

Putnam VT Emerging Markets Equity Fund

The fund's portfolio

9/30/22 (Unaudited)

COMMON STOCKS (92.1%)(a)

	Shares	Value
Airlines (1.0%)		
Copa Holdings SA Class A (Panama) ^(NON)	3,032	\$203,174
		203,174
Banks (18.8%)		
Abu Dhabi Islamic Bank PJSC (United Arab Emirates)	29,720	72,949
Banco do Brasil SA (Brazil)	25,600	182,805
Bank Central Asia Tbk PT (Indonesia)	1,239,200	691,769
Bank Mandiri Persero Tbk PT (Indonesia)	693,700	425,339
China Merchants Bank Co., Ltd. Class H (China)	46,500	215,139
Grupo Financiero Banorte SAB de CV Class O (Mexico)	79,187	507,258
ICICI Bank, Ltd. (India)	117,328	1,229,026
KB Financial Group, Inc. (South Korea)	13,751	416,527
		3,740,812
Chemicals (1.2%)		
Fertiglobe PLC (United Arab Emirates)	41,812	64,947
Yunnan Energy New Material Co., Ltd. Class A (China)	7,000	171,778
		236,725
Electrical equipment (0.6%)		
KEI Industries, Ltd. (India)	7,166	126,205
		126,205
Electronic equipment, instruments, and components (3.1%)		
Hon Hai Precision Industry Co., Ltd. (Taiwan)	114,000	363,941
Sinbon Electronics Co., Ltd. (Taiwan)	30,000	249,116
		613,057
Food and staples retailing (6.0%)		
Dino Polska SA (Poland) ^(NON)	3,388	205,428
Shoprite Holdings, Ltd. (South Africa)	23,399	279,417
Sumber Alfaria Trijaya Tbk PT (Indonesia)	1,001,200	156,695
WalMart de Mexico (Walmex) SAB de CV (Mexico)	159,673	560,772
		1,202,312

Food products (1.7%)

China Mengniu Dairy Co., Ltd. (China)	87,000	341,244
		<hr/>
		341,244

Health-care equipment and supplies (1.1%)

Shenzhen Mindray Bio-Medical Electronics Co., Ltd. Class A (China)	5,100	215,351
		<hr/>
		215,351

Health-care providers and services (2.5%)

Apollo Hospitals Enterprise, Ltd. (India)	4,667	249,842
Max Healthcare Institute, Ltd. (India) ^(NON)	51,070	255,511
		<hr/>
		505,353

Household durables (0.4%)

Dixon Technologies (India), Ltd. (India)	1,660	88,617
		<hr/>
		88,617

Insurance (3.2%)

AIA Group, Ltd. (Hong Kong)	43,800	363,652
Ping An Insurance Group Co. of China, Ltd. Class H (China)	55,000	273,477
		<hr/>
		637,129

Interactive media and services (5.1%)

NAVER Corp. (South Korea)	1,541	205,379
Tencent Holdings, Ltd. (China)	23,900	807,151
		<hr/>
		1,012,530

Internet and direct marketing retail (9.2%)

Alibaba Group Holding, Ltd. (China) ^(NON)	64,316	645,147
JD.com, Inc. Class A (China)	14,802	373,770
JD.com, Inc. ADR (China)	2,333	117,350
Meituan Class B (China) ^(NON)	23,000	482,059
MercadoLibre, Inc. (Brazil) ^(NON)	254	210,256
		<hr/>
		1,828,582

IT Services (3.3%)

Tata Consultancy Services, Ltd. (India)	17,880	653,787
		<hr/>
		653,787

Machinery (1.8%)

Shenzhen Inovance Technology Co., Ltd. Class A (China)	31,550	254,852
Techtronic Industries Co., Ltd. (TTI) (Hong Kong)	10,000	94,474
		<hr/>

349,326

Metals and mining (1.2%)

Anglo American PLC (United Kingdom)	4,499	134,403
Vale Indonesia Tbk PT (Indonesia) ^(NON)	275,100	114,514
		<hr/>
		248,917

Oil, gas, and consumable fuels (7.4%)

PetroChina Co., Ltd. Class H (China)	556,000	228,637
Petroleo Brasileiro SA (Preference) (Brazil)	18,500	102,200
PTT Exploration & Production PCL (Thailand)	59,100	251,473
Reliance Industries, Ltd. (India)	30,869	892,833
		<hr/>
		1,475,143

Pharmaceuticals (2.1%)

AstraZeneca PLC (United Kingdom)	2,273	249,962
Sun Pharmaceutical Industries, Ltd. (India)	15,170	176,687
		<hr/>
		426,649

Professional services (1.0%)

Centre Testing International Group Co., Ltd. Class A (China)	68,400	196,194
		<hr/>
		196,194

Real estate management and development (0.6%)

Phoenix Mills, Ltd. (The) (India) ^(NON)	6,594	113,219
		<hr/>
		113,219

Semiconductors and semiconductor equipment (10.3%)

Advanced Micro Devices, Inc. ^(NON)	2,687	170,248
ASPEED Technology, Inc. (Taiwan)	2,200	120,923
LEENO Industrial, Inc. (South Korea)	1,063	91,495
Taiwan Semiconductor Manufacturing Co., Ltd. (Taiwan)	128,000	1,682,469
		<hr/>
		2,065,135

Software (1.7%)

Totvs SA (Brazil)	63,645	346,285
		<hr/>
		346,285

Technology hardware, storage, and peripherals (3.6%)

Samsung Electronics Co., Ltd. (South Korea)	19,585	719,618
		<hr/>
		719,618

Textiles, apparel, and luxury goods (3.3%)

Li Ning Co., Ltd. (China)	40,500	307,768
LVMH Moet Hennessy Louis Vuitton SA (France)	585	343,884
		<hr/>

		651,652
Transportation infrastructure (1.1%)		
International Container Terminal Services, Inc. (Philippines)	81,320	217,419
		<u>217,419</u>
Wireless telecommunication services (0.8%)		
MTN Group, Ltd. (South Africa)	24,462	160,603
		<u>160,603</u>
Total common stocks (cost \$19,696,043)		\$18,375,038

INVESTMENT COMPANIES (1.7%)^(a)

	Shares	Value
iShares Core MSCI Emerging Markets ETF	8,113	\$348,697
Total investment companies (cost \$375,326)		<u>\$348,697</u>

UNITS (0.9%)^(a)

	Units	Value
Banco BTG Pactual SA (Brazil)	39,000	\$179,371
Total units (cost \$195,839)		<u>\$179,371</u>

SHORT-TERM INVESTMENTS (5.7%)^(a)

	Shares	Value
Putnam Short Term Investment Fund Class P 3.11% ^(AFF)	1,145,527	\$1,145,527
Total short-term investments (cost \$1,145,527)		\$1,145,527
TOTAL INVESTMENTS		
Total investments (cost \$21,412,735)		\$20,048,633

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 9/30/22 (Unaudited)

Swap counterparty/ notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
Bank of America N.A.						
\$417,215	\$414,854	\$—	6/20/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Alinma Bank — Monthly	\$(2,746)
142,448	141,642	—	6/23/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Alinma Bank — Monthly	(937)
101,839	101,263	—	6/20/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Alinma Bank — Monthly	(645)
69,788	69,393	—	6/23/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Alinma Bank — Monthly	(432)
62,469	60,291	—	6/20/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Mouwasat Medical Services Co. — Monthly	(2,211)
45,651	44,059	—	6/23/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Mouwasat Medical Services Co. — Monthly	(1,616)

	9,338	9,012	—	6/20/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Mouwasat Medical Services Co. — Monthly	(331)
	6,935	6,693	—	6/20/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Mouwasat Medical Services Co. — Monthly	(245)
Upfront premium received			—				
Upfront premium (paid)			—				
Total			\$—			Total	\$(9,163)
						Unrealized appreciation	—
						Unrealized (depreciation)	(9,163)

Key to holding's abbreviations

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

ETF Exchange Traded Fund

PJSC Public Joint Stock Company

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, 2022 through September 30, 2022 (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 \$19,954,372.

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

(AFF) Affiliated company. For investments in 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 12/31/21	Purchase cost	Sale proceeds	Investment income	Shares outstanding and fair value as of 9/30/22
Short-term investments					
Putnam Cash Collateral Pool, LLC*#	\$302,400	\$2,464,193	\$2,766,593	\$1,238	\$—

Putnam Short Term Investment Fund**	121,338	4,804,656	3,780,467	8,156	1,145,527
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Total Short-term investments	\$423,738	\$7,268,849	\$6,547,060	\$9,394	\$1,145,527
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* 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 did not have any securities on loan.

** 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.

DIVERSIFICATION BY COUNTRY

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

China	23.1%
India	18.9
Taiwan	12.1
United States	8.3
South Korea	7.1
Indonesia	6.9
Mexico	5.3
Brazil	5.1
Hong Kong	2.3
South Africa	2.2
United Kingdom	1.9
France	1.7
Thailand	1.3
Philippines	1.1
Poland	1.0
Panama	1.0
United Arab Emirates	0.7
Total	100.0%

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 Depositary 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. At the close of the reporting period, fair value pricing was used for certain foreign securities in the portfolio. 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.

Total return swap contracts: The fund entered into OTC and/or centrally cleared total return swap contracts, which are arrangements to exchange a market-linked return for a periodic payment, both based on a notional principal amount, to gain exposure to specific markets or countries.

To the extent that the total return of the security, index or other financial measure underlying the transaction exceeds or falls short of the offsetting interest rate obligation, the fund will receive a payment from or make a payment to the counterparty. OTC and/or centrally cleared total return swap contracts are marked to market daily based upon quotations from an independent pricing service or market maker. Any change is recorded as an unrealized gain or loss on OTC total return swaps. Daily fluctuations in the value of centrally cleared total return swaps are settled through a central clearing agent and are recorded as unrealized gain or loss. Payments received or made are recorded as realized gains or losses. Certain OTC and/or centrally cleared total return swap contracts may include extended effective dates. Payments related to these swap contracts are accrued based on the terms of the contract. The fund could be exposed to credit or market risk due to unfavorable changes in the fluctuation of interest rates or in the price of the underlying security or index, the possibility that there is no liquid market for these agreements or that the counterparty may default on its obligation to perform. The fund's maximum risk of loss from counterparty risk or central clearing risk is the fair value of the contract. This risk may be mitigated for OTC total return swap contracts by having a master netting arrangement between the fund and the counterparty and for centrally cleared total return swap contracts through the daily exchange of variation margin. There is minimal counterparty risk with respect to centrally cleared total

return swap contracts due to the clearinghouse guarantee fund and other resources that are available in the event of a clearing member default.

For the fund's average notional amount on total return swap contracts, see the appropriate table at the end of these footnotes.

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

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

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

At the close of the reporting period, the fund had a net liability position of \$9,163 on open derivative contracts subject to the Master Agreements. There was no collateral posted by the fund at period end for these agreements.

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	\$—	\$1,173,133	\$—
Consumer discretionary	327,606	2,241,245	—
Consumer staples	560,772	982,784	—
Energy	353,673	1,121,470	—
Financials	690,063	3,687,878	—

Health care	—	1,147,353	—
Industrials	203,174	889,144	—
Information technology	516,533	3,881,349	—
Materials	—	485,642	—
Real estate	—	113,219	—
	<hr/>	<hr/>	<hr/>
Total common stocks	2,651,821	15,723,217	—
Investment companies	348,697	—	—
Units	179,371	—	—
Short-term investments	—	1,145,527	—
	<hr/>	<hr/>	<hr/>
Totals by level	\$3,179,889	\$16,868,744	\$—

Valuation inputs

Other financial instruments:	Level 1	Level 2	Level 3
Total return swap contracts	\$—	\$(9,163)	\$—
	<hr/>	<hr/>	<hr/>
Totals by level	\$—	\$(9,163)	\$—

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

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

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

OTC total return swap contracts (notional)	\$910,000
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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