

Putnam VT Small Cap Growth Fund

The fund's portfolio

9/30/23 (Unaudited)

COMMON STOCKS (99.4%)(a)

	Shares	Value
Automobile components (0.4%)		
Fox Factory Holding Corp.(NON)	1,115	\$110,474
		110,474
Banks (1.5%)		
Bancorp, Inc. (The)(NON)	11,660	402,270
		402,270
Beverages (1.0%)		
Celsius Holdings, Inc.(NON)(S)	1,480	253,968
		253,968
Biotechnology (3.4%)		
Ascendis Pharma A/S ADR (Denmark)(NON)(S)	1,410	132,032
Cytokinetics, Inc.(NON)	4,915	144,796
Halozyne Therapeutics, Inc.(NON)	5,935	226,717
Krystal Biotech, Inc.(NON)	720	83,520
Prothena Corp. PLC (Ireland)(NON)	1,420	68,515
Vaxcyte, Inc.(NON)(S)	2,345	119,548
Xenon Pharmaceuticals, Inc. (Canada)(NON)	3,840	131,174
		906,302
Building products (1.7%)		
Simpson Manufacturing Co., Inc.	3,033	454,374
		454,374
Capital markets (2.0%)		
Hamilton Lane, Inc. Class A	3,245	293,478
StepStone Group, Inc. Class A	7,605	240,166
		533,644
Chemicals (0.4%)		
Livent Corp.(NON)	5,300	97,573
		97,573

Commercial services and supplies (3.0%)

Casella Waste Systems, Inc. Class A <i>(NON)</i>	3,350	255,605
Clean Harbors, Inc. <i>(NON)</i>	2,585	432,626
Montrose Environmental Group, Inc. <i>(NON)</i>	3,983	116,543
		<hr/>
		804,774

Construction and engineering (6.0%)

Comfort Systems USA, Inc.	3,335	568,317
Dycom Industries, Inc. <i>(NON)</i>	1,170	104,130
EMCOR Group, Inc.	2,185	459,702
WillScot Mobile Mini Holdings Corp. <i>(NON)</i>	10,827	450,295
		<hr/>
		1,582,444

Construction materials (1.7%)

Eagle Materials, Inc.	2,750	457,930
		<hr/>
		457,930

Diversified telecommunication services (1.0%)

Iridium Communications, Inc.	5,755	261,795
		<hr/>
		261,795

Electrical equipment (1.6%)

Atkore, Inc. <i>(NON)</i>	2,810	419,224
		<hr/>
		419,224

Electronic equipment, instruments, and components (1.3%)

Novanta, Inc. <i>(NON)</i>	2,320	332,781
		<hr/>
		332,781

Energy equipment and services (3.3%)

ChampionX Corp.	11,810	420,672
Liberty Energy, Inc.	12,771	236,519
Oceaneering International, Inc. <i>(NON)</i>	8,355	214,891
		<hr/>
		872,082

Financial services (0.5%)

Flywire Corp. <i>(NON)</i>	4,190	133,619
		<hr/>
		133,619

Ground transportation (3.5%)

Saia, Inc. <i>(NON)</i>	1,085	432,535
TFI International, Inc. (Canada)	3,815	489,960
		<hr/>
		922,495

Health care equipment and supplies (6.1%)

Axonics, Inc. <i>(NON)</i>	3,785	212,414
Inari Medical, Inc. <i>(NON)</i>	1,200	78,480
InMode, Ltd. (Israel) <i>(NON)</i>	11,844	360,768
Lantheus Holdings, Inc. <i>(NON)</i>	6,720	466,906
Merit Medical Systems, Inc. <i>(NON)</i>	4,990	344,410
TransMedics Group, Inc. <i>(NON)</i>	1,900	104,025
Treace Medical Concepts, Inc. <i>(NON)</i>	3,493	45,793
		<hr/>
		1,612,796

Health care providers and services (4.7%)

Encompass Health Corp.	7,560	507,730
HealthEquity, Inc. <i>(NON)</i>	2,165	158,153
NeoGenomics, Inc. <i>(NON)</i>	8,165	100,430
Option Care Health, Inc. <i>(NON)</i>	7,335	237,287
Progyny, Inc. <i>(NON)</i>	7,080	240,862
		<hr/>
		1,244,462

Health care technology (1.0%)

Evolent Health, Inc. Class A <i>(NON)</i>	9,240	251,605
		<hr/>
		251,605

Hotels, restaurants, and leisure (3.4%)

Churchill Downs, Inc.	3,630	421,225
Everi Holdings, Inc. <i>(NON)</i>	12,120	160,226
Texas Roadhouse, Inc.	3,255	312,806
		<hr/>
		894,257

Household durables (3.1%)

Century Communities, Inc.	3,190	213,028
Installed Building Products, Inc.	2,920	364,679
M/I Homes, Inc. <i>(NON)</i>	2,810	236,152
		<hr/>
		813,859

Insurance (2.7%)

Kinsale Capital Group, Inc.	1,715	710,233
		<hr/>
		710,233

Life sciences tools and services (2.1%)

Medpace Holdings, Inc. <i>(NON)</i>	2,275	550,846
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		550,846

Machinery (3.0%)

Federal Signal Corp.	6,625	395,711
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RBC Bearings, Inc. ^(NON)	1,761	412,303
		808,014
Media (0.4%)		
Integral Ad Science Holding Corp. ^(NON)	8,430	100,233
		100,233
Metals and mining (2.2%)		
ATI, Inc. ^(NON)	6,180	254,307
Carpenter Technology Corp.	4,998	335,916
		590,223
Oil, gas, and consumable fuels (2.3%)		
Civitas Resources, Inc.	3,590	290,323
Northern Oil and Gas, Inc.	8,110	326,265
		616,588
Personal care products (2.9%)		
BellRing Brands, Inc. ^(NON)	9,780	403,229
e.l.f. Beauty, Inc. ^(NON)	3,330	365,734
		768,963
Pharmaceuticals (1.3%)		
Axsome Therapeutics, Inc. ^{(NON)(S)}	2,695	188,354
Intra-Cellular Therapies, Inc. ^(NON)	2,770	144,289
		332,643
Professional services (6.0%)		
ICF International, Inc.	3,465	418,607
KBR, Inc.	6,535	385,173
Maximus, Inc.	3,675	274,449
Verra Mobility Corp. ^(NON)	27,413	512,623
		1,590,852
Real estate management and development (1.0%)		
Colliers International Group, Inc. (Canada)	2,845	270,937
		270,937
Semiconductors and semiconductor equipment (8.7%)		
Axcelis Technologies, Inc. ^(NON)	3,275	533,989
Camtek, Ltd. (Israel) ^(NON)	5,905	367,645
Nova, Ltd. (Israel) ^(NON)	4,320	485,741
Onto Innovation, Inc. ^(NON)	3,840	489,677
Rambus, Inc. ^(NON)	7,560	421,772

2,298,824

Software (10.6%)

Altair Engineering, Inc. Class A ^(NON)	4,370	273,387
AppFolio, Inc. Class A ^(NON)	280	51,136
Braze, Inc. Class A ^(NON)	2,000	93,460
Descartes Systems Group, Inc. (The) (Canada) ^(NON)	5,350	392,583
Intapp, Inc. ^(NON)	2,930	98,214
Manhattan Associates, Inc. ^(NON)	2,850	563,331
Progress Software Corp.	4,551	239,292
SPS Commerce, Inc. ^(NON)	2,270	387,285
Tenable Holdings, Inc. ^(NON)	8,125	364,000
Vertex, Inc. Class A ^(NON)	14,950	345,345

2,808,033

Specialty retail (3.2%)

Boot Barn Holdings, Inc. ^(NON)	4,773	387,520
Five Below, Inc. ^(NON)	1,303	209,653
Murphy USA, Inc.	700	239,211

836,384

Technology hardware, storage, and peripherals (1.2%)

Super Micro Computer, Inc. ^{(NON)(S)}	1,125	308,498
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308,498

Trading companies and distributors (1.2%)

Applied Industrial Technologies, Inc.	2,010	310,765
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310,765

Total common stocks (cost \$19,459,411)

\$26,264,764

SHORT-TERM INVESTMENTS (4.1%)^(a)

	Shares	Value
Putnam Cash Collateral Pool, LLC 5.62% ^(AFF)	858,655	\$858,655
Putnam Short Term Investment Fund Class P 5.57% ^(AFF)	222,177	222,177
Total short-term investments (cost \$1,080,832)		\$1,080,832

TOTAL INVESTMENTS

Total investments (cost \$20,540,243)

\$27,345,596

Key to holding's abbreviations

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

Notes to the fund's portfolio

Unless noted otherwise, the notes to the fund's portfolio are for the close of the fund's reporting period, which ran from January 1, 2023 through September 30, 2023 (the reporting period). Within the following notes to the portfolio, references to "Putnam Management" represent Putnam Investment Management, LLC, the fund's manager, an indirect wholly-owned subsidiary of Putnam Investments, LLC, references to "ASC 820" represent Accounting Standards Codification 820 *Fair Value Measurements and Disclosures* and references to "OTC", if any, represent over-the-counter.

(a) Percentages indicated are based on net assets of \$26,420,230.

(NON) This security is non-income-producing.

(AFF) Affiliated company. For investments in Putnam Cash Collateral Pool, LLC and Putnam Short Term Investment Fund, the rate quoted in the security description is the annualized 7-day yield of the fund at the close of the reporting period. Transactions during the period with any company which is under common ownership or control were as follows:

Name of affiliate	Fair value as of 12/31/22	Purchase cost	Sale proceeds	Investment income	Shares outstanding and fair value as of 9/30/23
Short-term investments					
Putnam Cash Collateral Pool, LLC*#	\$3,045,043	\$7,833,799	\$10,020,187	\$57,427	\$858,655
Putnam Short Term Investment Fund**	738,087	5,326,477	5,842,387	13,399	222,177
Total Short-term investments	\$3,783,130	\$13,160,276	\$15,862,574	\$70,826	\$1,080,832

* 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. The fund receives cash collateral, which 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 and there were no realized or unrealized gains or losses during the period.

At the close of the reporting period, the fund received cash collateral of \$858,655 for securities loaned. The rate quoted in the security description is the annualized 7-day yield at the close of the reporting period. At the close of the reporting period, the value of securities loaned amounted to \$837,642.

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

(S) This security is on loan, in part or in entirety, at the close of the reporting period.

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 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, which has been designated as valuation designee pursuant to Rule 2a-5 under the Investment Company Act of 1940, 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.

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

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

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

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

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

Investments in securities:	Valuation inputs		
	Level 1	Level 2	Level 3
Common stocks*:			
Communication services	\$362,028	\$—	\$—
Consumer discretionary	2,654,974	—	—
Consumer staples	1,022,931	—	—
Energy	1,488,670	—	—
Financials	1,779,766	—	—
Health care	4,898,654	—	—
Industrials	6,892,942	—	—
Information technology	5,748,136	—	—
Materials	1,145,726	—	—
Real estate	270,937	—	—
Total common stocks	26,264,764	—	—
Short-term investments	—	1,080,832	—
Totals by level	\$26,264,764	\$1,080,832	\$—

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

For additional information regarding the fund please see the fund's most recent annual or semiannual shareholder report filed on the Securities and Exchange Commission's Web site, www.sec.gov, or visit Putnam's Individual Investor Web site at www.putnaminvestments.com