

Putnam VT Equity Income Fund

IMPORTANT NOTICE: Delivery of paper fund reports

In accordance with regulations adopted by the Securities and Exchange Commission, beginning on or after January 1, 2021, at the election of your insurance provider, you may not receive paper copies of the fund's annual and semiannual reports in the mail from the insurance provider that offers your variable annuity contract or variable life insurance policy unless you specifically request it. Instead, they will be available on a website, and your insurance provider will notify you by mail whenever a new one is available, and provide you with a website link to access the report.

If you wish to continue to receive paper reports free of charge after January 1, 2021, please contact your insurance provider.

If you already receive these reports electronically, no action is required.

Before you invest, you may wish to review the fund's prospectus, which contains more information about the fund and its risks. You may obtain the prospectus and other information about the fund, including the statement of additional information (SAI) and most recent reports to shareholders, at no cost by visiting putnam.com/individual/annuities, calling 1-800-225-1581, or e-mailing Putnam at funddocuments@putnam.com.

The fund's prospectus and SAI, both dated 4/30/20, are incorporated by reference into this summary prospectus.

Fund summary

Goal

Putnam VT Equity Income Fund seeks capital growth and current income.

Fees and expenses

The following table describes the fees and expenses you may pay if you buy and hold shares of the fund. The fees and expenses information does not reflect insurance-related charges or expenses borne by contract holders indirectly investing in the fund. If it did, expenses would be higher.

Annual fund operating expenses

expenses you pay each year as a percentage of the value of your investment)

Share class	Management fees	Distribution and service (12b-1) fees	Other expenses	Total annual fund operating expenses
Class IA	0.47%	N/A	0.10%	0.57%
Class IB	0.47%	0.25%	0.10%	0.82%

Example

The following hypothetical example is intended to help you compare the cost of investing in the fund with the cost of investing in other funds. The example does not reflect insurance-related charges or expenses. If it did, expenses would be higher. It assumes that you invest 10,000 in the fund for the time periods indicated and then redeem or hold

all your shares at the end of those periods. It assumes a 5% return on your investment each year and that the fund's operating expenses remain the same. Your actual costs may be higher or lower.

Share class	1 year	3 years	5 years	10 years
Class IA	58	183	318	714
Class IB	84	262	455	1,014

Portfolio turnover

The fund pays transaction-related costs, such as commissions, when it buys and sells securities (or "turns over" its portfolio). A higher turnover rate may indicate higher transaction costs. These costs, which are not reflected in annual fund operating expenses or the above example, affect fund performance. The fund's turnover rate in the most recent fiscal year was 14%.

Investments risks and performance

Investments

We invest mainly in common stocks of midsize and large U.S. companies, with a focus on value stocks that offer the potential for capital growth, current income, or both. Under normal circumstances, we invest at least 80% of the fund's net assets in common stocks and other equity investments that offer the potential for current income. This policy may be changed only after 60 days' notice to shareholders. Value stocks are issued by companies that we believe are currently undervalued by the market. If we are correct and other investors ultimately recognize the value of the company, the price of its stock may rise. We 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.

Risks

It is important to understand that you can lose money by investing in the fund.

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. Value stocks may fail to rebound, and the market may not favor value-style investing. Income provided by the fund may be reduced by changes in the dividend policies of, and the capital resources available at, the companies in which the fund invests.

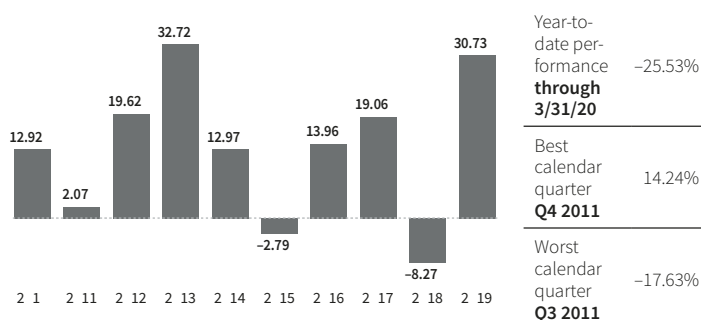
There is no guarantee that the investment techniques, analyses, or judgments that we apply in making investment decisions for the fund will produce the intended outcome or that the investments we select for the fund will perform as well as other securities that were not selected for the fund. We, or the fund's other service providers, may experience disruptions or operating errors that could negatively impact the fund.

The fund may not achieve its goal, and it is not intended to be a complete investment program. An investment in the fund is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency.

Performance

The performance information below gives some indication of the risks associated with an investment in the fund by showing the fund's performance year to year and over time. The performance information does not reflect insurance-related charges or expenses. If it did, performance would be lower. Please remember that past performance is not necessarily an indication of future results.

Annual total returns for class IA shares



Average annual total returns

for periods ended 12/31/19

Share class	1 year	5 years	10 years
Class IA	30.73%	9.60%	12.58%
Class IB	30.40%	9.33%	12.31%
Russell 1000 Value Index* (no deduction for fees or expenses)	26.54%	8.29%	11.80%

* Frank Russell Company is the source and owner of the trademarks, service marks and copyrights related to the Russell Indexes. Russell® is a trademark of Frank Russell Company.

Your fund's management

Investment advisor

Putnam Investment Management, LLC

Portfolio manager

Darren Jaroch, Portfolio Manager, portfolio manager of the fund since 2012

Assistant portfolio manager

Lauren DeMore, Portfolio Manager, Analyst, assistant portfolio manager of the fund since 2019

Sub-advisor

Putnam Investments Limited*

* Though the investment advisor has retained the services of Putnam Investments Limited (PIL), PIL does not currently manage any assets of the fund.

Purchase and sale of fund shares

Fund shares are offered to separate accounts of various insurers. The fund requires no minimum investment, but insurers may require minimum investments from those purchasing variable insurance products for which the fund is an underlying investment option. Insurers may purchase or sell shares on behalf of separate accounts by submitting an order to Putnam Retail Management any day the New York Stock Exchange (NYSE) is open. Some restrictions may apply.

Tax information

Generally, owners of variable insurance contracts are not taxed currently on income or gains realized with respect to such contracts. However, some distributions from such contracts may be taxable at ordinary income tax rates and distributions to contract owners younger than 59½ may be subject to a 10% penalty tax. For more information, please see the prospectus (or other offering document) for your variable insurance contract.

Payments to insurance companies

The fund is offered as an underlying investment option for variable insurance contracts. The fund and its related companies may make payments to the sponsoring insurance company (or its affiliates) and dealers for distribution and/or other services. These payments may create an incentive for the insurance company to include the fund, rather than another investment, as an option in its products and may create a conflict of interest for dealers in recommending the fund over another investment. The prospectus (or other offering document) for your variable insurance contract may contain additional information about these payments.

Information about the Summary Prospectus Prospectus and SAI

The summary prospectus, prospectus, and SAI for a fund provide information concerning the fund. The summary prospectus, prospectus, and SAI are updated at least annually and any information provided in a summary prospectus, prospectus, or SAI can be changed without a shareholder vote unless specifically stated otherwise. The summary prospectus, prospectus, and the SAI are not contracts between the fund and its shareholders and do not give rise to any contractual rights or obligations or any shareholder rights other than any rights conferred explicitly by federal or state securities laws that may not be waived.

Additional information is available at putnam.com/individual/annuities, by calling 1-800-225-1581, or by e-mailing Putnam at funddocuments@putnam.com.