

A world of investing.®



Putnam Variable Trust

Annual report

12 | 31 | 16

Putnam VT
Small Cap Value Fund

Message from the Trustees

Dear Shareholder:

With 2017 under way, investor sentiment generally brightened at the prospect of moving beyond the challenges of the past year, when politics tested markets. Fortunately, market turbulence in the aftermath of key political events was in many cases followed by impressive rebounds, and annual performance in most global financial markets exceeded expectations.

Of course, uncertainties and macroeconomic risks do not simply disappear with the close of the calendar year. Conditions in the bond market have changed given the shift in the potential for inflation. As such, we believe investors should continue to focus on time-tested strategies: maintain a well-diversified portfolio, keep a long-term view, and do not overreact to short-term market fluctuations. To help ensure that your portfolio is aligned with your individual goals, time horizon, and tolerance for risk, we also believe it is a good idea to speak regularly with your financial advisor.

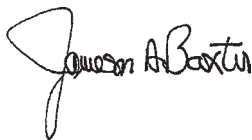
In today's environment, we favor the investment approach practiced at Putnam — active strategies based on fundamental research. Putnam portfolio managers, backed by a network of global analysts, bring years of experience to navigating changing market conditions and pursuing investment opportunities. In the following pages, you will find an overview of your fund's performance for the reporting period ended December 31, 2016, as well as an outlook for the coming months.

As always, 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

February 7, 2017

Performance summary (as of 12/31/16)

Investment objective

Capital appreciation

Net asset value December 31, 2016

Class IA: \$15.94

Class IB: \$15.75

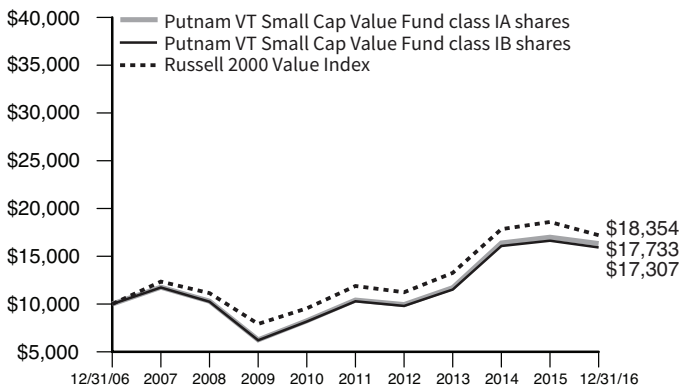
Total return at net asset value

(as of 12/31/16)	Class IA shares*	Class IB shares*	Russell 2000 Value Index
1 year	27.70%	27.49%	31.74%
5 years	109.75	107.13	101.75
Annualized	15.97	15.68	15.07
10 years	77.33	73.07	83.54
Annualized	5.90	5.64	6.26
Life	431.50	409.68	425.28
Annualized	9.92	9.66	9.84

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

* Class inception date: April 30, 1999.

Cumulative total returns of a \$10,000 investment in class IA and class IB shares at net asset value — since 12/31/06

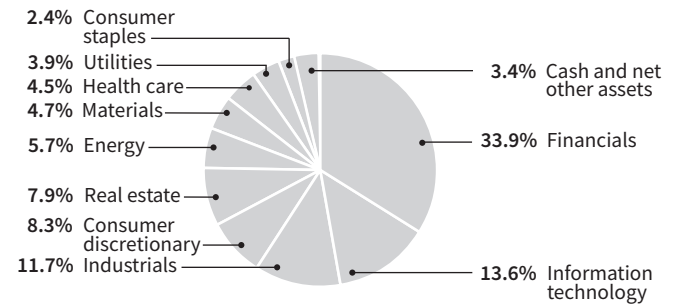


The Russell 2000 Value Index is an unmanaged index of those companies in the small-cap Russell 2000 Index chosen for their value orientation.

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.

Report from your fund's manager

What was the market like for U.S. small-cap value stocks during the 12-month reporting period ended December 31, 2016?

Supported by the relatively steadier U.S. economy, low interest rates, and the recovery in oil prices, 2016 proved to be a banner year for U.S. small-cap value stocks, as measured by the Russell 2000 Value Index [the fund's benchmark], which climbed 31.74%. Prior to the fourth quarter rally, investors appeared to be drawn to out-of-favor, small-cap value stocks on a valuation basis. However, following the surprise result of the November presidential election, small-cap stocks rallied strongly in anticipation of President Trump and a Republican-controlled Congress pursuing pro-growth policies such as lower taxes, greater infrastructure spending, and less regulation. With the benchmark climbing 14.07% in the fourth quarter augmenting earlier gains, small-cap stocks strongly outperformed mid- and large-cap stocks, the broader U.S. stock market, and international stocks.

How did Putnam VT Small Cap Value Fund perform during the reporting period?

The fund's class IA shares posted a strong double-digit return for the reporting period, helped by a fourth-quarter surge of 15.31%. However, the 12-month performance lagged that of its benchmark mainly as a result of stock selection. Additionally, with my concern for heightened market volatility throughout the year, the fund held an average cash balance of 6.2% during the reporting period that resulted in approximately 1.5% of the relative underperformance. On the other hand, sector allocation effects, a residual of the investment process, added positively to results relative to the benchmark.

Results within financials, information technology, and consumer discretionary sectors contributed the most to benchmark-relative performance. Within the financials sector, overweight positions in Meta Financial Group and Preferred Bank of Los Angeles, and an out-of-benchmark position in Endurance Specialty Holdings were the biggest contributors to stock selection results. In the information technology sector, an out-of-benchmark position in Acacia Communications and overweight positions in Everyday Health and Advanced Energy Industries produced favorable results. Positive results in the consumer discretionary sector were primarily due to an underweight allocation relative to the benchmark, as the sector lagged the broader market for the period. By period-end, we sold our positions in Endurance Specialty Holdings, Acacia Communications, and Everyday Health.

Results within materials, energy, and industrials detracted the most from a relative performance perspective. Within the materials sector, an overweight position in LSB Industries, as well as an underweight exposure to strongly performing metals and mining stocks, detracted most from results. We sold our position in LSB Industries during the period. Overweight positions in Scorpio Tankers, PBF Energy, Gulfport Energy, and Matrix Service also weighed on performance. We sold-off Scorpio Tankers and Matrix Service by period-end. Within the industrials sector, overweight positions in Engility Holdings, Monster Worldwide, and Heidrick & Struggles International, all of which were sold by period's end, further contributed to the fund's underperformance relative to the benchmark.

As we look into 2017, what is your outlook for small-cap value stocks?

Despite the uncertainty surrounding the effects of a Trump presidency on the U.S. stock market, many equity benchmarks touched all-time highs in the closing weeks of 2016. With investors expecting small-cap stocks to be one of the greatest beneficiaries of Trump's fiscal stimulus policies, valuations, however, in many sectors of the small-company universe became stretched during the fourth-quarter rally, in our view. Accordingly, we enter 2017 on cautious footing, mindful of uncertainties that could disrupt the stock market's momentum — especially the ability of the new administration to achieve quick policy changes.

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. Stock prices may fall or fail to rise over time for several reasons, including general financial market conditions and factors related to a specific company or industry. You can lose money by investing in the fund.

Your fund's manager



Portfolio Manager **Eric N. Harthun, CFA**, joined Putnam in 2000 and has been in the investment industry since 1994.

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.

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 7/1/16 to 12/31/16. 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 12/31/15	1.02%	1.27%
Annualized expense ratio for the six-month period ended 12/31/16*	0.77%	1.02%

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.

*For the fund's most recent fiscal half year; may differ from expense ratios based on one-year data in the financial highlights.

Expenses per \$1,000

	Expenses and value for a \$1,000 investment, assuming actual returns for the 6 months ended 12/31/16		Expenses and value for a \$1,000 investment, assuming a hypothetical 5% annualized return for the 6 months ended 12/31/16	
	Class IA	Class IB	Class IA	Class IB
Expenses paid per \$1,000*†	\$4.35	\$5.76	\$3.91	\$5.18
Ending value (after expenses)	\$1,248.20	\$1,247.00	\$1,021.27	\$1,020.01

*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 12/31/16. 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.

Report of Independent Registered Public Accounting Firm

To the Trustees of Putnam Variable Trust and Shareholders of
Putnam VT Small Cap Value Fund:

In our opinion, the accompanying statement of assets and liabilities, including the portfolio, and the related statements of operations and of changes in net assets and the financial highlights present fairly, in all material respects, the financial position of Putnam VT Small Cap Value Fund (the “Fund”) as of December 31, 2016, the results of its operations, the changes in its net assets and the financial highlights for each of the periods indicated, in conformity with accounting principles generally accepted in the United States of America. These financial statements and financial highlights (hereafter referred to as “financial statements”) are the responsibility of the Fund’s management. Our responsibility is to express an opinion on these financial statements based on our audits. We conducted our audits of these financial statements in accordance with the standards of the Public Company Accounting Oversight Board (United States). Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement. An audit includes examining, on a test basis, evidence supporting the amounts and disclosures in the financial statements, assessing the accounting principles used and significant estimates made by management, and evaluating the overall financial statement presentation. We believe that our audits, which included confirmation of investments as of December 31, 2016 by correspondence with the custodian, brokers, transfer agent, and the application of alternative auditing procedures where securities purchased had not been received, provide a reasonable basis for our opinion.

PricewaterhouseCoopers LLP
Boston, Massachusetts
February 7, 2017

The fund's portfolio 12/31/16

COMMON STOCKS (94.3%)*	Shares	Value
Aerospace and defense (0.2%)		
Vectrus, Inc. †	17,188	\$409,934
		409,934
Air freight and logistics (1.0%)		
Atlas Air Worldwide Holdings, Inc. †	13,300	693,595
Park-Ohio Holdings Corp.	22,985	979,161
		1,672,756
Airlines (1.2%)		
SkyWest, Inc.	25,200	918,540
Spirit Airlines, Inc. †	18,300	1,058,838
		1,977,378
Auto components (2.2%)		
Dana, Inc.	50,000	949,000
Goodyear Tire & Rubber Co. (The)	11,900	367,353
Modine Manufacturing Co. †	86,200	1,284,380
Stoneridge, Inc. †	62,654	1,108,349
		3,709,082
Banks (17.8%)		
Berkshire Hills Bancorp, Inc.	28,600	1,053,910
Camden National Corp.	29,251	1,300,207
Chemical Financial Corp.	19,993	1,083,021
First Bancorp	29,600	803,344
First Busey Corp.	36,500	1,123,470
First Connecticut Bancorp, Inc.	35,400	801,810
First Financial Bancorp	33,100	941,695
First Internet Bancorp ⁵	23,086	738,752
First Merchants Corp.	41,100	1,547,415
Franklin Financial Network, Inc. †	28,847	1,207,247
Fulton Financial Corp.	60,900	1,144,920
Hanmi Financial Corp.	41,700	1,455,330
IBERIABANK Corp.	15,741	1,318,309
Independent Bank Group, Inc.	16,500	1,029,600
Investors Bancorp, Inc.	55,300	771,435
Lakeland Financial Corp.	14,500	686,720
Old National Bancorp	66,900	1,214,235
Pacific Premier Bancorp, Inc. †	30,100	1,064,035
Peoples Bancorp, Inc.	29,400	954,324
Popular, Inc. (Puerto Rico)	21,020	921,096
Preferred Bank	24,800	1,300,016
ServisFirst Bancshares, Inc.	15,392	576,276
Southside Bancshares, Inc.	21,815	821,771
Sterling Bancorp	59,800	1,399,320
Tristate Capital Holdings, Inc. †	49,813	1,100,867
United Community Banks, Inc./GA	30,400	900,448
Washington Trust Bancorp, Inc.	12,200	683,810
Western Alliance Bancorp †	24,500	1,193,395
Wintrust Financial Corp.	16,700	1,211,919
		30,348,697
Beverages (0.3%)		
Cott Corp. (Canada)	51,269	580,878
		580,878
Biotechnology (1.3%)		
Eagle Pharmaceuticals, Inc. † ⁵	16,500	1,309,110
Emergent BioSolutions, Inc. † ⁵	29,497	968,681
		2,277,791
Building products (1.5%)		
Continental Building Products, Inc. †	34,642	800,230
NCI Building Systems, Inc. †	53,472	836,837
Ply Gem Holdings, Inc. †	56,000	910,000
		2,547,067

COMMON STOCKS (94.3%)* cont.	Shares	Value
Capital markets (0.6%)		
OM Asset Management PLC (United Kingdom)	69,505	\$1,007,823
		1,007,823
Chemicals (3.0%)		
American Vanguard Corp.	52,900	1,013,035
Ferro Corp. †	64,000	917,120
Innophos Holdings, Inc.	18,700	977,262
Kraton Corp. †	17,800	506,944
Minerals Technologies, Inc.	8,795	679,414
Orion Engineered Carbons SA (Luxembourg)	57,800	1,089,530
		5,183,305
Commercial services and supplies (1.1%)		
ACCO Brands Corp. †	98,400	1,284,120
Ennis, Inc.	31,006	537,954
		1,822,074
Construction and engineering (3.0%)		
Dycom Industries, Inc. † ⁵	9,300	746,697
Granite Construction, Inc.	15,000	825,000
MasTec, Inc. †	32,500	1,243,125
Orion Group Holdings, Inc. †	117,600	1,170,120
Quanta Services, Inc. †	30,400	1,059,440
		5,044,382
Construction materials (0.5%)		
Summit Materials, Inc. Class A †	33,194	789,676
		789,676
Consumer finance (1.1%)		
Encore Capital Group, Inc. † ⁵	35,900	1,028,535
EZCORP, Inc. Class A †	80,100	853,065
		1,881,600
Containers and packaging (0.5%)		
Greif, Inc. Class A	17,900	918,449
		918,449
Diversified consumer services (1.2%)		
Carriage Services, Inc. ⁵	33,800	968,032
DeVry Education Group, Inc. ⁵	33,000	1,029,600
		1,997,632
Electric utilities (2.6%)		
ALLETE, Inc.	16,000	1,027,040
IDACORP, Inc.	18,700	1,506,285
PNM Resources, Inc.	27,600	946,680
Portland General Electric Co.	20,000	866,600
		4,346,605
Electrical equipment (0.5%)		
General Cable Corp. ⁵	41,700	794,385
		794,385
Electronic equipment, instruments, and components (2.8%)		
Anixter International, Inc. †	11,500	932,075
Belden, Inc.	11,200	837,424
Jabil Circuit, Inc.	39,300	930,231
Orbotech, Ltd. (Israel) †	44,600	1,490,086
Sanmina Corp. †	14,100	516,765
		4,706,581
Energy equipment and services (1.2%)		
Independence Contract Drilling, Inc. †	66,856	447,935
Patterson-UTI Energy, Inc.	62,300	1,677,116
		2,125,051
Equity real estate investment trusts (REITs) (7.3%)		
American Assets Trust, Inc.	26,120	1,125,250
Apartment Investment & Management Co. Class A	18,300	831,735
CBL & Associates Properties, Inc.	66,700	767,050
Education Realty Trust, Inc.	17,901	757,212
EPR Properties	8,700	624,399
Equity Commonwealth †	31,400	949,536
Healthcare Trust of America, Inc. Class A	13,200	384,252
iStar, Inc. †	81,400	1,006,918

COMMON STOCKS (94.3%)* cont.	Shares	Value
Equity real estate investment trusts (REITs) (7.3%) cont.		
LTC Properties, Inc.	15,300	\$718,794
NorthStar Realty Finance Corp.	59,600	902,940
Paramount Group, Inc.	48,700	778,713
Rayonier, Inc.	44,000	1,170,400
Summit Hotel Properties, Inc.	97,410	1,561,482
Tanger Factory Outlet Centers, Inc.	23,900	855,142
		12,433,823
Food and staples retail (0.9%)		
SpartanNash Co.	26,240	1,037,530
SUPERVALU, Inc. †	124,300	580,481
		1,618,011
Food products (0.8%)		
Nomad Foods, Ltd. (United Kingdom) †	65,000	622,050
Sanderson Farms, Inc. ^S	7,200	678,528
		1,300,578
Gas utilities (0.6%)		
Southwest Gas Corp.	14,231	1,090,379
		1,090,379
Health-care providers and services (2.0%)		
AMN Healthcare Services, Inc. †	33,400	1,284,230
Ensign Group, Inc. (The)	53,989	1,199,096
Fulgent Genetics, Inc. †	83,563	966,824
		3,450,150
Hotels, restaurants, and leisure (2.6%)		
Bloomin' Brands, Inc.	37,300	672,519
ClubCorp Holdings, Inc.	62,200	892,570
Del Taco Restaurants, Inc. † ^S	78,029	1,101,769
Marriott Vacations Worldwide Corp. ^S	11,500	975,775
Penn National Gaming, Inc. †	58,900	812,231
		4,454,864
Household durables (0.6%)		
Century Communities, Inc. †	50,800	1,066,800
		1,066,800
Independent power and renewable electricity producers (0.2%)		
Dynegy, Inc. † ^S	48,500	410,310
		410,310
Insurance (5.8%)		
Allied World Assurance Co. Holdings AG	8,200	440,422
American Financial Group, Inc.	13,543	1,193,409
AMERISAFE, Inc.	16,000	997,600
Employers Holdings, Inc.	28,900	1,144,440
Hanover Insurance Group, Inc. (The)	12,000	1,092,120
James River Group Holdings, Ltd. (Bermuda)	13,300	552,615
Maiden Holdings, Ltd. (Bermuda)	49,300	860,285
National General Holdings Corp.	30,700	767,193
Reinsurance Group of America, Inc.	12,073	1,519,146
Validus Holdings, Ltd.	23,414	1,288,004
		9,855,234
Internet and direct marketing retail (0.2%)		
FTD Cos., Inc. †	15,500	369,520
		369,520
Internet software and services (1.9%)		
GTT Communications, Inc. †	57,900	1,664,625
j2 Global, Inc. ^S	18,800	1,537,840
		3,202,465
IT Services (1.2%)		
Convergys Corp. ^S	31,600	776,096
Everi Holdings, Inc. †	169,100	366,947
Virtusa Corp. †	38,800	974,656
		2,117,699
Leisure products (0.6%)		
Brunswick Corp.	19,800	1,079,892
		1,079,892

COMMON STOCKS (94.3%)* cont.	Shares	Value
Life sciences tools and services (0.7%)		
Enzo Biochem, Inc. †	71,489	\$496,134
VWR Corp. †	26,696	668,201
		1,164,335
Machinery (1.0%)		
EnPro Industries, Inc.	13,100	882,416
Kadant, Inc.	12,900	789,480
		1,671,896
Media (0.8%)		
Live Nation Entertainment, Inc. †	29,600	787,360
Madison Square Garden Co. (The) Class A †	3,666	628,756
		1,416,116
Metals and mining (0.7%)		
Ferroglobe PLC (United Kingdom)	102,740	1,112,674
Ferroglobe Representation & Warranty Insurance Trust † ^F	102,740	—
		1,112,674
Mortgage real estate investment trusts (REITs) (0.3%)		
Cherry Hill Mortgage Investment Corp. ^R	24,655	448,474
		448,474
Multi-utilities (0.5%)		
Avista Corp.	20,831	833,032
		833,032
Oil, gas, and consumable fuels (4.5%)		
Aegean Marine Petroleum Network, Inc. (Greece) ^S	94,217	956,303
Callon Petroleum Co. †	74,569	1,146,126
Energen Corp. †	28,193	1,625,890
Gulfport Energy Corp. †	38,200	826,648
PBF Energy, Inc. Class A ^S	37,900	1,056,652
PDC Energy, Inc. †	16,000	1,161,280
Ring Energy, Inc. †	67,817	880,943
		7,653,842
Personal products (0.4%)		
Edgewell Personal Care Co. †	8,400	613,116
		613,116
Pharmaceuticals (0.5%)		
Sucampo Pharmaceuticals, Inc. Class A † ^S	60,500	819,775
		819,775
Real estate management and development (0.6%)		
RE/MAX Holdings, Inc. Class A	18,525	1,037,400
		1,037,400
Road and rail (1.8%)		
Marten Transport, Ltd.	36,700	855,110
Saia, Inc. †	23,800	1,050,770
YRC Worldwide, Inc. †	89,300	1,185,904
		3,091,784
Semiconductors and semiconductor equipment (6.1%)		
Advanced Energy Industries, Inc. †	14,200	777,450
Exar Corp. †	83,100	895,818
FormFactor, Inc. †	111,500	1,248,800
Ichor Holdings, Ltd. † ^S	82,131	888,657
Integrated Device Technology, Inc. †	49,700	1,170,932
MaxLinear, Inc. Class A †	54,900	1,196,820
Teradyne, Inc.	46,100	1,170,940
Tessera Holding Corp.	34,000	1,502,800
Tower Semiconductor, Ltd. (Israel) † ^S	78,500	1,493,855
		10,346,072
Technology hardware, storage, and peripherals (1.6%)		
BancTec, Inc. 144ACVR ^F	152,299	—
NCR Corp. †	33,400	1,354,704
Super Micro Computer, Inc. †	49,800	1,396,890
		2,751,594

COMMON STOCKS (94.3%)* cont.	Shares	Value
Thriffs and mortgage finance (6.0%)		
Bofl Holding, Inc. † ^s	35,900	\$1,024,945
First Defiance Financial Corp.	23,500	1,192,390
Flagstar Bancorp, Inc. †	14,800	398,712
HomeStreet, Inc. †	32,700	1,033,320
Meta Financial Group, Inc.	13,894	1,429,693
NMI Holdings, Inc. Class A †	113,100	1,204,515
Provident Financial Services, Inc.	27,100	766,930
Walker & Dunlop, Inc. †	41,121	1,282,975
Washington Federal, Inc.	24,900	855,315
WSFS Financial Corp.	20,900	968,713
		10,157,508
Trading companies and distributors (0.5%)		
BMC Stock Holdings, Inc. †	48,000	936,000
		936,000
Total common stocks (cost \$119,778,012)		\$160,644,489
INVESTMENT COMPANIES (2.3%)*		
Hercules Capital, Inc.	65,882	\$929,595
Medley Capital Corp.	97,200	729,972
Solar Capital, Ltd.	36,335	756,495
TCP Capital Corp.	39,952	675,189
TriplePoint Venture Growth BDC Corp.	68,647	808,662
Total investment companies (cost \$3,646,713)		\$3,899,913
SHORT-TERM INVESTMENTS (12.2%)*		
Putnam Cash Collateral Pool, LLC 0.91% ^d	14,968,800	\$14,968,800
Putnam Short Term Investment Fund 0.69% ^L	5,882,664	5,882,664
Total short-term investments (cost \$20,851,464)		\$20,851,464
Total investments (cost \$144,276,189)		\$185,395,866

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, 2016 through December 31, 2016 (the reporting period). Within the following notes to the portfolio, references to "ASC 820" represent Accounting Standards Codification 820 *Fair Value Measurements and Disclosures* and references to "OTC", if any, represent over-the-counter.

* Percentages indicated are based on net assets of \$170,441,189.

† 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).

144A after the name of an issuer represents securities exempt from registration under Rule 144A under 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*:			
Consumer discretionary	\$14,093,906	\$—	\$—
Consumer staples	4,112,583	—	—
Energy	9,778,893	—	—
Financials	53,699,336	—	—
Health care	7,712,051	—	—
Industrials	19,967,656	—	—
Information technology	23,124,411	—	—**
Materials	8,004,104	—	—
Real estate	13,471,223	—	—
Utilities	6,680,326	—	—
Total common stocks	160,644,489	—	—
Investment companies	3,899,913	—	—
Short-term investments	5,882,664	14,968,800	—
Totals by level	\$170,427,066	\$14,968,800	\$—

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

** Value of Level 3 security is \$—.

During the reporting period, transfers within the fair value hierarchy, if any (other than certain transfers involving non-U.S. equity securities as described in Note 1), 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

12/31/16

Assets	
Investment in securities, at value, including \$14,523,827 of securities on loan (Note 1):	
Unaffiliated issuers (identified cost \$123,424,725)	\$164,544,402
Affiliated issuers (identified cost \$20,851,464) (Notes 1 and 5)	20,851,464
Cash	52,001
Dividends, interest and other receivables	183,187
Receivable for shares of the fund sold	561,952
Total assets	186,193,006
Liabilities	
Payable for investments purchased	52,304
Payable for shares of the fund repurchased	408,271
Payable for compensation of Manager (Note 2)	90,010
Payable for custodian fees (Note 2)	14,585
Payable for investor servicing fees (Note 2)	23,969
Payable for Trustee compensation and expenses (Note 2)	105,139
Payable for administrative services (Note 2)	1,719
Payable for distribution fees (Note 2)	23,285
Collateral on securities loaned, at value (Note 1)	14,968,800
Other accrued expenses	63,735
Total liabilities	15,751,817
Net assets	\$170,441,189
Represented by	
Paid-in capital (Unlimited shares authorized) (Notes 1 and 4)	\$122,163,429
Undistributed net investment income (Note 1)	1,248,381
Accumulated net realized gain on investments (Note 1)	5,909,702
Net unrealized appreciation of investments	41,119,677
Total — Representing net assets applicable to capital shares outstanding	\$170,441,189
Computation of net asset value Class IA	
Net assets	\$59,872,191
Number of shares outstanding	3,755,165
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$15.94
Computation of net asset value Class IB	
Net assets	\$110,568,998
Number of shares outstanding	7,019,958
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$15.75

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

Statement of operations

Year ended 12/31/16

Investment income

Dividends (net of foreign tax of \$18,562)	\$2,645,456
Interest (including interest income of \$36,814 from investments in affiliated issuers) (Note 5)	36,895
Securities lending (net of expenses) (Notes 1 and 5)	107,992
Total investment income	2,790,343

Expenses

Compensation of Manager (Note 2)	916,840
Investor servicing fees (Note 2)	102,473
Custodian fees (Note 2)	21,160
Trustee compensation and expenses (Note 2)	9,996
Distribution fees (Note 2)	237,886
Administrative services (Note 2)	4,467
Other	85,750
Fees waived and reimbursed by Manager (Note 2)	(2,162)

Total expenses **1,376,410**

Expense reduction (Note 2) (12,291)

Net expenses **1,364,119**

Net investment income **1,426,224**

Net realized gain on investments (Notes 1 and 3) 6,576,907

Net unrealized appreciation of investments during the year 28,994,773

Net gain on investments **35,571,680**

Net increase in net assets resulting from operations **\$36,997,904**

Statement of changes in net assets

	Year ended 12/31/16	Year ended 12/31/15
Increase (decrease) in net assets		
Operations		
Net investment income	\$1,426,224	\$1,901,597
Net realized gain on investments	6,576,907	14,967,625
Net unrealized appreciation (depreciation) of investments	28,994,773	(23,156,257)
Net increase (decrease) in net assets resulting from operations	36,997,904	(6,287,035)
Distributions to shareholders (Note 1):		
From ordinary income		
Net investment income		
Class IA	(752,756)	(668,658)
Class IB	(1,135,998)	(944,758)
Net realized short-term gain on investments		
Class IA	(25,092)	(1,250,100)
Class IB	(47,053)	(2,372,239)
From net realized long-term gain on investments		
Class IA	(5,147,414)	(5,371,070)
Class IB	(9,652,623)	(10,192,353)
Increase (decrease) from capital share transactions (Note 4)	1,173,260	(7,844,071)
Total increase (decrease) in net assets	21,410,228	(34,930,284)
Net assets		
Beginning of year	149,030,961	183,961,245
End of year (including undistributed net investment income of \$1,248,381 and \$1,730,952, respectively)	\$170,441,189	\$149,030,961

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													
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
12/31/13	15.42	.12	5.93	6.05	(.19)	(.26)	(.45)	21.02	39.93	72,183	.81	.65	59
12/31/12	13.18	.16	2.18	2.34	(.10)	—	(.10)	15.42	17.79	58,447	.81	1.13	72
Class IB													
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
12/31/13	15.29	.08	5.88	5.96	(.15)	(.26)	(.41)	20.84	39.61	148,138	1.06	.43	59
12/31/12	13.07	.13	2.15	2.28	(.06)	—	(.06)	15.29	17.49	164,774	1.06	.88	72

^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 (Note 2).

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

Notes to financial statements 12/31/16

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, 2016 through December 31, 2016.

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 the 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, 2016, the index was composed of companies having market capitalizations of between approximately \$13.8 million and \$5.9 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 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.

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 \$14,968,800 and the value of securities loaned amounted to \$14,523,827.

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.

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. These differences include temporary and/or permanent differences from losses on wash sale transactions and non-taxable dividends. 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. At the close of the reporting period, the fund reclassified \$20,041 to decrease undistributed net investment income and \$20,041 to increase accumulated net realized gain.

The tax basis components of distributable earnings and the federal tax cost as of the close of the reporting period were as follows:

Unrealized appreciation	\$44,059,952
Unrealized depreciation	(3,487,421)
Net unrealized appreciation	40,572,531
Undistributed ordinary income	1,248,383
Undistributed short-term gain	528,031
Undistributed long-term gain	5,928,817
Cost for federal income tax purposes	\$144,823,335

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 40.1% 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 0.626% of the fund's average net assets.

Putnam Management has contractually agreed, through April 30, 2018, 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 Management may from time to time voluntarily undertake to waive fees and/or reimburse certain fund expenses. Any such waiver or reimbursement would be voluntary and may be modified or discontinued by Putnam Management at any time without notice. For the reporting period, Putnam Management voluntarily waived \$2,162.

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	\$35,893
Class IB	66,580
Total	\$102,473

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 \$24 under the expense offset arrangements and by \$12,267 under the brokerage/service arrangements.

Each Independent Trustee of the fund receives an annual Trustee fee, of which \$115, 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,

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			
	Year ended 12/31/16		Year ended 12/31/15		Year ended 12/31/16		Year ended 12/31/15	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
Shares sold	310,433	\$4,338,261	297,758	\$4,527,504	583,727	\$8,039,386	299,639	\$4,399,770
Shares issued in connection with reinvestment of distributions	481,729	5,925,262	484,696	7,289,828	890,359	10,835,674	906,668	13,509,350
	792,162	10,263,523	782,454	11,817,332	1,474,086	18,875,060	1,206,307	17,909,120
Shares repurchased	(752,465)	(10,109,659)	(851,272)	(13,004,366)	(1,345,096)	(17,855,664)	(1,620,636)	(24,566,157)
Net increase (decrease)	39,697	\$153,864	(68,818)	\$(1,187,034)	128,990	\$1,019,396	(414,329)	\$(6,657,037)

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 at the beginning of the reporting period	Purchase cost	Sale proceeds	Investment income	Fair value at the end of the reporting period
Putnam Cash Collateral Pool, LLC*	\$17,764,263	\$66,217,158	\$69,012,621	\$74,756	\$14,968,800
Putnam Short Term Investment Fund**	10,749,228	49,346,889	54,213,453	36,814	5,882,664
Totals	\$28,513,491	\$115,564,047	\$123,226,074	\$111,570	\$20,851,464

*No management fees are charged to Putnam Cash Collateral Pool, LLC (See Note 1).

**Management fees charged to Putnam Short Term Investment Fund have been waived by Putnam Management.

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 — 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 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)	\$93,595,438	\$102,852,923
U.S. government securities (Long-term)	—	—
Total	\$93,595,438	\$102,852,923

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.








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 is currently evaluating the amendments and their impact, if any, on the fund's financial statements.




Federal tax information (Unaudited)

Pursuant to §852 of the Internal Revenue Code, as amended, the fund hereby designates \$6,543,194 as a capital gain dividend with respect to the taxable year ended December 31, 2016, or, if subsequently determined to be different, the net capital gain of such year.


The fund designated 67.77% of ordinary income distributions as qualifying for the dividends received deduction for corporations.

About the Trustees

Name Year of birth Position held	Principal occupations during past five years	Other directorships	
Independent Trustees			
Liaquat Ahmed Born 1952 Trustee since 2012	Pulitzer Prize-winning author of <i>Lords of Finance: The Bankers Who Broke the World</i> , whose articles on economics have appeared in such publications as the <i>New York Times</i> , <i>Foreign Affairs</i> , and the <i>Financial Times</i> . Director of Aspen Insurance Co., a New York Stock Exchange company, and Chair of the Aspen Board's Investment Committee. Trustee of the Brookings Institution.	The Rohatyn Group, an emerging-market fund complex that manages money for institutions	
Ravi Akhoury Born 1947 Trustee since 2009	Trustee of American India Foundation and of the Rubin Museum. From 1992 to 2007, was Chairman and CEO of MacKay Shields, a multi-product investment management firm.	RAGE Frameworks, Inc., a private software company; English Helper, Inc., a private software company	
Barbara M. Baumann Born 1955 Trustee since 2010	President and Owner of Cross Creek Energy Corporation, a strategic consultant to domestic energy firms and direct investor in energy projects. Current Board member of The Denver Foundation. Former Chair and current Board member of Girls Incorporated of Metro Denver. Member of the Finance Committee, the Children's Hospital of Colorado.	Buckeye Partners, L.P., a publicly traded master limited partnership focused on pipeline transport, storage, and distribution of petroleum products; Devon Energy Corporation, a leading independent natural gas and oil exploration and production company	
Jameson A. Baxter Born 1943 Trustee since 1994, Vice Chair from 2005 to 2011, and Chair since 2011	President of Baxter Associates, Inc., a private investment firm. Chair of Mutual Fund Directors Forum. Chair Emeritus of the Board of Trustees of Mount Holyoke College. Director of the Adirondack Land Trust and Trustee of the Nature Conservancy's Adirondack Chapter.	None	
Robert J. Darretta Born 1946 Trustee since 2007	From 2009 until 2012, served as Health Care Industry Advisor to Permira, a global private equity firm. Until April 2007, was Vice Chairman of the Board of Directors of Johnson & Johnson. Served as Johnson & Johnson's Chief Financial Officer for a decade.	UnitedHealth Group, a diversified health-care company	
Katinka Domotorffy Born 1975 Trustee since 2012	Voting member of the Investment Committees of the Anne Ray Charitable Trust and Margaret A. Cargill Foundation, part of the Margaret A. Cargill Philanthropies. Until 2011, Partner, Chief Investment Officer, and Global Head of Quantitative Investment Strategies at Goldman Sachs Asset Management.	Reach Out and Read of Greater New York, an organization dedicated to promoting childhood literacy; Great Lakes Science Center; College Now Greater Cleveland	
John A. Hill Born 1942 Trustee since 1985 and Chairman from 2000 to 2011	Founder and Vice-Chairman of First Reserve Corporation, the leading private equity buyout firm focused on the worldwide energy industry. Trustee and Chairman of the Board of Trustees of Sarah Lawrence College. Member of the Advisory Board of the Millstein Center for Global Markets and Corporate Ownership at The Columbia University Law School.	None	
Paul L. Joskow Born 1947 Trustee since 1997	Economist and President of the Alfred P. Sloan Foundation, a philanthropic institution focused primarily on research and education on issues related to science, technology, and economic performance. Elizabeth and James Killian Professor of Economics, Emeritus at the Massachusetts Institute of Technology (MIT). Prior to 2007, served as the Director of the Center for Energy and Environmental Policy Research at MIT.	Yale University; Exelon Corporation, an energy company focused on power services; Boston Symphony Orchestra; Prior to April 2013, served as Director of TransCanada Corporation and TransCanada Pipelines Ltd., energy companies focused on natural gas transmission, oil pipelines and power services	
Kenneth R. Leibler Born 1949 Trustee since 2006 and Vice Chair since 2016	Founder and former Chairman of Boston Options Exchange, an electronic marketplace for the trading of derivative securities. Vice Chairman Emeritus of the Board of Trustees of Beth Israel Deaconess Hospital in Boston, Massachusetts. Director of Beth Israel Deaconess Care Organization. Until November 2010, director of Ruder Finn Group, a global communications and advertising firm.	Eversource Corporation, which operates New England's largest energy delivery system	

Name Year of birth Position held	Principal occupations during past five years	Other directorships	
Robert E. Patterson Born 1945 Trustee since 1984	Co-Chairman of Cabot Properties, Inc., a private equity firm investing in commercial real estate, and Chairman or Co-Chairman of the Investment Committees for various Cabot Funds. Past Chairman and Trustee of the Joslin Diabetes Center.	None	
George Putnam, III Born 1951 Trustee since 1984	Chairman of New Generation Research, Inc., a publisher of financial advisory and other research services. Founder and President of New Generation Advisors, LLC, a registered investment advisor to private funds. Director of The Boston Family Office, LLC, a registered investment advisor.	None	
W. Thomas Stephens Born 1942 Trustee from 1997 to 2008 and since 2009	Retired as Chairman and Chief Executive Officer of Boise Cascade, LLC, a paper, forest products, and timberland assets company, in December 2008. Prior to 2010, Director of Boise Inc., a manufacturer of paper and packaging products.	Prior to April 2014, served as Director of TransCanada Pipelines Ltd., an energy infrastructure company	

Interested Trustee

Robert L. Reynolds* Born 1952 Trustee since 2008 and President of the Putnam Funds since 2009	President and Chief Executive Officer of Putnam Investments since 2008 and, since 2014, President and Chief Executive Officer of Great-West Financial, a financial services company that provides retirement savings plans, life insurance, and annuity and executive benefits products, and of Great-West Lifeco U.S. Inc., a holding company that owns Putnam Investments and Great-West Financial. Prior to joining Putnam Investments, served as Vice Chairman and Chief Operating Officer of Fidelity Investments from 2000 to 2007.	None	
--	---	------	---

*Mr. Reynolds is an "interested person" (as defined in the Investment Company Act of 1940) of the fund and Putnam Investments. He is President and Chief Executive Officer of Putnam Investments, as well as the President of your fund and each of the other Putnam funds.

The address of each Trustee is One Post Office Square, Boston, MA 02109.

As of December 31, 2016, there were 114 Putnam funds. All Trustees serve as Trustees of all Putnam funds.

Each Trustee serves for an indefinite term, until his or her resignation, retirement at age 75, removal, or death.

Officers

In addition to Robert L. Reynolds, the other officers of the fund are shown below:

Jonathan S. Horwitz (Born 1955)
Executive Vice President, Principal Executive Officer, and Compliance Liaison
Since 2004

Robert T. Burns (Born 1961)
Vice President and Chief Legal Officer
Since 2011
General Counsel, Putnam Investments, Putnam Management, and Putnam Retail Management

James F. Clark (Born 1974)
Vice President and Chief Compliance Officer
Since 2016
Chief Compliance Officer, Putnam Investments and Putnam Management

Michael J. Higgins (Born 1976)
Vice President, Treasurer, and Clerk
Since 2010

Janet C. Smith (Born 1965)
Vice President, Principal Financial Officer, Principal Accounting Officer, and Assistant Treasurer
Since 2007
Director of Fund Administration Services, Putnam Investments and Putnam Management

Susan G. Malloy (Born 1957)
Vice President and Assistant Treasurer
Since 2007
Director of Accounting & Control Services, Putnam Investments and Putnam Management

Mark C. Trenchard (Born 1962)
Vice President and BSA Compliance Officer
Since 2002

Director of Operational Compliance, Putnam Investments and Putnam Retail Management

Nancy E. Florek (Born 1957)
Vice President, Director of Proxy Voting and Corporate Governance, Assistant Clerk, and Associate Treasurer
Since 2000

The principal occupations of the officers for the past five years have been with the employers as shown above, although in some cases they have held different positions with such employers. The address of each officer is One Post Office Square, Boston, MA 02109.

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, 2016, 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

Investment Manager

Putnam Investment Management, LLC
One Post Office Square
Boston, MA 02109

Investment Sub-Advisor

Putnam Investments Limited
57-59 St James's Street
London, England SW1A 1LD

Marketing Services

Putnam Retail Management
One Post Office Square
Boston, MA 02109

Investor Servicing Agent

Putnam Investor Services, Inc.
Mailing address:
P.O. Box 8383
Boston, MA 02266-8383
1-800-225-1581

Custodian

State Street Bank and Trust Company

Legal Counsel

Ropes & Gray LLP

Independent Registered Public Accounting Firm

PricewaterhouseCoopers LLP

Trustees

Jameson A. Baxter, *Chair*
Kenneth R. Leibler, *Vice Chair*
Liaquat Ahamed
Ravi Akhoury
Barbara M. Baumann
Robert J. Darretta
Katinka Domotorffy
John A. Hill
Paul L. Joskow
Robert E. Patterson
George Putnam, III
Robert L. Reynolds
W. Thomas Stephens

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.

