

A world of investing.®



# Putnam Variable Trust

## **Putnam VT Emerging Markets Equity Fund**

**Annual report**

**12 | 31 | 21**

# Message from the Trustees

February 9, 2022

Dear Shareholder:

In 2021, most areas of the stock market had another above-average year as corporate earnings rose amid rapid gross domestic product growth. Bonds, on the other hand, had a subpar year, with inflation causing concern. Financial markets are now adjusting to a shift in monetary policy, as the U.S. Federal Reserve reduces its bond-purchasing program and considers raising interest rates.

In 2022, the evolving Covid-19 pandemic remains challenging. Still, companies have learned to adapt to unexpected hurdles. Trends in consumer spending, employment, and credit conditions have been encouraging. We believe economic conditions may remain supportive for financial markets this year.

As the economy shifts gears, Putnam's investment professionals will be actively managing your fund and monitoring risks, as the firm has done for more than 80 years.

Thank you for investing with Putnam.

Respectfully yours,



**Robert L. Reynolds**  
President and Chief Executive Officer  
Putnam Investments



**Kenneth R. Leibler**  
Chair, Board of Trustees

## Performance summary (as of 12/31/21)

### Investment objective

Long-term capital appreciation

### Net asset value December 31, 2021

Class IA: \$23.45

Class IB: \$23.25

### Total return at net asset value (as of 12/31/21)

	Class IA shares (1/2/97)	Class IB shares (4/30/98)	MSCI Emerging Markets Index (ND)*	MSCI EAFE Growth (ND) - MSCI Emerging Markets Index (ND) Linked Benchmark†
1 year	-3.98%	-4.23%	-2.54%	-2.54%
5 years	70.30	68.17	60.14	76.92
Annualized	11.24	10.96	9.87	12.09
10 years	125.94	120.46	70.62	144.38
Annualized	8.49	8.23	5.49	9.35
Life	285.26	263.87	—	256.20
Annualized	5.54	5.30	—	5.23

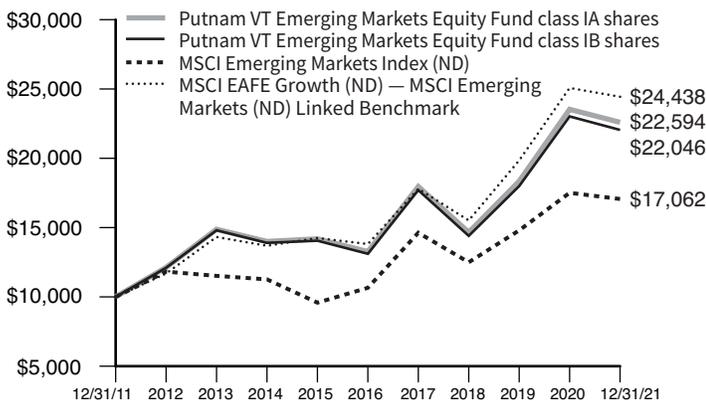
For a portion of the periods, the fund had expense limitations, without which returns would have been lower.

Before April 30, 2020, the fund was managed with a materially different investment strategy and may have achieved materially different performance results under its current investment strategy from that shown for periods before this date.

\*The fund's benchmark, the MSCI Emerging Markets Index (ND), was introduced on 1/1/01, which post-dates the inception of the fund's class IA and IB shares.

†The MSCI EAFE Growth (ND) - MSCI Emerging Markets (ND) Linked Benchmark represents performance of the MSCI EAFE Growth Index (ND) from the inception date of the fund, January 2, 1997, through April 29, 2020, and performance of the MSCI Emerging Markets Index (ND) from April 30, 2020, and thereafter.

### Cumulative total returns of a \$10,000 investment in class IA and class IB shares at net asset value — since 12/31/11



The MSCI Emerging Markets Index (ND) is a free float-adjusted market capitalization index that is designed to measure equity market performance in the global emerging markets. The MSCI EAFE Growth Index (ND) is an unmanaged index that measures the performance of equity securities in countries within Europe, Australasia, and the Far East with a greater-than-average growth orientation. Calculated with net dividends (ND), this total return index reflects the reinvestment of dividends after the deduction of withholding taxes, using a tax rate applicable to non-resident institutional investors who do not benefit from double taxation treaties.

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. Performance of class IB shares before their inception is derived from the historical performance of class IA shares, adjusted to reflect the higher operating expenses applicable to such shares. 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

China	24.4%
Taiwan	19.1%
India	19.1%
South Korea	12.4%
Hong Kong	4.7%
Argentina	4.6%
Mexico	3.7%
Russia	2.9%
Other countries	9.3%
Cash and net other assets	-0.2%

A negative percentage reflects the effect of fund strategies that are designed to enhance performance if certain securities decline in value.

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 information in the portfolio schedule notes included in the financial statements due to the inclusion of derivative securities, any interest accruals, the exclusion of as-of trades, if any, and rounding. Holdings and allocations may vary over time.

## Report from your fund's manager

### How was the investment environment for the 12-month reporting period ended December 31, 2021?

Overall, for the period, emerging market stocks fell. Market volatility was driven by concerns about rising inflation, an uneven global economic recovery, and the spread of the different variants of Covid-19. Other key global equity market indexes also seesawed during the quarter, with some managing to hold on to gains. The S&P 500 Index, a broad measure of U.S. stocks, rose 28.71%. The MSCI World Index [ND], a broad measure of equity securities from developed countries, gained 21.82% during the period.

For emerging market investors, a strong U.S. dollar, higher interest rates, and the Federal Reserve's plans to accelerate the taper of its stimulus spending in a bid to combat rising inflation created some risks. Central banks in some developing countries, including Brazil, Chile, South Africa, and Russia, have started to raise interest rates. In addition, China — the world's second-largest economy and a key trading partner — is starting to see slower economic activity. Despite some uncertainties during the year, our outlook remains bullish for emerging markets.

### How did the fund perform during the reporting period?

Putnam VT Emerging Markets Equity Fund underperformed its primary benchmark, the MSCI Emerging Markets Index [ND], for the period. The fund's class IA shares declined 3.98% versus the benchmark's drop of 2.54%.

### What stocks contributed to performance?

One of our top contributors for the period was Apollo Hospitals Enterprise, India's largest private hospital chain and integrated health care provider. It operates 10,231 beds at 71 hospitals, 4,292 pharmacies, and the leading digital health care app in India. Public health care expenditure is low in India. In 2018, health care expenditure was just 4% of its gross domestic product [the global average was 9%] and the number of available hospital beds is only 12 per 1,000 people versus 81 per 1,000 in the United States. Apollo is improving the overall availability of private health care services in India and promoting better access to care in semiurban and rural geographies. Given the the company's total addressable market and its expansion plans, our thesis was that a mid-teen top-line compound annual growth rate [CAGR] would be achievable for the next five years. We expect consensus to revise upward and stock outperformance to continue. The next catalyst, we believe, will be the announcement of fundraising and partnership on its Apollo 24/7 digital initiative.

Li-Ning was another top contributor for the period. Li-Ning is the most well-known Chinese sportswear brand and notably collaborates with ex-NBA superstar Dwyane Wade on the Way of Wade basketball shoes series. Since the appointment of co-CEO Kosaka Takeshi in 2019, Li-Ning has taken major strides in improving its channel mix and inventory management. Investments into e-commerce, higher-end sportswear, and new categories like yoga have all shown good traction. These strategic initiatives enabled Li-Ning to benefit from broader tailwinds such as the government's renewed focus on sports and a shift in consumer preference toward local brands. We remain confident in the management's ability to execute and have identified

further room for earnings upside. Putting these together, we have conviction in Li-Ning's ability to extend its recent streak of earnings and stock outperformance.

### What stocks detracted from performance?

Alibaba, China's leading e-commerce, fintech, and cloud service provider, was a top detractor for the period. Our initial thesis was that Alibaba's core e-commerce business should continue to compound at an above-market growth rate. Further, we believed improving profitability in cloud, logistics, and other businesses should continue to help the group deliver more than 20% earnings growth. However, unprecedented regulatory intervention from the government dampened the valuation multiple, and there was a negative earnings revision due to the increase of strategic investments. We still like the long-term potential. However, with the lack of clear catalysts and macro weakness in the short term, we are now equal weight on the stock relative to the benchmark.

Another big detractor was Tencent, the largest internet company in China. Tencent runs the most extensive internet ecosystem in China with the two largest social platforms [WeChat and QQ], the largest video game portfolio, and significant interests in cloud, enterprise solutions, fintech, and media. The company started the year strongly, but the good start was reversed by an extended period of heightened regulatory scrutiny on the broader Chinese internet industry. Tencent has been proactively adjusting to the new regulatory boundaries, and its overall strategy remains aligned with the government's goals. In addition, Tencent carried out several shareholder-friendly corporate actions such as buybacks and one-off dividends. With a long-term view, we remain confident that Tencent can expand its already huge importance to the Chinese society as digitization continues to proliferate. We expect that to translate to a CAGR of more than 15% over the long term. Coupled with what are, in our view, more than reasonable valuations [the stock is trading at a forward price/earnings ratio of 25, which is a 15% discount to its 10-year average], we believe Tencent is still an appealing long-term investment.

### As the fund begins a new year, what is your outlook?

As we enter 2022, we remain attuned to macroeconomic issues such as rising inflation, higher interest rates, and mobility restrictions due to the spread of the Omicron variant. However, we also see many opportunities to find companies that are navigating these headwinds.

Emerging market company valuations remain attractive, in our view. Stocks in the United States trade at a price-to-earnings ratio of 23 compared with 12 in emerging markets. In terms of profits, many emerging market companies have had higher earnings growth than companies in the United States this past year. Yet, developing market equities have underperformed. Going forward, we believe earnings-per-share [EPS] growth for companies in developing markets will be driven by innovation and faster economic growth.

The setup for international equity outperformance is compelling, in our view, given discounted valuations and faster EPS growth. We

believe emerging market stocks can hold their multiples—estimated EPS growth of 15% and a dividend yield of 2%. We continue to believe that rapid innovation in Asia will transform the equity landscape in the 2020s and 2030s.

*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:** International investing involves currency, economic, and political risks. Emerging market securities carry illiquidity and volatility risks. Investments in small and/or midsize companies increase the risk of greater price fluctuations. From time to time, the fund may invest a significant portion of its assets in companies in one or more related industries or sectors, which would make the fund more vulnerable to adverse developments affecting those industries or sectors.

Growth stocks may be more susceptible to earnings disappointments, and value stocks may fail to rebound. Risks associated with derivatives include increased investment exposure (which may be considered leverage) and, in the case of over-the-counter instruments, the potential inability to terminate or sell derivatives positions and the potential failure of the other party to the instrument to meet its obligations. The value of investments in the fund's portfolio may fall or fail to rise over extended periods of time for a variety of reasons, including general

economic, political, or financial market conditions; investor sentiment and market perceptions; government actions; geopolitical events or changes; and factors related to a specific issuer, geography, industry, or sector. These and other factors may lead to increased volatility and reduced liquidity in the fund's portfolio holdings.

Our investment techniques, analyses, and judgments may not produce the outcome we intend. The investments we select for the fund may not perform as well as other securities that we do not select for the fund. We, or the fund's other service providers, may experience disruptions or operating errors that could have a negative effect on the fund. You can lose money by investing in the fund.

---

## Your fund's manager



Portfolio Manager **Brian S. Freiwald, CFA**, joined Putnam in 2010 and has been in the investment industry since 2004.

Your fund's manager may also manage 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 7/1/21 to 12/31/21. 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
Net expenses for the fiscal year ended 12/31/20*	1.10%	1.35%
Total annual operating expenses for the fiscal year ended 12/31/20	1.43%	1.68%
Annualized expense ratio for the six-month period ended 12/31/21†	1.09%	1.34%

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.

\*Reflects Putnam Management's contractual obligation to limit certain fund expenses through 4/30/22.

†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 12/31/21		Expenses and value for a \$1,000 investment, assuming a hypothetical 5% annualized return for the 6 months ended 12/31/21	
	Class IA	Class IB	Class IA	Class IB
Expenses paid per \$1,000*†	\$5.22	\$6.42	\$5.55	\$6.82
Ending value (after expenses)	\$900.50	\$899.40	\$1,019.71	\$1,018.45

\*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 12/31/21. 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 (184); and then dividing that result by the number of days in the year (365). 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 (184); and then dividing that result by the number of days in the year (365).

## **Report of Independent Registered Public Accounting Firm**

To the Board of Trustees of Putnam Variable Trust and Shareholders of  
Putnam VT Emerging Markets Equity Fund:

### ***Opinion on the Financial Statements***

We have audited the accompanying statement of assets and liabilities, including the fund's portfolio, of Putnam VT Emerging Markets Equity Fund (one of the funds constituting Putnam Variable Trust, referred to hereafter as the "Fund") as of December 31, 2021, the related statement of operations for the year ended December 31, 2021, the statement of changes in net assets for each of the two years in the period ended December 31, 2021, including the related notes, and the financial highlights for each of the five years in the period ended December 31, 2021 (collectively referred to as the "financial statements"). In our opinion, the financial statements present fairly, in all material respects, the financial position of the Fund as of December 31, 2021, the results of its operations for the year then ended, the changes in its net assets for each of the two years in the period ended December 31, 2021 and the financial highlights for each of the five years in the period ended December 31, 2021 in conformity with accounting principles generally accepted in the United States of America.

### ***Basis for Opinion***

These financial statements are the responsibility of the Fund's management. Our responsibility is to express an opinion on the Fund's financial statements based on our audits. We are a public accounting firm registered with the Public Company Accounting Oversight Board (United States) ("PCAOB") and are required to be independent with respect to the Fund in accordance with the U.S. federal securities laws and the applicable rules and regulations of the Securities and Exchange Commission and the PCAOB.

We conducted our audits of these financial statements in accordance with the standards of the PCAOB. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free of material misstatement, whether due to error or fraud.

Our audits included performing procedures to assess the risks of material misstatement of the financial statements, whether due to error or fraud, and performing procedures that respond to those risks. Such procedures included examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements. Our audits also included evaluating the accounting principles used and significant estimates made by management, as well as evaluating the overall presentation of the financial statements. Our procedures included confirmation of securities owned as of December 31, 2021 by correspondence with the custodian, transfer agent and brokers; when replies were not received from brokers, we performed other auditing procedures. We believe that our audits provide a reasonable basis for our opinion.

PricewaterhouseCoopers LLP  
Boston, Massachusetts  
February 9, 2022

We have served as the auditor of one or more investment companies in the Putnam Investments family of funds since at least 1957. We have not been able to determine the specific year we began serving as auditor.

## The fund's portfolio 12/31/21

COMMON STOCKS (99.6%)*	Shares	Value
<b>Airlines (1.2%)</b>		
Copa Holdings SA Class A (Panama) † S	4,869	\$402,472
		<b>402,472</b>
<b>Banks (9.0%)</b>		
Bank Central Asia Tbk PT (Indonesia)	823,900	417,522
HDFC Bank, Ltd. (India)	22,609	448,193
ICICI Bank, Ltd. (India)	110,812	1,097,677
Sberbank of Russia PJSC ADR (Russia)	25,446	408,408
TCS Group Holding PLC GDR 144A (Cyprus)	6,656	561,234
		<b>2,933,034</b>
<b>Capital markets (0.9%)</b>		
Hong Kong Exchanges and Clearing, Ltd. (Hong Kong)	5,200	303,936
		<b>303,936</b>
<b>Chemicals (1.9%)</b>		
Asian Paints, Ltd. (India)	13,499	612,322
		<b>612,322</b>
<b>Electrical equipment (1.6%)</b>		
Contemporary Amperex Technology Co., Ltd. Class A (China)	5,500	507,251
		<b>507,251</b>
<b>Electronic equipment, instruments, and components (0.6%)</b>		
Sinbon Electronics Co., Ltd. (Taiwan)	20,000	204,856
		<b>204,856</b>
<b>Entertainment (2.2%)</b>		
Pearl Abyss Corp. (South Korea) †	3,681	427,983
Sea, Ltd. ADR (Singapore) †	1,244	278,295
		<b>706,278</b>
<b>Food and staples retail (5.1%)</b>		
Dino Polska SA (Poland) †	4,959	452,066
Wal-Mart de Mexico SAB de CV (Mexico)	323,908	1,205,747
		<b>1,657,813</b>
<b>Health-care equipment and supplies (1.1%)</b>		
Shenzhen Mindray Bio-Medical Electronics Co., Ltd. Class A (China)	6,200	370,420
		<b>370,420</b>
<b>Health-care providers and services (3.1%)</b>		
Apollo Hospitals Enterprise, Ltd. (India)	11,071	746,938
Max Healthcare Institute, Ltd. (India) †	45,890	273,194
		<b>1,020,132</b>
<b>Hotels, restaurants, and leisure (2.4%)</b>		
Jubilant FoodWorks, Ltd. (India)	10,551	509,779
Yum China Holdings, Inc. (China)	5,700	279,709
		<b>789,488</b>
<b>Household durables (1.2%)</b>		
Dixon Technologies India, Ltd. (India)	5,020	371,808
HC Brilliant Services GmbH (acquired 8/2/13, cost \$1) (Private) (Germany) † Δ Δ F	2	—
		<b>371,808</b>
<b>Insurance (1.5%)</b>		
AIA Group, Ltd. (Hong Kong)	49,000	493,990
		<b>493,990</b>
<b>Interactive media and services (13.7%)</b>		
AfreecaTV Co., Ltd. (South Korea)	1,652	281,077
Kakao Corp. (South Korea)	4,851	457,533
NAVER Corp. (South Korea)	2,396	760,654
Tencent Holdings, Ltd. (China)	40,700	2,387,593
Yandex NV Class A (Russia) †	8,943	541,052
		<b>4,427,909</b>
<b>Internet and direct marketing retail (7.2%)</b>		
Alibaba Group Holding, Ltd. (China) †	59,016	883,585
JD.com, Inc. ADR (China) †	4,066	284,905

COMMON STOCKS (99.6%)* cont.	Shares	Value
<b>Internet and direct marketing retail cont.</b>		
JD.com, Inc. Class A (China) †	8,132	\$286,827
MercadoLibre, Inc. (Argentina) †	657	885,899
		<b>2,341,216</b>
<b>IT Services (6.5%)</b>		
Globant SA (Argentina) †	1,949	612,161
Tata Consultancy Services, Ltd. (India)	25,434	1,279,261
Thoughtworks Holding, Inc. †	7,748	207,724
		<b>2,099,146</b>
<b>Life sciences tools and services (1.9%)</b>		
WuXi AppTec Co., Ltd. Class H (China)	35,276	610,769
		<b>610,769</b>
<b>Machinery (4.0%)</b>		
Shenzhen Inovance Technology Co., Ltd. Class A (China)	52,650	566,584
Techtronic Industries Co., Ltd. (TTI) (Hong Kong)	37,000	736,510
		<b>1,303,094</b>
<b>Oil, gas, and consumable fuels (2.7%)</b>		
Reliance Industries, Ltd. (India)	27,066	861,751
		<b>861,751</b>
<b>Professional services (1.5%)</b>		
Centre Testing International Group Co., Ltd. Class A (China)	111,500	470,052
		<b>470,052</b>
<b>Semiconductors and semiconductor equipment (20.2%)</b>		
ASPEED Technology, Inc. (Taiwan)	5,000	642,473
MediaTek, Inc. (Taiwan)	19,000	812,336
Novatek Microelectronics Corp. (Taiwan)	26,000	504,390
Parade Technologies, Ltd. (Taiwan)	8,000	608,943
Silergy Corp. (China)	3,000	542,045
Taiwan Semiconductor Manufacturing Co., Ltd. (Taiwan)	155,000	3,432,127
		<b>6,542,314</b>
<b>Software (1.4%)</b>		
Totvs SA (Brazil)	90,545	465,567
		<b>465,567</b>
<b>Technology hardware, storage, and peripherals (6.5%)</b>		
Samsung Electronics Co., Ltd. (South Korea)	31,886	2,093,321
		<b>2,093,321</b>
<b>Textiles, apparel, and luxury goods (2.2%)</b>		
Li Ning Co., Ltd. (China)	66,500	727,737
		<b>727,737</b>
<b>Total common stocks (cost \$24,836,558)</b>		<b>\$32,316,676</b>
<b>INVESTMENT COMPANIES (0.3%)*</b>		
iShares Core MSCI Emerging Markets ETF	1,829	\$109,484
<b>Total investment companies (cost \$109,057)</b>		<b>\$109,484</b>
<b>SHORT-TERM INVESTMENTS (1.3%)*</b>		
Putnam Cash Collateral Pool, LLC 0.12% d	302,400	\$302,400
Putnam Short Term Investment Fund Class P 0.13% L	121,338	121,338
<b>Total short-term investments (cost \$423,738)</b>		<b>\$423,738</b>
<b>Total investments (cost \$25,369,353)</b>		<b>\$32,849,898</b>
<b>Key to holding's abbreviations</b>		
ADR	American Depositary Receipts: represents ownership of foreign securities on deposit with a custodian bank	
ETF	Exchange Traded Fund	
GDR	Global Depositary Receipts: represents ownership of foreign securities on deposit with a custodian bank	
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, 2021 through December 31, 2021 (the reporting period). Within the following notes to the portfolio, references to "Putnam Management" represent Putnam Investment Management, LLC, the fund's manager, an indirect wholly-owned subsidiary of Putnam Investments, LLC and references to "ASC 820" represent Accounting Standards Codification 820 *Fair Value Measurements and Disclosures*.

\* Percentages indicated are based on net assets of \$32,447,420.

† This security is non-income-producing.

ΔΔ This security is restricted with regard to public resale. The total fair value of this security and any other restricted securities (excluding 144A securities), if any, held at the close of the reporting period was \$—.

d Affiliated company. See Notes 1 and 5 to the financial statements regarding securities lending. The rate quoted in the security description is the annualized 7-day yield of the fund at the close of the reporting period.

F This security is valued by Putnam Management at fair value following procedures approved by the Trustees. Securities are classified as Level 3 for ASC 820 based on the securities' valuation inputs. At the close of the reporting period, fair value pricing was also used for certain foreign securities in the portfolio (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*:			
Communication services	\$819,347	\$4,314,840	\$—
Consumer discretionary	1,170,804	3,059,445	—**
Consumer staples	1,657,813	—	—
Energy	—	861,751	—
Financials	969,642	2,761,318	—
Health care	—	2,001,321	—
Industrials	402,472	2,280,397	—
Information technology	1,285,452	10,119,752	—
Materials	—	612,322	—
<b>Total common stocks</b>	<b>6,305,530</b>	<b>26,011,146</b>	<b>—</b>
Investment companies	109,484	—	—
Short-term investments	—	423,738	—
<b>Totals by level</b>	<b>\$6,415,014</b>	<b>\$26,434,884</b>	<b>\$—</b>

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

\*\* Value of Level 3 security is \$—.

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

l Affiliated company (Note 5). The rate quoted in the security description is the annualized 7-day yield of the fund at the close of the reporting period.

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

144A after the name of an issuer represents securities exempt from registration under Rule 144A of the Securities Act of 1933, as amended. These securities may be resold in transactions exempt from registration, normally to qualified institutional buyers.

## 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	24.3%	Brazil	1.4%
Taiwan	19.1	Poland	1.4
India	19.1	United States	1.3
South Korea	12.4	Indonesia	1.3
Hong Kong	4.7	Panama	1.2
Argentina	4.6	Singapore	0.9
Mexico	3.7	Germany	0.0
Russia	2.9	<b>Total</b>	<b>100.0%</b>
Cyprus	1.7		

## Statement of assets and liabilities

12/31/21

### Assets

Investment in securities, at value, including \$297,576 of securities on loan (Note 1):	
Unaffiliated issuers (identified cost \$24,945,615)	\$32,426,160
Affiliated issuers (identified cost \$423,738) (Notes 1 and 5)	423,738
Cash	13,929
Foreign currency (cost \$9,029) (Note 1)	9,221
Dividends, interest and other receivables	55,008
Foreign tax reclaim	30,661
Receivable for shares of the fund sold	16,388
Receivable for investments sold	132,719
<b>Total assets</b>	<b>33,107,824</b>

### Liabilities

Payable for shares of the fund repurchased	47,650
Payable for compensation of Manager (Note 2)	7,695
Payable for custodian fees (Note 2)	10,545
Payable for investor servicing fees (Note 2)	3,880
Payable for Trustee compensation and expenses (Note 2)	54,484
Payable for administrative services (Note 2)	353
Payable for distribution fees (Note 2)	2,009
Payable for auditing and tax fees	38,707
Payable for foreign capital gains taxes	184,268
Collateral on securities loaned, at value (Note 1)	302,400
Other accrued expenses	8,413
<b>Total liabilities</b>	<b>660,404</b>

**Net assets** **\$32,447,420**

### Represented by

Paid-in capital (Unlimited shares authorized) (Notes 1 and 4)	\$22,526,655
Total distributable earnings (Note 1)	9,920,765
<b>Total — Representing net assets applicable to capital shares outstanding</b>	<b>\$32,447,420</b>

### Computation of net asset value Class IA

Net assets	\$22,916,470
Number of shares outstanding	977,096
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$23.45

### Computation of net asset value Class IB

Net assets	\$9,530,950
Number of shares outstanding	409,911
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$23.25

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

# Statement of operations

Year ended 12/31/21

## Investment income

Dividends (net of foreign tax of \$51,250)	\$340,135
Interest (including interest income of \$97 from investments in affiliated issuers) (Note 5)	230
Securities lending (net of expenses) (Notes 1 and 5)	1,044
<b>Total investment income</b>	<b>341,409</b>

## Expenses

Compensation of Manager (Note 2)	331,033
Investor servicing fees (Note 2)	25,462
Custodian fees (Note 2)	52,730
Trustee compensation and expenses (Note 2)	1,459
Distribution fees (Note 2)	27,320
Administrative services (Note 2)	877
Auditing and tax fees	47,267
Other	20,830
Fees waived and reimbursed by Manager (Note 2)	(82,416)
<b>Total expenses</b>	<b>424,562</b>
Expense reduction (Note 2)	(43)
<b>Net expenses</b>	<b>424,519</b>
<b>Net investment loss</b>	<b>(83,110)</b>

## Realized and unrealized gain (loss)

### Net realized gain (loss) on:

Securities from unaffiliated issuers (net of foreign tax of \$118,215) (Notes 1 and 3)	2,775,434
Foreign currency transactions (Note 1)	(14,188)
<b>Total net realized gain</b>	<b>2,761,246</b>

### Change in net unrealized depreciation on:

Securities from unaffiliated issuers (net of foreign tax of \$184,268)	(3,990,663)
Assets and liabilities in foreign currencies	(3,399)
<b>Total change in net unrealized depreciation</b>	<b>(3,994,062)</b>

<b>Net loss on investments</b>	<b>(1,232,816)</b>
<b>Net decrease in net assets resulting from operations</b>	<b>\$(1,315,926)</b>

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

## Statement of changes in net assets

	Year ended 12/31/21	Year ended 12/31/20
<b>Increase (decrease) in net assets</b>		
<b>Operations:</b>		
Net investment income (loss)	\$(83,110)	\$195,768
Net realized gain on investments and foreign currency transactions	2,761,246	1,318,837
Change in net unrealized appreciation (depreciation) of investments and assets and liabilities in foreign currencies	(3,994,062)	6,686,588
<b>Net increase (decrease) in net assets resulting from operations</b>	<b>(1,315,926)</b>	<b>8,201,193</b>
Distributions to shareholders (Note 1):		
From ordinary income		
Net investment income		
Class IA	(180,517)	(62,479)
Class IB	(54,192)	(3,664)
Net realized short-term gain on investments		
Class IA	(383,726)	—
Class IB	(167,997)	—
Decrease from capital share transactions (Note 4)	(2,908,538)	(4,490,147)
<b>Total increase (decrease) in net assets</b>	<b>(5,010,896)</b>	<b>3,644,903</b>
<b>Net assets:</b>		
Beginning of year	37,458,316	33,813,413
<b>End of year</b>	<b>\$32,447,420</b>	<b>\$37,458,316</b>

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) <sup>a</sup>	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 (%) <sup>b, c</sup>	Net assets, end of period (in thousands)	Ratio of expenses to average net assets (%) <sup>c, d, e</sup>	Ratio of net investment income (loss) to average net assets (%) <sup>e</sup>	Portfolio turnover (%)
<b>Class IA</b>													
12/31/21	\$24.97	(.04)	(.93)	(.97)	(.18)	(.37)	(.55)	\$23.45	(3.98)	\$22,916	1.09	(.16)	78
12/31/20	19.54	.14	5.35	5.49	(.06)	—	(.06)	24.97	28.25	25,960	1.09	.69	146
12/31/19	17.66	.12	4.04	4.16	(.08)	(2.20)	(2.28)	19.54	25.21	23,383	1.09	.67	68
12/31/18	23.51	.12	(4.10)	(3.98)	(.03)	(1.84)	(1.87)	17.66	(18.40)	20,832	1.16	.55	89
12/31/17	17.61	.16	6.00	6.16	(.26)	—	(.26)	23.51	35.37	29,496	1.20	.77	105
<b>Class IB</b>													
12/31/21	\$24.77	(.10)	(.93)	(1.03)	(.12)	(.37)	(.49)	\$23.25	(4.23)	\$9,531	1.34	(.40)	78
12/31/20	19.37	.09	5.32	5.41	(.01)	—	(.01)	24.77	27.94	11,498	1.34	.45	146
12/31/19	17.56	.08	4.01	4.09	(.08)	(2.20)	(2.28)	19.37	24.93	10,430	1.34	.42	68
12/31/18	23.42	.06	(4.08)	(4.02)	—	(1.84)	(1.84)	17.56	(18.64)	9,512	1.41	.30	89
12/31/17	17.54	.11	5.98	6.09	(.21)	—	(.21)	23.42	35.04	13,716	1.45	.52	105

Before April 30, 2020, the fund was managed with a materially different investment strategy and may have achieved materially different performance results under its current investment strategy from that shown for periods before this date.

- <sup>a</sup> Per share net investment income (loss) has been determined on the basis of the weighted average number of shares outstanding during the period.
- <sup>b</sup> Total return assumes dividend reinvestment.
- <sup>c</sup> The charges and expenses at the insurance company separate account level are not reflected.
- <sup>d</sup> Includes amounts paid through expense offset and brokerage/service arrangements, if any (Note 2). Also excludes acquired fund fees and expenses, if any.
- <sup>e</sup> Reflects an involuntary contractual expense limitation in effect during the period (Note 2). As a result of such limitation, the expenses of each class reflect a reduction of the following amounts:

	Percentage of average net assets
12/31/21	0.23%
12/31/20	0.33
12/31/19	0.21
12/31/18	0.14
12/31/17	0.14

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

## Notes to financial statements 12/31/21

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, 2021 through December 31, 2021.

Putnam VT Emerging Markets Equity 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 capital appreciation. The fund invests mainly in common stocks (growth or value stocks or both) of emerging market 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. The fund may also consider other factors that Putnam Management believes will cause the stock price to rise. Under normal circumstances, the fund invests at least 80% of the fund’s net assets in equity securities of emerging market companies. This policy may be changed only after 60 days’ notice to shareholders. Emerging markets include countries in the MSCI Emerging Market Index or that Putnam Management considers to be emerging markets based on our evaluation of their level of economic development or the size and experience of their securities markets. The fund invests significantly in small and midsize companies. Putnam Management may consider, among other factors, a company’s valuation, financial strength, growth potential, competitive position in its industry, projected future earnings, cash flows and dividends when deciding whether to buy or sell investments. The fund may also use derivatives, such as futures, options, certain foreign currency transactions, warrants and swap contracts, for both hedging and non-hedging purposes.

The fund offers class IA and class IB shares of beneficial interest. Class IA shares are offered at net asset value and are not subject to a distribution fee. Class IB shares are offered at net asset value and pay an ongoing distribution fee, which is identified in Note 2.

In the normal course of business, the fund enters into contracts that may include agreements to indemnify another party under given circumstances. The fund’s maximum exposure under these arrangements is unknown as this would involve future claims that may be, but have not yet been, made against the fund. However, the fund’s management team expects the risk of material loss to be remote.

The fund has entered into contractual arrangements with an investment adviser, administrator, distributor, shareholder servicing agent and custodian, who each provide services to the fund. Unless expressly stated otherwise, shareholders are not parties to, or intended beneficiaries of these contractual arrangements, and these contractual arrangements are not intended to create any shareholder right to enforce them against the service providers or to seek any remedy under them against the service providers, either directly or on behalf of the fund.

Under the fund’s Amended and Restated Agreement and Declaration of Trust, any claims asserted against or on behalf of the Putnam Funds, including claims against Trustees and Officers, must be brought in state and federal courts located within the Commonwealth of Massachusetts.

### Note 1 — Significant accounting policies

The following is a summary of significant accounting policies consistently followed by the fund in the preparation of its financial statements. The preparation of financial statements is in conformity with accounting principles generally accepted in the United States of America and requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities in the financial statements and the reported amounts of increases and decreases in net assets from operations. Actual results could differ from those estimates. Subsequent events after the Statement of assets and liabilities date through the date that the financial statements were issued have been evaluated in the preparation of the financial statements.

Investment income, realized and unrealized gains and losses and expenses of the fund are borne pro-rata based on the relative net assets of each class to the total net assets of the fund, except that each class bears expenses unique to that class (including the distribution fees applicable to such classes). Each class votes as a class only with respect to its own distribution plan or other matters on which a class vote is required by law or determined by the Trustees. If the fund were liquidated, shares of each class would receive their pro-rata share of the net

assets of the fund. In addition, the Trustees declare separate dividends on each class of shares.

**Security valuation** Portfolio securities and other investments are valued using policies and procedures adopted by the Board of Trustees. The Trustees have formed a Pricing Committee to oversee the implementation of these procedures and have delegated responsibility for valuing the fund’s assets in accordance with these procedures to Putnam Management. Putnam Management has established an internal Valuation Committee that is responsible for making fair value determinations, evaluating the effectiveness of the pricing policies of the fund and reporting to the Pricing Committee.

Investments for which market quotations are readily available are valued at the last reported sales price on their principal exchange, or official closing price for certain markets, and are classified as Level 1 securities under Accounting Standards Codification 820 *Fair Value Measurements and Disclosures* (ASC 820). If no sales are reported, as in the case of some securities that are traded OTC, a security is valued at its last reported bid price and is generally categorized as a Level 2 security.

Investments in open-end investment companies (excluding exchange-traded funds), if any, which can be classified as Level 1 or Level 2 securities, are valued based on their net asset value. The net asset value of such investment companies equals the total value of their assets less their liabilities and divided by the number of their outstanding shares.

Many securities markets and exchanges outside the U.S. close prior to the scheduled close of the New York Stock Exchange and therefore the closing prices for securities in such markets or on such exchanges may not fully reflect events that occur after such close but before the scheduled close of the New York Stock Exchange. Accordingly, on certain days, the fund will fair value certain foreign equity securities taking into account multiple factors including movements in the U.S. securities markets, currency valuations and comparisons to the valuation of American Depository Receipts, exchange-traded funds and futures contracts. The foreign equity securities, which would generally be classified as Level 1 securities, will be transferred to Level 2 of the fair value hierarchy when they are valued at fair value. The number of days on which fair value prices will be used will depend on market activity and it is possible that fair value prices will be used by the fund to a significant extent. 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.

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, if any, is recorded on the accrual basis. Dividend income, net of any applicable withholding taxes, is recognized on the ex-dividend date except that certain dividends from foreign securities, if any, are recognized as soon as the fund is informed of the ex-dividend date. Non-cash dividends, if any, are recorded at the fair value of the securities received. Dividends representing a return of capital or capital gains, if any, are reflected as a reduction of cost and/or as a realized gain.

**Foreign currency translation** The accounting records of the fund are maintained in U.S. dollars. The fair value of foreign securities, currency holdings, and other assets and liabilities is recorded in the books and records of the fund after translation to U.S. dollars based on the exchange rates on that day. The cost of each security is determined using historical exchange rates. Income and withholding taxes are translated at prevailing exchange rates when earned or incurred. The fund does not isolate that portion of realized or unrealized gains or losses resulting from changes in the foreign exchange rate on investments from fluctuations arising from changes in the market prices of the securities. Such gains and losses are included with the net realized and unrealized gain or loss on investments. Net realized gains and losses on foreign currency transactions represent net realized exchange gains or losses on disposition of foreign currencies, currency gains and losses realized between the trade and settlement dates on securities transactions and the difference between the amount of investment income and foreign withholding taxes recorded on the fund's books and the U.S. dollar equivalent amounts actually received or paid. Net unrealized appreciation and depreciation of assets and liabilities in foreign currencies arise from changes in the value of assets and liabilities other than investments at the period end, resulting from changes in the exchange rate.

**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 \$302,400 and the value of securities loaned amounted to \$297,576.

**Interfund lending** The fund, along with other Putnam funds, may participate in an interfund lending program pursuant to an exemptive order issued by the SEC. This program allows the fund to borrow from or lend to other Putnam funds that permit such transactions. Interfund lending transactions are subject to each fund's investment policies and borrowing and lending limits. Interest earned or paid on the interfund lending transaction will be based on the average of certain current market rates. During the reporting period, the fund did not utilize the program.

**Lines of credit** The fund participates, along with other Putnam funds, in a \$317.5 million unsecured committed line of credit and a \$235.5 million unsecured uncommitted line of credit, both provided by State Street. Borrowings may be made for temporary or emergency purposes, including the funding of shareholder redemption requests and trade settlements. Interest is charged to the fund based on the fund's borrowing at a rate equal to 1.25% plus the higher of (1) the Federal Funds rate and (2) the Overnight Bank Funding Rate for the committed line of credit and 1.30% plus the higher of (1) the Federal Funds rate and (2) the Overnight Bank Funding Rate for the uncommitted line of credit. A closing fee equal to 0.04% of the committed line of credit and 0.04% of the uncommitted line of credit has been paid by the participating funds. In addition, a commitment fee of 0.21% per annum on any unutilized portion of the committed line of credit is allocated to the participating funds based on their relative net assets and paid quarterly. During the reporting period, the fund had no borrowings against these arrangements.

**Federal taxes** It is the policy of the fund to distribute all of its taxable income within the prescribed time period and otherwise comply with the provisions of the Internal Revenue Code of 1986, as amended (the Code), applicable to regulated investment companies.

The fund is subject to the provisions of Accounting Standards Codification 740 *Income Taxes* (ASC 740). ASC 740 sets forth a minimum threshold for financial statement recognition of the benefit of a tax position taken or expected to be taken in a tax return. The fund did not have a liability to record for any unrecognized tax benefits in the accompanying financial statements. No provision has been made for federal taxes on income, capital gains or unrealized appreciation on securities held nor for excise tax on income and capital gains. Each of the fund's federal tax returns for the prior three fiscal years remains subject to examination by the Internal Revenue Service.

The fund may also be subject to taxes imposed by governments of countries in which it invests. Such taxes are generally based on either income or gains earned or repatriated. The fund accrues and applies such taxes to net investment income,

net realized gains and net unrealized gains as income and/or capital gains are earned. In some cases, the fund may be entitled to reclaim all or a portion of such taxes, and such reclaim amounts, if any, are reflected as an asset on the fund's books. In many cases, however, the fund may not receive such amounts for an extended period of time, depending on the country of investment.

**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 foreign currency gains and losses, from foreign taxes paid on capital gains, from net operating loss and from a redesignation of taxable distributions. 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 \$102,910 to decrease distributions in excess of net investment income and \$102,910 to decrease accumulated net realized gain.

Tax cost of investments includes adjustments to net unrealized appreciation (depreciation) which may not necessarily be final tax cost basis adjustments, but closely approximate the tax basis unrealized gains and losses that may be realized and distributed to shareholders. The tax basis components of distributable earnings and the federal tax cost as of the close of the reporting period were as follows:

Unrealized appreciation	\$8,563,563
Unrealized depreciation	(1,181,754)
Net unrealized appreciation	7,381,809
Undistributed short-term gain	558,723
Undistributed long-term gain	2,163,995
Cost for federal income tax purposes	\$25,468,089

**Expenses of the Trust** Expenses directly charged or attributable to any fund will be paid from the assets of that fund. Generally, expenses of the Trust will be allocated among and charged to the assets of each fund on a basis that the Trustees deem fair and equitable, which may be based on the relative assets of each fund or the nature of the services performed and relative applicability to each fund.

**Beneficial interest** At the close of the reporting period, insurance companies or their separate accounts were record owners of all but a de minimis number of the shares of the fund. Approximately 40.6% 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:

1.080%	of the first \$5 billion,
1.030%	of the next \$5 billion,
0.980%	of the next \$10 billion,
0.930%	of the next \$10 billion,
0.880%	of the next \$50 billion,
0.860%	of the next \$50 billion,
0.850%	of the next \$100 billion and
0.845%	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 0.912% of the fund's average net assets.

Putnam Management has contractually agreed, through April 30, 2023, to waive fees and/or reimburse the fund's expenses to the extent necessary to limit the cumulative expenses of the fund, exclusive of brokerage, interest, taxes, investment-related expenses, extraordinary expenses, acquired fund fees and expenses and payments under the fund's investor servicing contract, investment management contract and distribution plans, on a fiscal year-to-date basis to an annual rate of 0.20% of the fund's average net assets over such fiscal year-to-date period. During the reporting period, the fund's expenses were reduced by \$49,031 as a result of this limit.

Putnam Management has also contractually agreed to waive fees (and, to the extent necessary, bear other expenses) of the fund through April 30, 2023, to the extent that total expenses of the fund (excluding brokerage, interest, taxes, investment-related expenses, payments under distribution plans, extraordinary expenses and acquired fund fees and expenses) would exceed an annual rate of 1.09% of the fund's average net assets. During the reporting period, the fund's expenses were reduced by \$33,385 as a result of this limit.

Putnam Investments Limited (PIL), an affiliate of Putnam Management, is authorized by the Trustees to manage a separate portion of the assets of the fund as determined by Putnam Management from time to time. PIL did not manage any portion of the assets of the fund during the reporting period. If Putnam Management were to engage the services of PIL, Putnam Management would pay a quarterly sub-management fee to PIL for its services at an annual rate of 0.35% of the average net assets of the portion of the fund managed by PIL.

The Putnam Advisory Company, LLC (PAC), an affiliate of Putnam Management, is authorized by the Trustees to manage a separate portion of the assets of the fund, as designated from time to time by Putnam Management or PIL. Putnam Management or PIL, as applicable, pays a quarterly sub-advisory fee to PAC for its services at the annual rate of 0.35% of the average net assets of the portion of the fund's assets for which PAC is engaged as sub-adviser.

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	\$17,804
Class IB	7,658
Total	\$25,462

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. For the reporting period, the fund's expenses were reduced by \$43 under the expense offset arrangements.

Each Independent Trustee of the fund receives an annual Trustee fee, of which \$22, 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)	\$27,849,598	\$31,731,716
U.S. government securities (Long-term)	—	—
<b>Total</b>	<b>\$27,849,598</b>	<b>\$31,731,716</b>

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 12/31/21		Year ended 12/31/20		Year ended 12/31/21		Year ended 12/31/20	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
Shares sold	53,300	\$1,387,085	26,904	\$555,360	17,073	\$425,269	32,475	\$622,996
Shares issued in connection with reinvestment of distributions	23,106	564,243	4,102	62,479	9,162	222,189	242	3,664
	76,406	1,951,328	31,006	617,839	26,235	647,458	32,717	626,660
Shares repurchased	(138,842)	(3,507,871)	(187,949)	(3,595,015)	(80,549)	(1,999,453)	(106,930)	(2,139,631)
<b>Net decrease</b>	<b>(62,436)</b>	<b>\$(1,556,543)</b>	<b>(156,943)</b>	<b>\$(2,977,176)</b>	<b>(54,314)</b>	<b>\$(1,351,995)</b>	<b>(74,213)</b>	<b>\$(1,512,971)</b>

## Note 5 — Affiliated transactions

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

Name of affiliate	Fair value as of 12/31/20	Purchase cost	Sale proceeds	Investment income	Shares outstanding and fair value as of 12/31/21
<b>Short-term investments</b>					
Putnam Cash Collateral Pool, LLC*	\$804,230	\$13,318,334	\$13,820,164	\$930	\$302,400
Putnam Short Term Investment Fund**	422,426	5,007,504	5,308,592	97	121,338
<b>Total Short-term investments</b>	<b>\$1,226,656</b>	<b>\$18,325,838</b>	<b>\$19,128,756</b>	<b>\$1,027</b>	<b>\$423,738</b>

\*No management fees are charged to Putnam Cash Collateral Pool, LLC (Note 1). Investment income shown is included in securities lending income on the Statement of operations. There were no realized or unrealized gains or losses during the period.

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

## Note 6 — Market, credit and other risks

In the normal course of business, the fund trades financial instruments and enters into financial transactions where risk of potential loss exists due to changes in the market (market risk) or failure of the contracting party to the transaction to perform (credit risk). The fund may be exposed to additional credit risk that an institution or other entity with which the fund has unsettled or open transactions will default. Investments in foreign securities involve certain risks, including those related to economic instability, unfavorable political developments, and currency fluctuations.

Beginning in January 2020, global financial markets have experienced, and may continue to experience, significant volatility resulting from the spread of a virus known as Covid-19. The outbreak of Covid-19 has resulted in travel and border restrictions, quarantines, supply chain disruptions, lower consumer demand, and general market uncertainty. The effects of Covid-19 have adversely affected, and may continue to adversely affect, the global economy, the economies of certain nations, and individual issuers, all of which may negatively impact the fund's performance.

## Federal tax information (Unaudited)

Pursuant to §852 of the Internal Revenue Code, as amended, the fund hereby designates \$2,380,395 as a capital gain dividend with respect to the taxable year ended December 31, 2021, or, if subsequently determined to be different, the net capital gain of such year.

For the reporting period, total interest and dividend income from foreign countries were \$388,194, or \$0.28 per share (for all classes of shares). Taxes paid to foreign countries were \$169,465, or \$0.12 per share (for all classes of shares).

## About the Trustees

Name	Year of birth	Position held	Principal occupations during past five years	Other directorships	
<b>Independent Trustees</b>					
<b>Liaquat Ahamed</b> Born 1952 Trustee since 2012			Author; won Pulitzer Prize for <i>Lords of Finance: The Bankers Who Broke the World</i> .	Chairman of the Sun Valley Writers Conference, a literary not-for-profit organization, and a Trustee of the Journal of Philosophy.	
<b>Ravi Akhoury</b> Born 1947 Trustee since 2009			Private investor	Director of English Helper, Inc., a private software company; Trustee of the Rubin Museum, serving on the Investment Committee; and previously a Director of RAGE Frameworks, Inc.	
<b>Barbara M. Baumann</b> Born 1955 Trustee since 2010			President of Cross Creek Energy Corporation, a strategic consultant to domestic energy firms and direct investor in energy projects.	Director of Devon Energy Corporation, a publicly traded independent natural gas and oil exploration and production company; Director of National Fuel Gas Company, a publicly traded energy company that engages in the production, gathering, transportation, distribution, and marketing of natural gas; Senior Advisor to the energy private equity firm First Reserve; Director of Ascent Resources, LLC, a private independent exploration and production company; Director of Texas American Resources Company II, a private, independent oil and gas exploration and production company; member of the Finance Committee of the Children's Hospital of Colorado; member of the Investment Committee of the Board of The Denver Foundation; and previously a Director of publicly traded companies Buckeye Partners LP, UNS Energy Corporation, CVR Energy Company, and SM Energy Corporation.	
<b>Katinka Domotorffy</b> Born 1975 Trustee since 2012			Voting member of the Investment Committees of the Anne Ray Foundation and Margaret A. Cargill Foundation, part of the Margaret A. Cargill Philanthropies.	Director of the Great Lakes Science Center and of College Now Greater Cleveland.	
<b>Catharine Bond Hill</b> Born 1954 Trustee since 2017			Managing Director of Ithaca S+R, a not-for-profit service that helps the academic community navigate economic and technological change. From 2006 to 2016, the 10th president of Vassar College.	Director of Yale-NUS College and Trustee of Yale University.	
<b>Paul L. Joskow</b> Born 1947 Trustee since 1997			The Elizabeth and James Killian Professor of Economics, Emeritus at the Massachusetts Institute of Technology (MIT). From 2008 to 2017, the 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.	Vice Chair of the Board of Directors of the Whitehead Institute for Biomedical Research, a non-profit biomedical research institute; a Director of Exelon Corporation, an energy company focused on power services; and a member Emeritus of the Board of Advisors of the Boston Symphony Orchestra.	
<b>Kenneth R. Leibler</b> Born 1949 Trustee since 2006 Vice Chair from 2016 to 2018, and Chair since 2018			Vice Chairman Emeritus of the Board of Trustees of Beth Israel Deaconess Hospital in Boston. Member of the Investment Committee of the Boston Arts Academy Foundation.	Director of Eversource Corporation, which operates New England's largest energy delivery system; previously the Chairman of the Boston Options Exchange, an electronic market place for the trading of listed derivatives securities; previously the Chairman and Chief Executive Officer of the Boston Stock Exchange; and previously the President and Chief Operating Officer of the American Stock Exchange.	
<b>George Putnam, III</b> Born 1951 Trustee since 1984			Chairman of New Generation Research, Inc., a publisher of financial advisory and other research services, and President of New Generation Advisors, LLC, a registered investment adviser to private funds.	Director of The Boston Family Office, LLC, a registered investment adviser; a Trustee of the Gloucester Marine Genomics Institute; previously a Trustee of the Marine Biological Laboratory; and previously a Trustee of Epiphany School.	

Name Year of birth Position held	Principal occupations during past five years	Other directorships	
<b>Manoj P. Singh</b> Born 1952 Trustee since 2017	Until 2015, Chief Operating Officer and Global Managing Director at Deloitte Touche Tohmatsu, Ltd., a global professional services organization, serving on the Deloitte U.S. Board of Directors and the boards of Deloitte member firms in China, Mexico, and Southeast Asia.	Director of Abt Associates, a global research firm working in the fields of health, social and environmental policy, and international development; Trustee of Carnegie Mellon University; Director of Pratham USA, an organization dedicated to children's education in India; member of the advisory board of Altimetrik, a business transformation and technology solutions firm; and Director of DXC Technology, a global IT services and consulting company.	
<b>Mona K. Sutphen</b> Born 1967 Trustee since 2020	Senior Advisor at The Vistria Group, a private investment firm focused on middle-market companies in the healthcare, education, and financial services industries. From 2014 to 2018, Partner at Macro Advisory Partners, a global consulting firm.	Director of Unitek Learning, a private nursing and medical services education provider in the United States; Director of Pattern Energy Group LP, a private renewable energy company; previous Director of Pattern Energy, a publicly traded renewable energy company; Board Member, International Rescue Committee; Co-Chair of the Board of Human Rights First; Trustee of Mount Holyoke College; and member of the Advisory Board for the Center on Global Energy Policy at Columbia University's School of International and Public Affairs.	

### Interested Trustee

<b>Robert L. Reynolds*</b> Born 1952 Trustee since 2008 and President and Chief Executive Officer of Putnam Investments since 2008	President and Chief Executive Officer of Putnam Investments; member of Putnam Investments' Board of Directors; and Chair of Great-West Lifeco U.S. LLC. Prior to 2019, also 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. LLC, a holding company that owns Putnam Investments and Great-West Financial, and a member of Great-West Financial's Board of Directors.	Director of the Concord Museum; Director of the Dana-Farber Cancer Institute; Director of the U.S. Ski & Snowboard Association Foundation; Chairman of the Boston Advisory Board of the American Ireland Fund; National Council Co-Chairman of the American Enterprise Institute; Executive Committee Member of the Greater Boston Chamber of Commerce; member of the U.S. Chamber of Commerce, Center for Capital Markets Competitiveness; Chairman of the Massachusetts High Technology Council; member of the Chief Executives Club of Boston; member of the Massachusetts General Hospital President's Council; and previously the Chairman of the Massachusetts Competitive Partnership.	
--	---	---	---

\*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 100 Federal Street, Boston, MA 02110.

As of December 31, 2021, there were 100 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:

#### **James F. Clark** (Born 1974)

Vice President and Chief Compliance Officer  
Since 2016  
Chief Compliance Officer and Chief Risk Officer,  
Putnam Investments, and Chief Compliance  
Officer, Putnam Management

#### **Nancy E. Florek** (Born 1957)

Vice President, Director of Proxy Voting  
and Corporate Governance, Assistant Clerk,  
and Assistant Treasurer  
Since 2000

#### **Michael J. Higgins** (Born 1976)

Vice President, Treasurer, and Clerk  
Since 2010

#### **Jonathan S. Horwitz** (Born 1955)

Executive Vice President, Principal Executive  
Officer, and Compliance Liaison  
Since 2004

#### **Richard T. Kircher** (Born 1962)

Vice President and BSA Compliance Officer  
Since 2019  
Assistant Director, Operational Compliance,  
Putnam Investments and Putnam  
Retail Management

#### **Martin Lemaire** (Born 1984)

Vice President and Derivatives Risk Manager  
Since 2022  
Risk Manager and Risk Analyst,  
Putnam Investments

#### **Susan G. Malloy** (Born 1957)

Vice President and Assistant Treasurer  
Since 2007  
Head of Accounting and Middle Office Services,  
Putnam Investments and Putnam Management

#### **Alan G. McCormack** (Born 1964)

Vice President and Derivatives Risk Manager  
Since 2022  
Head of Quantitative Equities and Risk,  
Putnam Investments

#### **Denere P. Poulack** (Born 1968)

Assistant Vice President, Assistant Clerk,  
and Assistant Treasurer  
Since 2004

#### **Janet C. Smith** (Born 1965)

Vice President, Principal Financial  
Officer, Principal Accounting Officer,  
and Assistant Treasurer  
Since 2007  
Head of Fund Administration Services, Putnam  
Investments and Putnam Management

#### **Stephen J. Tate** (Born 1974)

Vice President and Chief Legal Officer  
Since 2021  
General Counsel, Putnam Investments, Putnam  
Management, and Putnam Retail Management

#### **Mark C. Trenchard** (Born 1962)

Vice President  
Since 2002  
Director of Operational Compliance, Putnam  
Investments and Putnam Retail Management

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 100 Federal Street, Boston, MA 02110.

## 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, 2021, are available in the Individual Investors section of [putnam.com](http://putnam.com) and on the Securities and Exchange Commission's (SEC) website at [www.sec.gov](http://www.sec.gov). If you have questions about finding forms on the SEC's website, you may call the SEC at 1-800-SEC-0330. You may also obtain the Putnam funds' proxy voting guidelines and procedures at no charge by calling Putnam's Shareholder Services at 1-800-225-1581.

### Fund portfolio holdings

The fund will file a complete schedule of its portfolio holdings with the SEC for the first and third quarters of each fiscal year on Form N-PORT within 60 days of the end of such fiscal quarter. Shareholders may obtain the fund's Form N-PORT from the SEC's website at [www.sec.gov](http://www.sec.gov).

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

## Fund information

### Investment Manager

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

### Investment Sub-Advisors

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

The Putnam Advisory Company, LLC  
100 Federal Street  
Boston, MA 02110

### Marketing Services

Putnam Retail Management  
Limited Partnership  
100 Federal Street  
Boston, MA 02110

### Investor Servicing Agent

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

### Custodian

State Street Bank and Trust Company

### Legal Counsel

Ropes & Gray LLP

### Independent Registered Public Accounting Firm

PricewaterhouseCoopers LLP

### Trustees

Kenneth R. Leibler, *Chair*  
Liaquat Ahamed  
Ravi Akhoury  
Barbara M. Baumann  
Katinka Domotorffy  
Catharine Bond Hill  
Paul L. Joskow  
George Putnam, III  
Robert L. Reynolds  
Manoj P. Singh  
Mona K. Sutphen

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.