam open-end Funds' performance, on an asset-weighted basis, ranking in the 54th percentile of their Lipper Inc. ("Lipper") peers (excluding those Putnam funds that are evaluated based on their total returns versus selected investment benchmarks). The Trustees also noted that The Putnam Funds were ranked by the Barron's/Lipper Fund Families survey as the 41st-best performing mutual fund complex out of 57 complexes for the one-year period ended December 31, 2018 and the 29th-best performing mutual fund complex out of 55 complexes for the five-year period ended December 31, 2018. The Trustees observed that The Putnam Funds' performance over the longer-term continued to be strong, ranking 6th out of 49 mutual fund complexes in the survey over the ten-year period ended 2018. In addition, the Trustees noted that 22 of the Funds were four- or five-star rated by Morningstar Inc. at the end of 2018. They also noted, however, the disappointing investment performance of some funds for periods ended December 31, 2018 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 comparisons of those returns with the returns of selected investment benchmarks. In the case of your fund, the Trustees considered that its class IA share cumulative total return performance at net asset value was in the following quartiles of its Lipper

peer group (Lipper VP (Underlying Funds) — Small-Cap Value Funds) for the one-year, three-year and five-year periods ended December 31, 2018 (the first quartile representing the best-performing funds and the fourth quartile the worst-performing funds):

One-year period	Three-year period	Five-year period
4th	4th	3rd

Over the one-year, three-year and five-year periods ended December 31, 2018, there were 40, 40 and 39 funds, respectively, in your fund’s Lipper peer group. (When considering performance information, shareholders should be mindful that past performance is not a guarantee of future results.)

The Trustees expressed concern about your fund’s fourth quartile performance over the one-year and three-year periods ended December 31, 2018 and considered the circumstances that may have contributed to this disappointing performance. The Trustees noted Putnam Management’s view that the fund’s underperformance in 2018 substantially contributed to the fund’s underperformance over the one-year and three-year periods. The Trustees also considered Putnam Management’s observation that sector allocation (underweight allocations to utilities and communication services and, most notably, overweight allocations to energy and materials) and security selection in the materials, financials and consumer staples sectors detracted from the fund’s performance in 2018. In addition, the Trustees noted Putnam Management’s observation that the high-turnover management approach for the fund impacted transaction costs.

The Trustees observed that, in January 2019, Putnam Management appointed a new portfolio manager to manage the fund. The Trustees noted Putnam Management’s confidence in the new portfolio manager. 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 had made selective hires in 2018 to strengthen its investment team.

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, with all the attendant risks and disruptions, 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. 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 and sub-management contracts, the Trustees reviewed your fund’s investor servicing agreement with 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 fair and 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 were of the view 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.

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, 2019, are available in the Individual Investors section of putnam.com and on the Securities and Exchange Commission's (SEC) website at 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

The 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-PORT within 60 days of the end of such fiscal quarter. Shareholders may obtain the fund's Form N-PORT from the SEC's website at www.sec.gov.

Prior to its use of Form N-PORT, the fund filed its complete schedule of its portfolio holdings with the SEC on Form N-Q, which is available online at www.sec.gov.

Fund information

Investment Manager

Putnam Investment Management, LLC
100 Federal Street
Boston, MA 02110

Investment Sub-Advisor

Putnam Investments Limited
16 St James's Street
London, England SW1A 1ER

Marketing Services

Putnam Retail Management
100 Federal Street
Boston, MA 02110

Investor Servicing Agent

Putnam Investments
Mailing address:
P.O. Box 219697
Kansas City, MO 64121-9697
1-800-225-1581

Custodian

State Street Bank and Trust Company

Legal Counsel

Ropes & Gray LLP

Trustees

Kenneth R. Leibler, *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.