

A world of investing.®



Putnam Variable Trust

Annual report

12 | 31 | 16

Putnam VT
Capital Opportunities 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.

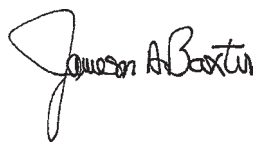
In today's environment, we favor the investment approach practiced at Putnam — active strategies based on fundamental research. Putnam portfolio managers, backed by a network of global analysts, bring years of experience to navigating changing market conditions and pursuing investment opportunities. 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 10, 2017

Performance summary (as of 12/31/16)

Investment objective

Long-term growth of capital

Net asset value December 31, 2016

Class IA: \$18.69

Class IB: \$18.52

Total return at net asset value

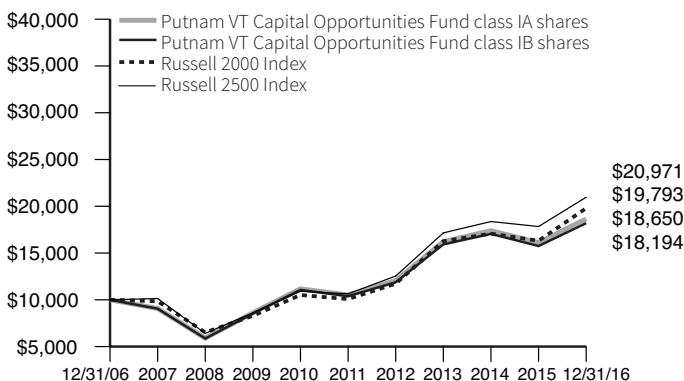
(as of 12/31/16)	Class IA shares*	Class IB shares*	Russell 2000 Index†	Russell 2500 Index†
1 year	15.77%	15.52%	21.31%	17.59%
5 years	77.37	75.22	96.45	97.13
Annualized	12.14	11.87	14.46	14.54
10 years	86.50	81.94	97.93	109.71
Annualized	6.43	6.17	7.07	7.69
Life	267.27	255.00	308.20	333.98
Annualized	9.99	9.71	10.84	11.34

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

* Class inception date: May 1, 2003.

† Effective April 1, 2016, the Russell 2000 Index replaced the Russell 2500 Index as the fund's benchmark. In Putnam Management's opinion, the securities tracked by this index more accurately reflect the types of securities that will generally be held by the fund.

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



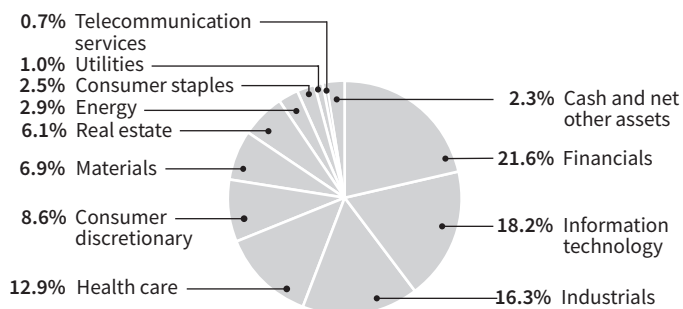
The Russell 2000 Index is an unmanaged index of 2,000 small companies in the Russell 3000 Index.

The Russell 2500 Index is an unmanaged index of 2,500 small and midsize companies in the Russell 3000 Index.

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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

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

With market conditions and investor confidence improving as the year progressed, U.S. small-cap stocks enjoyed strong performance and ranked among the best-performing asset classes for 2016. The third and fourth quarters were particularly noteworthy, with the Russell 2000 Index [the fund's benchmark and a measure of small-cap stock performance] climbing 9.05% and 8.83%, respectively, for the two final quarters of 2016.

What was your strategy in this environment, and how did the fund perform?

When I assumed management of the fund on February 17, 2016, the fund had a small- and mid-cap orientation. I began focusing on smaller-cap stocks with what I believed had attractive multiyear growth potential in an effort to create a more balanced small-cap fund with a core focus. The fund's shift toward small companies was beneficial, as small-cap stocks outperformed mid- and large-cap stocks in 2016. As the outlook for the U.S. economy improved during the reporting period, investments in telecommunication services, real estate, and information technology contributed to returns on an absolute basis. The fund's top individual contributors for the period were Ingram Micro, TESARO, and Meta Financial Group. Our positions in TESARO and Ingram Micro were sold-off by period's end.

While the fund posted solid absolute performance for the 12-month reporting period, it underperformed its benchmark. Stock selection accounted for most of this underperformance, but sector allocation results were a slight detractor as well.

From an allocation perspective, relative performance was hampered by an overweight exposure to the health-care sector and an underweight exposure to the consumer staples sector. Performance within the health-care sector suffered due to the increased risk of regulatory change for drug pricing.

Weakness from stock picking was concentrated in two sectors — consumer discretionary and financials. Within consumer discretionary, the fund's exposure to this underperforming sector weighed on results. Holdings in Strayer Education, H&R Block, Cooper Tire & Rubber, and HanesBrands detracted from results. Within financials, underperformance was driven by overweight positions in Jones Lang LaSalle, OneMain Holdings, and The Geo Group. Strayer Education, H&R Block, Cooper Tire & Rubber, Jones Lang LaSalle and The Geo Group were sold before period-end.

What are your thoughts about the U.S. stock market as 2017 begins?

I believe the U.S. stock market held up surprisingly well in the aftermath of the unexpected results of the United Kingdom's vote to leave the European Union [Brexit] and the election of Donald Trump as president of the United States. For their part, small-cap stocks saw increased investor interest following both of these events, which helped push the benchmark to all-time highs. In the case of Brexit, demand for the asset class rose as investors expected Brexit to have limited effects on the U.S. economy. Typically, smaller U.S. companies tend to be less directly affected by events in non-U.S. markets than large, U.S. multinational companies. In the case of a Trump presidency, we believe that some of Trump's deregulation and tariff and trade proposals may be more disruptive for large companies that are more dependent on exports than for small businesses that tend to be more focused on the U.S. market. Furthermore, with Trump and a Republican-controlled Congress likely to pursue pro-growth policies, including lower taxes, greater infrastructure spending, and less regulation, we believe small-company stocks could be one of the greatest beneficiaries of the new administration's policies.

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. Growth stocks may be more susceptible to earnings disappointments, and value stocks may fail to rebound. 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 **Pam Gao**, CFA, has been in the investment industry since she joined Putnam in 2000.

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. In the most recent six-month period, your fund's expenses were limited; had expenses not been limited, they would have been higher. 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	0.89%	1.14%
Annualized expense ratio for the six-month period ended 12/31/16*	0.89%	1.14%

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

Expenses are shown as a percentage of average net assets.

*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*†	\$4.87	\$6.24	\$4.52	\$5.79
Ending value (after expenses)	\$1,177.70	\$1,176.60	\$1,020.66	\$1,019.41

*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 Capital Opportunities 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 Capital Opportunities 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 10, 2017

The fund's portfolio 12/31/16

COMMON STOCKS (95.8%)*	Shares	Value
Aerospace and defense (0.2%)		
Kratos Defense & Security Solutions, Inc. †	8,378	\$61,997
		61,997
Airlines (1.3%)		
Alaska Air Group, Inc.	1,555	137,975
JetBlue Airways Corp. †	3,995	89,568
Spirit Airlines, Inc. †	2,460	142,336
		369,879
Auto components (1.0%)		
Cooper-Standard Holding, Inc. †	1,148	118,680
Goodyear Tire & Rubber Co. (The)	1,810	55,875
Stoneridge, Inc. †	6,529	115,498
		290,053
Banks (11.1%)		
Banco Latinoamericano de Comercio Exterior SA Class E (Panama)	1,906	56,113
Cardinal Financial Corp.	2,924	95,878
Chemical Financial Corp.	2,043	110,669
Customers Bancorp, Inc. †	3,742	134,038
East West Bancorp, Inc.	5,785	294,052
FCB Financial Holdings, Inc. Class A †	3,473	165,662
First BanCorp. (Puerto Rico) †	23,833	157,536
First Community Bancshares, Inc.	2,703	81,468
Flushing Financial Corp.	3,145	92,432
Franklin Financial Network, Inc. †	2,991	125,173
Great Southern Bancorp, Inc.	2,325	127,061
Hanmi Financial Corp.	5,389	188,076
Hope Bancorp, Inc.	7,496	164,087
Horizon Bancorp	2,736	76,608
MainSource Financial Group, Inc.	3,310	113,864
OFG Bancorp (Puerto Rico)	2,662	34,872
Pacific Premier Bancorp, Inc. †	2,823	99,793
Peoples Bancorp, Inc.	2,444	79,332
Popular, Inc. (Puerto Rico)	4,783	209,591
TCF Financial Corp.	7,038	137,874
United Community Banks, Inc./GA	3,478	103,018
Webster Financial Corp.	2,755	149,541
Western Alliance Bancorp †	2,536	123,529
Zions Bancorporation	4,282	184,297
		3,104,564
Biotechnology (4.7%)		
Acceleron Pharma, Inc. †	660	16,843
Alder Biopharmaceuticals, Inc. † [§]	2,255	46,904
Alkermes PLC †	1,255	69,753
Ardelyx, Inc. †	3,459	49,118
ARIAD Pharmaceuticals, Inc. † [§]	5,943	73,931
Array BioPharma, Inc. †	6,805	59,816
Axovant Sciences, Ltd. (Bermuda) † [§]	1,765	21,921
Biospecifics Technologies Corp. †	1,296	72,187
Clovis Oncology, Inc. † [§]	1,505	66,852
CytomX Therapeutics, Inc. †	3,315	36,432
Eagle Pharmaceuticals, Inc. † [§]	1,475	117,027
Emergent BioSolutions, Inc. † [§]	3,582	117,633
Exelixis, Inc. †	3,120	46,519
FivePrime Therapeutics, Inc. †	1,238	62,036
Halozyne Therapeutics, Inc. †	2,960	29,245
Kite Pharma, Inc. † [§]	800	35,872
Lexicon Pharmaceuticals, Inc. † [§]	1,660	22,958

COMMON STOCKS (95.8%)* cont.	Shares	Value
Biotechnology cont.		
Ligand Pharmaceuticals, Inc. † [§]	644	\$65,437
Merrimack Pharmaceuticals, Inc. † [§]	7,129	29,086
MiMedx Group, Inc. † [§]	6,769	59,973
Neurocrine Biosciences, Inc. †	1,017	39,358
Prothena Corp. PLC (Ireland) † [§]	1,212	59,618
Puma Biotechnology, Inc. †	590	18,113
Sorrento Therapeutics, Inc. † [§]	3,380	16,562
Trevena, Inc. †	3,705	21,785
Ultragenyx Pharmaceutical, Inc. †	765	53,787
uniQure NV (Netherlands) †	1,785	9,996
		1,318,762
Building products (2.2%)		
CaesarStone Sdot-Yam, Ltd. (Israel) †	1,748	50,080
Continental Building Products, Inc. †	4,206	97,159
NCI Building Systems, Inc. †	4,485	70,190
Patrick Industries, Inc. †	2,406	183,578
PGT Innovations, Inc. †	19,541	223,744
		624,751
Capital markets (1.2%)		
AllianceBernstein Holding LP	2,844	66,692
E*Trade Financial Corp. †	3,371	116,805
Piper Jaffray Cos. †	2,271	164,648
		348,145
Chemicals (3.6%)		
American Vanguard Corp.	5,137	98,374
Cabot Corp.	2,012	101,686
Chase Corp.	1,258	105,106
Innophos Holdings, Inc.	390	20,381
Koppers Holdings, Inc. †	3,349	134,965
Kraton Corp. †	2,583	73,564
Minerals Technologies, Inc.	1,191	92,005
Orion Engineered Carbons SA (Luxembourg)	7,574	142,770
Trinseo SA	1,987	117,829
W.R. Grace & Co.	1,735	117,355
		1,004,035
Commercial services and supplies (2.1%)		
ACCO Brands Corp. †	11,348	148,091
Deluxe Corp.	2,900	207,669
Ennis, Inc.	4,230	73,391
Tetra Tech, Inc.	3,962	170,960
		600,111
Communications equipment (2.1%)		
Applied Optoelectronics, Inc. †	2,387	55,951
Arista Networks, Inc. †	635	61,449
Ciena Corp. †	2,886	70,447
InterDigital, Inc./PA	1,964	179,411
Netscout Systems, Inc. †	3,615	113,873
Plantronics, Inc.	777	42,549
ShoreTel, Inc. †	8,324	59,517
		583,197
Construction and engineering (3.3%)		
Argan, Inc.	2,233	157,538
Dycom Industries, Inc. †	1,881	151,025
Granite Construction, Inc.	1,495	82,225
MasTec, Inc. †	5,793	221,582
Primoris Services Corp.	2,405	54,786
Quanta Services, Inc. †	4,973	173,309
Tutor Perini Corp. †	3,030	84,840
		925,305

COMMON STOCKS (95.8%)* cont.	Shares	Value
Construction materials (1.1%)		
Summit Materials, Inc. Class A †	8,925	\$212,322
U.S. Concrete, Inc. † [§]	1,415	92,683
		305,005
Consumer finance (1.7%)		
Encore Capital Group, Inc. † [§]	2,324	66,583
Nelnet, Inc. Class A	3,289	166,917
OneMain Holdings, Inc. †	2,705	59,889
SLM Corp. †	17,045	187,836
		481,225
Containers and packaging (0.3%)		
Owens-Illinois, Inc. †	5,185	90,271
		90,271
Diversified consumer services (0.3%)		
K12, Inc. †	4,360	74,818
		74,818
Diversified telecommunication services (0.7%)		
Cogent Communications Holdings, Inc.	1,974	81,625
IDT Corp. Class B	2,626	48,686
Vonage Holdings Corp. †	9,035	61,890
		192,201
Electrical equipment (0.9%)		
AZZ, Inc.	1,220	77,958
EnerSys	879	68,650
Sensata Technologies Holding NV †	2,929	114,085
		260,693
Electronic equipment, instruments, and components (1.2%)		
Belden, Inc.	675	50,470
Littelfuse, Inc.	601	91,214
Plexus Corp. †	1,983	107,161
SYNNEX Corp.	826	99,963
		348,808
Energy equipment and services (0.4%)		
Oil States International, Inc. †	2,769	107,991
		107,991
Equity real estate investment trusts (REITs) (5.5%)		
Agree Realty Corp.	1,486	68,430
Ashford Hospitality Trust, Inc.	7,498	58,184
Brandywine Realty Trust	4,114	67,922
CBL & Associates Properties, Inc.	4,140	47,610
Chesapeake Lodging Trust	3,050	78,873
Communications Sales & Leasing, Inc.	5,213	132,462
Community Healthcare Trust, Inc.	2,990	68,860
DiamondRock Hospitality Co.	7,585	87,455
Hersha Hospitality Trust	1,800	38,700
Investors Real Estate Trust [§]	5,845	41,675
LaSalle Hotel Properties	1,915	58,350
Lexington Realty Trust	10,316	111,413
LTC Properties, Inc.	1,023	48,061
National Health Investors, Inc.	1,475	109,401
Omega Healthcare Investors, Inc.	2,632	82,276
One Liberty Properties, Inc.	2,132	53,556
Ramco-Gershenson Properties Trust	2,899	48,065
Ryman Hospitality Properties	940	59,229
Select Income REIT	2,309	58,187
STAG Industrial, Inc.	3,180	75,907
Summit Hotel Properties, Inc.	7,752	124,265
Universal Health Realty Income Trust	476	31,221
		1,550,102
Food and staples retail (0.5%)		
SpartanNash Co.	3,188	126,054
		126,054

COMMON STOCKS (95.8%)* cont.	Shares	Value
Food products (1.7%)		
B&G Foods, Inc.	1,715	\$75,117
Dean Foods Co.	4,994	108,769
John B. Sanfilippo & Son, Inc.	1,047	73,698
Nomad Foods, Ltd. (United Kingdom) †	7,715	73,833
Sanderson Farms, Inc. [§]	1,475	139,004
		470,421
Gas utilities (0.5%)		
UGI Corp.	2,747	126,582
		126,582
Health-care equipment and supplies (2.7%)		
Conmed Corp.	874	38,605
DexCom, Inc. † [§]	573	34,208
Globus Medical, Inc. Class A †	2,533	62,844
Halyard Health, Inc. †	1,549	57,282
ICU Medical, Inc. †	1,249	184,040
Integer Holdings Corp. †	2,833	83,432
Spectranetics Corp. (The) †	2,603	63,774
STERIS PLC (United Kingdom)	1,618	109,037
Zeltiq Aesthetics, Inc. † [§]	3,082	134,129
		767,351
Health-care providers and services (1.2%)		
Aceto Corp.	2,414	53,036
Envision Healthcare Corp. †	452	28,607
HealthSouth Corp.	1,213	50,024
Landauer, Inc.	1,379	66,330
Molina Healthcare, Inc. †	920	49,919
PharMerica Corp. †	1,151	28,948
Surgical Care Affiliates, Inc. †	1,213	56,126
		332,990
Health-care technology (0.7%)		
Evolent Health, Inc. Class A †	7,190	106,412
Veeva Systems, Inc. Class A †	2,375	96,663
		203,075
Hotels, restaurants, and leisure (2.4%)		
Cheesecake Factory, Inc. (The)	3,070	183,832
Marriott Vacations Worldwide Corp. [§]	1,378	116,923
Penn National Gaming, Inc. †	7,436	102,542
Sonic Corp.	3,605	95,569
Wyndham Worldwide Corp.	2,220	169,541
		668,407
Household durables (1.2%)		
CalAtlantic Group, Inc. [§]	2,305	78,393
Century Communities, Inc. †	2,625	55,125
Ethan Allen Interiors, Inc.	1,448	53,359
LGI Homes, Inc. † [§]	5,200	149,396
		336,273
Independent power and renewable electricity producers (0.1%)		
Dynergy, Inc. † [§]	4,895	41,412
		41,412
Insurance (1.8%)		
American Equity Investment Life Holding Co.	8,855	199,592
Amtrust Financial Services, Inc.	2,636	72,174
Employers Holdings, Inc.	4,282	169,567
Heritage Insurance Holdings, Inc.	4,143	64,921
		506,254
Internet and direct marketing retail (0.4%)		
FTD Cos., Inc. †	2,880	68,659
Groupon, Inc. †	13,645	45,301
		113,960
Internet software and services (3.4%)		
Blucora, Inc. †	6,825	100,669
Box, Inc. Class A †	5,285	73,250

COMMON STOCKS (95.8%)* cont.	Shares	Value
Internet software and services cont.		
Carbonite, Inc. †	6,090	\$99,876
IAC/InterActive Corp. †	2,650	171,694
Instructure, Inc. †	5,514	107,799
j2 Global, Inc.	1,792	146,586
New Relic, Inc. †	1,540	43,505
Shopify, Inc. Class A (Canada) †	1,967	84,325
Stamps.com, Inc. † ⁵	644	73,835
XO Group, Inc. †	2,070	40,262
		941,801
IT Services (1.7%)		
CACI International, Inc. Class A †	1,380	171,534
Convergys Corp.	3,520	86,451
CSG Systems International, Inc.	2,981	144,280
Perficient, Inc. †	4,743	82,955
		485,220
Leisure products (0.9%)		
Brunswick Corp.	2,885	157,348
MCBC Holdings, Inc.	2,962	43,186
Vista Outdoor, Inc. †	1,201	44,317
		244,851
Life sciences tools and services (1.3%)		
Albany Molecular Research, Inc. † ⁵	6,506	122,053
Cambrex Corp. †	1,498	80,817
INC Research Holdings, Inc. Class A †	1,464	77,006
VWR Corp. †	3,279	82,073
		361,949
Machinery (3.7%)		
Columbus McKinnon Corp. of New York	3,420	92,477
Douglas Dynamics, Inc.	2,027	68,209
Greenbrier Cos., Inc. (The) ⁵	5,207	216,351
Hillenbrand, Inc.	3,055	117,159
NN, Inc.	5,199	99,041
Standex International Corp.	970	85,215
Terex Corp.	2,689	84,784
Wabash National Corp. †	3,969	62,790
Wabtec Corp.	2,535	210,456
		1,036,482
Marine (0.1%)		
Matson, Inc.	1,124	39,778
		39,778
Media (0.6%)		
Liberty Media Corp.-Liberty SiriusXM Class C †	2,270	76,998
Regal Entertainment Group Class A ⁵	4,256	87,674
		164,672
Metals and mining (1.1%)		
AK Steel Holding Corp. † ⁵	6,195	63,251
Reliance Steel & Aluminum Co.	2,505	199,248
United States Steel Corp.	1,710	56,447
		318,946
Mortgage real estate investment trusts (REITs) (1.6%)		
Apollo Commercial Real Estate Finance, Inc.	4,244	70,535
ARMOUR Residential REIT, Inc.	850	18,437
Chimera Investment Corp.	6,253	106,426
Colony Capital, Inc. Class A	4,097	82,964
CYS Investments, Inc.	4,431	34,252
MFA Financial, Inc.	3,869	29,520
New Residential Investment Corp.	7,365	115,778
		457,912
Multi-utilities (0.4%)		
Vectren Corp.	2,185	113,948
		113,948

COMMON STOCKS (95.8%)* cont.	Shares	Value
Oil, gas, and consumable fuels (2.6%)		
Aegean Marine Petroleum Network, Inc. (Greece) ⁵	13,204	\$134,021
Callon Petroleum Co. †	7,203	110,710
Diamondback Energy, Inc. †	706	71,348
Gulfport Energy Corp. †	2,792	60,419
Northern Oil and Gas, Inc. † ⁵	12,129	33,355
Ring Energy, Inc. †	10,720	139,253
Synergy Resources Corp. †	18,875	168,176
		717,282
Paper and forest products (0.8%)		
Domtar Corp.	2,741	106,981
KapStone Paper and Packaging Corp.	5,414	119,379
		226,360
Pharmaceuticals (2.3%)		
ANI Pharmaceuticals, Inc. †	994	60,256
Aralez Pharmaceuticals, Inc. (Canada) † ⁵	9,411	41,503
Cardiome Pharma Corp. (Canada) †	4,632	12,784
Depomed, Inc. †	1,876	33,806
Horizon Pharma PLC †	5,790	93,682
Impax Laboratories, Inc. †	1,671	22,141
Jazz Pharmaceuticals PLC †	621	67,708
Lannett Co., Inc. †	2,056	45,335
Medicines Co. (The) † ⁵	1,987	67,439
Pacira Pharmaceuticals, Inc. †	1,323	42,733
Prestige Brands Holdings, Inc. †	870	45,327
Sucampo Pharmaceuticals, Inc. Class A † ⁵	4,424	59,945
TherapeuticsMD, Inc. † ⁵	3,800	21,926
Zynerba Pharmaceuticals, Inc. † ⁵	2,175	33,908
		648,493
Professional services (1.7%)		
ICF International, Inc. †	4,547	250,983
Navigant Consulting, Inc. †	9,137	239,207
		490,190
Real estate management and development (0.6%)		
RE/MAX Holdings, Inc. Class A	2,886	161,616
		161,616
Semiconductors and semiconductor equipment (6.2%)		
Advanced Energy Industries, Inc. †	3,292	180,237
Ambarella, Inc. † ⁵	860	46,552
CEVA, Inc. †	5,300	177,815
Cirrus Logic, Inc. †	1,259	71,184
FormFactor, Inc. †	13,254	148,445
Inphi Corp. †	1,280	57,114
Integrated Device Technology, Inc. †	3,137	73,908
MaxLinear, Inc. Class A †	5,625	122,625
MKS Instruments, Inc.	3,176	188,654
Monolithic Power Systems, Inc.	826	67,674
ON Semiconductor Corp. †	6,908	88,146
Power Integrations, Inc.	1,297	88,001
Semtech Corp. †	913	28,805
Silicon Laboratories, Inc. †	826	53,690
Synaptics, Inc. †	780	41,792
Tessera Holding Corp.	2,617	115,671
Tower Semiconductor, Ltd. (Israel) † ⁵	9,630	183,259
		1,733,572
Software (2.2%)		
Fortinet, Inc. †	2,245	67,619
Gigamon, Inc. †	456	20,771
Proofpoint, Inc. † ⁵	1,202	84,921
PROS Holdings, Inc. †	3,435	73,921
QAD, Inc. Class A	2,530	76,912

COMMON STOCKS (95.8%)* cont.	Shares	Value
Software cont.		
ServiceNow, Inc. †	1,040	\$77,314
Take-Two Interactive Software, Inc. †	840	41,404
TiVo Corp. †	3,423	71,541
Tyler Technologies, Inc. †	462	65,960
Zendesk, Inc. †	1,758	37,270
		617,633
Specialty retail (0.5%)		
American Eagle Outfitters, Inc. [§]	5,845	88,669
Chico's FAS, Inc.	4,418	63,575
		152,244
Technology hardware, storage, and peripherals (1.4%)		
Cray, Inc. †	2,755	57,029
NCR Corp. †	4,743	192,376
Pure Storage, Inc. Class A † [§]	3,525	39,868
Super Micro Computer, Inc. †	3,795	106,450
		395,723
Textiles, apparel, and luxury goods (1.3%)		
G-III Apparel Group, Ltd. †	1,253	37,039
Hanesbrands, Inc.	3,505	75,603
Oxford Industries, Inc.	826	49,667
Perry Ellis International, Inc. †	3,605	89,801
Steven Madden, Ltd. †	1,479	52,874
Wolverine World Wide, Inc.	2,384	52,329
		357,313
Thriffs and mortgage finance (2.3%)		
BofI Holding, Inc. † [§]	3,490	99,640
Federal Agricultural Mortgage Corp. Class C	2,450	140,312
HomeStreet, Inc. †	3,630	114,708
Meta Financial Group, Inc.	1,897	195,201
Radian Group, Inc.	4,716	84,794
		634,655
Tobacco (0.4%)		
Vector Group, Ltd. [§]	4,445	101,079
		101,079
Trading companies and distributors (0.6%)		
Beacon Roofing Supply, Inc. †	3,718	171,288
		171,288
Total common stocks (cost \$22,429,063)		\$26,907,699

INVESTMENT COMPANIES (2.0%)*	Shares	Value
Fifth Street Finance Corp.	34,374	\$184,588
Hercules Capital, Inc.	5,641	79,595
Medley Capital Corp.	7,514	56,430
PennantPark Investment Corp.	16,780	128,535
Solar Capital, Ltd.	4,886	101,727
Total investment companies (cost \$539,725)		\$550,875
SHORT-TERM INVESTMENTS (12.0%)*		
Putnam Cash Collateral Pool, LLC 0.91% ^d	2,678,453	\$2,678,453
Putnam Short Term Investment Fund 0.69% ^L	680,657	680,657
Total short-term investments (cost \$3,359,110)		\$3,359,110
Total investments (cost \$26,327,898)		\$30,817,684

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 \$28,094,399.

† 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.

^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.

[§] Security on loan, in part or in entirety, at the close of the reporting period (Note 1).

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	\$2,402,591	\$—	\$—
Consumer staples	697,554	—	—
Energy	825,273	—	—
Financials	5,532,755	—	—
Health care	3,632,620	—	—
Industrials	4,580,474	—	—
Information technology	5,105,954	—	—
Materials	1,944,617	—	—
Real estate	1,711,718	—	—
Telecommunication services	192,201	—	—
Utilities	281,942	—	—
Total common stocks	26,907,699	—	—
Investment companies	550,875	—	—
Short-term investments	680,657	2,678,453	—
Totals by level	\$28,139,231	\$2,678,453	\$—

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

During the reporting period, transfers within the fair value hierarchy, if any (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.

Statement of assets and liabilities

12/31/16

Assets

Investment in securities, at value, including \$2,600,592 of securities on loan (Note 1):	
Unaffiliated issuers (identified cost \$22,968,788)	\$27,458,574
Affiliated issuers (identified cost \$3,359,110) (Notes 1 and 5)	3,359,110
Cash	3,058
Dividends, interest and other receivables	58,526
Receivable for shares of the fund sold	13,373
Total assets	30,892,641

Liabilities

Payable for shares of the fund repurchased	18,179
Payable for compensation of Manager (Note 2)	9,478
Payable for custodian fees (Note 2)	14,905
Payable for investor servicing fees (Note 2)	4,678
Payable for Trustee compensation and expenses (Note 2)	35,932
Payable for administrative services (Note 2)	286
Payable for distribution fees (Note 2)	3,080
Collateral on securities loaned, at value (Note 1)	2,678,453
Other accrued expenses	33,251
Total liabilities	2,798,242
Net assets	\$28,094,399

Represented by

Paid-in capital (Unlimited shares authorized) (Notes 1 and 4)	\$21,194,808
Undistributed net investment income (Note 1)	148,619
Accumulated net realized gain on investments	2,261,186
Net unrealized appreciation of investments	4,489,786
Total — Representing net assets applicable to capital shares outstanding	\$28,094,399

Computation of net asset value Class IA

Net assets	\$13,645,748
Number of shares outstanding	729,957
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$18.69

Computation of net asset value Class IB

Net assets	\$14,448,651
Number of shares outstanding	780,196
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$18.52

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 \$1,368)	\$398,140
Interest (including interest income of \$2,695 from investments in affiliated issuers) (Note 5)	2,749
Securities lending (net of expenses) (Notes 1 and 5)	23,613
Total investment income	424,502

Expenses

Compensation of Manager (Note 2)	158,797
Investor servicing fees (Note 2)	17,750
Custodian fees (Note 2)	20,241
Trustee compensation and expenses (Note 2)	1,984
Distribution fees (Note 2)	32,916
Administrative services (Note 2)	763
Auditing and tax fees	27,526
Other	14,860
Fees waived and reimbursed by Manager (Note 2)	(14,679)
Total expenses	260,158

Expense reduction (Note 2)	(1,294)
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Net expenses	258,864
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Net investment income	165,638
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Net realized gain on investments (Notes 1 and 3)	2,288,859
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Net unrealized appreciation of investments during the year	1,277,964
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Net gain on investments	3,566,823
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Net increase in net assets resulting from operations	\$3,732,461
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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	\$165,638	\$290,752
Net realized gain on investments	2,288,859	522,095
Net unrealized appreciation (depreciation) of investments	1,277,964	(3,026,486)
Net increase (decrease) in net assets resulting from operations	3,732,461	(2,213,639)
Distributions to shareholders (Note 1):		
From ordinary income		
Net investment income		
Class IA	(126,965)	(97,453)
Class IB	(99,918)	(54,545)
Net realized short-term gain on investments		
Class IA	—	(286,788)
Class IB	—	(287,905)
From net realized long-term gain on investments		
Class IA	(278,149)	(1,833,419)
Class IB	(302,952)	(1,840,565)
Increase (decrease) from capital share transactions (Note 4)	(1,187,186)	196,059
Total increase (decrease) in net assets	1,737,291	(6,418,255)
Net assets		
Beginning of year	26,357,108	32,775,363
End of year (including undistributed net investment income of \$148,619 and \$273,053, respectively)	\$28,094,399	\$26,357,108

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	\$16.70	.13	2.41	2.54	(.17)	(.38)	(.55)	\$18.69	15.77	\$13,646	.90 ^{e,f}	.78 ^{e,f}	124
12/31/15	20.83	.20	(1.45)	(1.25)	(.13)	(2.75)	(2.88)	16.70	(7.37)	12,731	.89	1.09	21
12/31/14	23.55	.13	1.41	1.54	(.10)	(4.16)	(4.26)	20.83	7.36	16,453	.92 ^e	.61 ^e	58
12/31/13	17.67	.09	5.95	6.04	(.16)	—	(.16)	23.55	34.33	18,510	.91	.43	75
12/31/12	15.50	.15	2.13	2.28	(.11)	—	(.11)	17.67	14.69	15,888	.91	.86	44
Class IB													
12/31/16	\$16.54	.09	2.40	2.49	(.13)	(.38)	(.51)	\$18.52	15.52	\$14,449	1.15 ^{e,f}	.53 ^{e,f}	124
12/31/15	20.65	.15	(1.44)	(1.29)	(.07)	(2.75)	(2.82)	16.54	(7.61)	13,626	1.14	.83	21
12/31/14	23.39	.07	1.39	1.46	(.04)	(4.16)	(4.20)	20.65	7.05	16,322	1.17 ^e	.36 ^e	58
12/31/13	17.54	.04	5.92	5.96	(.11)	—	(.11)	23.39	34.10	18,016	1.16	.18	75
12/31/12	15.39	.10	2.11	2.21	(.06)	—	(.06)	17.54	14.37	14,651	1.16	.62	44

^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/or brokerage/service arrangements, if any (Note 2). Also excludes acquired fund fees and expenses, if any.

^e Reflects an involuntary contractual expense limitation in effect during the period. As a result of such limitation, the expenses of each class reflect a reduction of the following amounts (Note 2):

	Percentage of average net assets
12/31/16	0.06%
12/31/14	0.01

^f 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 Capital Opportunities 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 long-term growth of capital. The fund invests mainly in common stocks (growth or value stocks or both) of small and midsize U.S. companies that Putnam Management believes have favorable investment potential. For example, the fund may purchase stocks of companies with stock prices that reflect a value lower than that which Putnam Management places on the company. Putnam Management may also consider other factors that Putnam Management believes will cause the stock price to rise and 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 \$2,678,453 and the value of securities loaned amounted to \$2,600,592.

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, from nontaxable dividends and from partnership income. 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 \$63,189 to decrease undistributed net investment income, \$4,171 to decrease paid-in capital and \$67,360 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	\$5,225,427
Unrealized depreciation	(764,722)
Net unrealized appreciation	4,460,705
Undistributed ordinary income	148,619
Undistributed long-term gain	2,290,267
Cost for federal income tax purposes	\$26,356,979

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 31.6% 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 reduced by \$14,289 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 \$390.

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	\$8,536
Class IB	9,214
Total	\$17,750

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 \$6 under the expense offset arrangements and by \$1,288 under the brokerage/service arrangements.

Each Independent Trustee of the fund receives an annual Trustee fee, of which \$20, 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)	\$31,040,565	\$33,354,783
U.S. government securities (Long-term)	—	—
Total	\$31,040,565	\$33,354,783

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			
	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	65,780	\$1,130,606	35,547	\$667,296	51,122	\$840,728	39,775	\$739,218
Shares issued in connection with reinvestment of distributions	25,288	405,114	119,615	2,217,660	25,338	402,870	118,642	2,183,015
	91,068	1,535,720	155,162	2,884,956	76,460	1,243,598	158,417	2,922,233
Shares repurchased	(123,389)	(2,010,347)	(182,646)	(3,335,131)	(120,021)	(1,956,157)	(124,972)	(2,275,999)
Net increase (decrease)	(32,321)	\$(474,627)	(27,484)	\$(450,175)	(43,561)	\$(712,559)	33,445	\$646,234

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*	\$2,707,235	\$16,542,482	\$16,571,264	\$13,670	\$2,678,453
Putnam Short Term Investment Fund***	186,767	10,449,172	9,955,282	2,695	680,657
Totals	\$2,894,002	\$26,991,654	\$26,526,546	\$16,365	\$3,359,110

*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 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 \$2,532,125 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 92.68% 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 Ahamed 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	
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*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.