

Putnam VT Research Fund



Class IB

Annual Shareholder Report | December 31, 2024

This annual shareholder report contains important information about Putnam VT Research Fund for the period January 1, 2024, to December 31, 2024. You can find additional information about the Fund at <https://www.franklintempleton.com/regulatory-fund-documents>. You can also request this information by contacting us at (800) 225-1581.

This report describes changes to the Fund that occurred during the reporting period.

WHAT WERE THE FUND COSTS FOR THE LAST YEAR? (based on a hypothetical \$10,000 investment)

Class Name	Costs of a \$10,000 investment	Costs paid as a percentage of a \$10,000 investment
Class IB ¹	\$107	0.95%

¹ Does not reflect expenses incurred from investing through variable annuity or variable life insurance products.

HOW DID THE FUND PERFORM LAST YEAR AND WHAT AFFECTED ITS PERFORMANCE?

For the twelve months ended December 31, 2024, Class IB shares of Putnam VT Research Fund returned 26.28%. The Fund compares its performance to the S&P 500 Index, which returned 25.02% for the same period.

PERFORMANCE HIGHLIGHTS

Top contributors to performance:

- ↑ Overweight position in Oracle, a cloud application and platform services company
- ↑ Not owning Intel, a multinational technology company
- ↑ Overweight position in NRG Energy

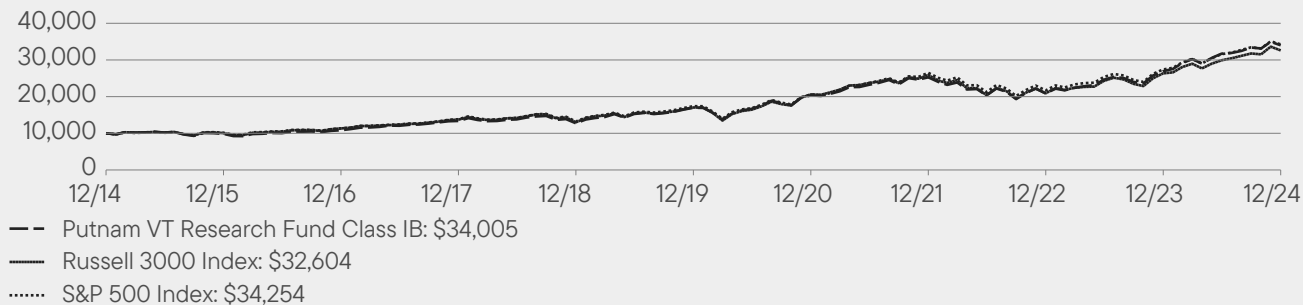
Top detractors from performance:

- ↓ Overweight position in IT company Advanced Micro Devices
- ↓ Out-of-benchmark position in AIA Group, a multinational financial services company
- ↓ Overweight position in data storage company Seagate Technology

HOW DID THE FUND PERFORM OVER THE LAST 10 YEARS?

The Fund's past performance is not necessarily an indication of how the Fund will perform in the future. The graph and table do not reflect the deduction of taxes that a shareholder would pay on Fund distributions or redemption of Fund shares.

VALUE OF A \$10,000 INVESTMENT – CLASS IB 12/31/2014 – 12/31/2024



AVERAGE ANNUAL TOTAL RETURNS (%) Period Ended December 31, 2024

	1 Year	5 Year	10 Year
Class IB	26.28	14.91	13.02
Russell 3000 Index	23.81	13.86	12.55
S&P 500 Index	25.02	14.53	13.10

Performance does not reflect expenses incurred from investing through variable annuity or variable life insurance products, which if reflected, would reduce performance of the Fund.

Fund performance figures may reflect fee waivers and/or expense reimbursements, without which the performance would have been lower.

Performance benefited from gains related to settlement of security litigations recognized in May 2017.

Important data provider notices and terms available at www.franklintempletondatasources.com.

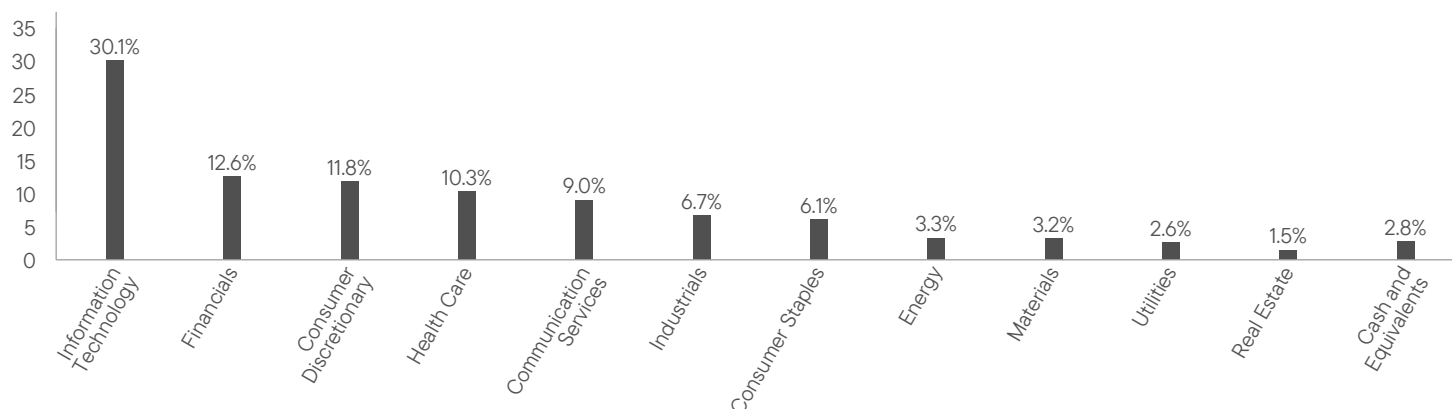
KEY FUND STATISTICS (as of December 31, 2024)

Total Net Assets	\$102,789,142
Total Number of Portfolio Holdings*	171
Total Management Fee Paid	\$503,113
Portfolio Turnover Rate	37%

* Includes derivatives, if applicable.

WHAT DID THE FUND INVEST IN? (as of December 31, 2024)

Portfolio Composition (% of Total Net Assets)



Cash and Equivalents, if any, represent the market value weights of cash, derivatives, short-term securities, and other unclassified assets in the portfolio. Holdings and allocations may vary over time.

HOW HAS THE FUND CHANGED?

On May 31, 2023, Franklin Resources, Inc. (“Franklin Templeton”) and Great-West Lifeco Inc., the parent company of Putnam U.S. Holdings I, LLC (“Putnam Holdings”), announced that they had entered into a definitive agreement for a subsidiary of Franklin Templeton to acquire Putnam Holdings in a stock and cash transaction (the “Transaction”). The Transaction was completed on January 1, 2024. As part of the Transaction, your Fund’s investment advisor, Putnam Investment Management, LLC (“Putnam Management”), a wholly-owned subsidiary of Putnam Holdings, and your Fund’s then-current sub-advisors, Putnam Investments Limited (“PIL”) and The Putnam Advisory Company, LLC (“PAC”), indirect, wholly-owned subsidiaries of Putnam Holdings, became indirect, wholly-owned subsidiaries of Franklin Templeton. In connection with the Transaction, shareholders of your Fund approved a new management contract with Putnam Management and new sub-advisory contracts with PIL and PAC. The new contracts were identical to the previous contracts, except for the effective dates, initial terms, updates to fund names as necessary to reflect previous name changes, and certain non-substantive changes.

Effective July 15, 2024, Franklin Advisers, Inc. (“Franklin Advisers”) was retained as a sub-advisor by Putnam Management for the Fund pursuant to a new sub-advisory agreement between Franklin Advisers and Putnam Management. Franklin Advisers is a direct, wholly-owned subsidiary of Franklin Templeton.

Effective November 1, 2024 (the “Effective Date”), PIL, a sub-advisor of the Fund prior to the Effective Date, merged with and into Franklin Templeton Investment Management Limited (“FTIML”), a wholly-owned subsidiary of Franklin Templeton (the “Merger”). As of the Effective Date, PIL investment professionals became employees of FTIML, and the sub-advisory agreement between Putnam Management and PIL with respect to the Fund was terminated. In connection with the Merger, the Fund’s Trustees approved a new sub-advisory agreement between Putnam Management and FTIML, pursuant to which FTIML became a sub-advisor of the Fund on the Effective Date.

Effective July 31, 2024, the portfolio managers for the Fund are Kathryn Lakin, Jacquelyne Cavanaugh, Matthew LaPlant, Andrew O’Brien and William Rives.

This is a summary of certain changes to the Fund since January 1, 2024. For more complete information, you may review the Fund’s current prospectus and any applicable supplements and the Fund’s next prospectus, which we expect to be available by May 1, 2025, at <https://www.franklintempleton.com/regulatory-fund-documents> or upon request at (800) 225-1581 or funddocuments@putnam.com.



WHERE CAN I FIND ADDITIONAL INFORMATION ABOUT THE FUND?

Additional information is available on <https://www.franklintempleton.com/regulatory-fund-documents>, including its:

• prospectus • proxy voting information • financial information • holdings • tax information