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Putnam Variable Trust

Putnam VT Multi-Asset Absolute Return Fund

Semiannual report

6 | 30 | 22

Message from the Trustees

August 11, 2022

Dear Shareholder:

Financial markets are reminding us that the journey to long-term returns often involves weathering periods of heightened volatility. Both stocks and bonds have experienced sharp declines in the first half of 2022. Inflation has shaken consumer confidence, while higher interest rates are helping to slow the U.S. economy. Globally, the Russia-Ukraine War, supply chain disruptions, and China's continued deceleration could prolong market volatility.

While this difficult environment may test investors' patience, you can be confident that Putnam portfolio managers are actively working for you. They are assessing risks while researching new and attractive investment opportunities for your fund.

We also have changes to the Board of Trustees to announce. In July 2022, we welcomed Jennifer Williams Murphy and Marie Pillai as new Trustees. Both have a wealth of investment advisory and executive management experience. We also want to thank our Trustees who retired from the Board on June 30, 2022: Paul Joskow served with us since 1997, and Ravi Akhoury joined the Board in 2009. We wish them well.

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

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. Current and future portfolio holdings are subject to risk.

Consider these risks before investing: Allocation of assets among asset classes may hurt performance. 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, asset class, geography, industry, or sector. These and other factors may lead to increased volatility and reduced liquidity in the fund's portfolio holdings.

Growth stocks may be more susceptible to earnings disappointments, and value stocks may fail to rebound. Bond investments are subject to interest-rate risk (the risk of bond prices falling if interest rates rise) and credit risk (the risk of an issuer defaulting on interest or principal payments). Interest-rate risk is generally greater for longer-term bonds, and credit risk is generally greater for below-investment-grade bonds. Unlike bonds, funds that invest in bonds have fees and expenses. Lower-rated bonds may offer higher yields in return for more risk. Funds that invest in government securities are not guaranteed. Mortgage-backed securities are subject to prepayment risk, which means that they may increase in value less than other bonds when interest rates decline and decline in value more than other bonds when interest rates rise. The fund may have to invest the proceeds from prepaid investments, including mortgage- and asset-backed investments, in other investments with less attractive terms and yields. International investing involves currency, economic, and political risks. Emerging market securities have illiquidity and volatility risks. Our alpha strategy may lose money or not earn a return sufficient to cover associated trading and other costs.

Our use of leverage obtained through derivatives increases these risks by increasing investment exposure. 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 fund's efforts to produce lower-volatility returns may not be successful. The fund may not achieve its goal, and it is not intended to be a complete investment program.

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 negatively impact the fund. The fund is not intended to outperform stocks and bonds during strong market rallies. The fund's prospectus lists additional risks. You can lose money by investing in the fund.

Performance summary (as of 6/30/22)

Investment objective

Positive total return

Net asset value June 30, 2022

Class IA: \$9.28

Class IB: \$9.10

Annualized total return at net asset value (as of 6/30/22)

	Class IA shares (5/2/11)	Class IB shares (5/2/11)	ICE BofA U.S. Treasury Bill Index	Bloomberg U.S. Aggregate Bond Index	S&P 500 Index
6 months	-1.21%	-1.38%	0.05%	-10.35%	-19.96%
1 year	-0.80	-1.06	0.07	-10.29	-10.62
5 years	-1.11	-1.34	1.11	0.88	11.31
10 years	0.70	0.46	0.65	1.54	12.96
Life of fund	0.63	0.38	0.59	2.13	11.77

Returns for periods of less than one year are not annualized.

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

Before April 30, 2018, 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 ICE BofA (Intercontinental Exchange Bank of America) U.S. Treasury Bill Index is an unmanaged index that tracks the performance of U.S. dollar-denominated U.S. Treasury bills publicly issued in the U.S. domestic market. Qualifying securities must have a remaining term of at least one month to final maturity and a minimum amount outstanding of \$1 billion.

The Bloomberg U.S. Aggregate Bond Index is an unmanaged index of U.S. investment-grade fixed income securities.

The S&P 500® Index is an unmanaged index of common stock performance.

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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. 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

U.S. Treasuries/agency	21.8%
Agency pass-throughs	10.0%
Commodities	9.5%
Commercial mortgage-backed securities	7.4%
U.S. stocks	3.6%
Agency collateralized mortgage obligations	2.1%
Residential mortgage-backed securities (non-agency)	0.8%
Emerging market bonds	0.7%
Asset-backed securities	0.4%
Emerging market stocks	0.2%
Investment-grade corporate bonds	0.1%
International stocks	-0.1%
Cash and net other assets	43.5%

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 portfolio schedule included in the financial statements due to the inclusion of derivative securities, any interest accruals, the use of different classifications of securities for presentation purposes, and rounding. Negative weights may result from timing differences between trade and settlement dates of securities, such as to-be-announced (TBA) trades, or from the use of derivatives. Due to rounding, weights may not total 100%. Holdings and allocations may vary over time.

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 1/1/22 to 6/30/22. 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 12/31/21*	0.95%	1.20%
Total annual operating expenses for the fiscal year ended 12/31/21	1.54%	1.79%
Annualized expense ratio for the six-month period ended 6/30/22†	0.90%	1.15%

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.

Prospectus expense information also includes the impact of acquired fund fees and expenses of 0.05%, which is not included in the financial highlights or annualized expense ratios. Expenses are shown as a percentage of average net assets.

*Reflects Putnam Management's contractual obligation to limit certain fund expenses through 4/30/23.

†Includes one-time annualized proxy cost of 0.01%.

Expenses per \$1,000

	Expenses and value for a \$1,000 investment, assuming actual returns for the 6 months ended 6/30/22		Expenses and value for a \$1,000 investment, assuming a hypothetical 5% annualized return for the 6 months ended 6/30/22	
	Class IA	Class IB	Class IA	Class IB
Expenses paid per \$1,000*†	\$4.44	\$5.66	\$4.51	\$5.76
Ending value (after expenses)	\$987.90	\$986.20	\$1,020.33	\$1,019.09

*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 6/30/22. 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 (181); 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 (181); and then dividing that result by the number of days in the year (365).

Your fund's managers



Portfolio Manager **Robert J. Schoen** is Co-Chief Investment Officer, Global Asset Allocation. He joined Putnam in 1997 and has been in the investment industry since 1990.



Portfolio Manager **Brett S. Goldstein, CFA**, is Co-Chief Investment Officer, Global Asset Allocation. He has been in the investment industry since he joined Putnam in 2010.

Adrian H. Chan, CFA, and James A. Fetch are also Portfolio Managers of the fund.

Your fund's managers also manage other accounts advised by Putnam Management or an affiliate, including retail mutual fund counterparts to the funds in Putnam Variable Trust.

ABOUT DERIVATIVES

Derivatives are an increasingly common type of investment instrument, the performance of which is *derived* from an underlying security, index, currency, or other area of the capital markets. Derivatives employed by the fund's managers generally serve one of two main purposes: to implement a strategy that may be difficult or more expensive to invest in through traditional securities, or to hedge unwanted risk associated with a particular position.

For example, the fund's managers might use currency forward contracts to capitalize on an anticipated change in exchange rates between two currencies. This approach would require a significantly smaller outlay of capital than purchasing traditional bonds denominated in the underlying currencies. In another example, the managers may identify a bond that they believe is undervalued relative to its risk of default, but may seek to reduce the interest-rate risk of that bond by using interest-rate swaps, a derivative through which two parties "swap" payments based on the movement of certain rates. In other examples, the managers may use options and futures contracts to hedge against a variety of risks by establishing a combination of long and short exposures to specific equity markets or sectors.

Like any other investment, derivatives may not appreciate in value and may lose money. Derivatives may amplify traditional investment risks through the creation of leverage and may be less liquid than traditional securities. And because derivatives typically represent contractual agreements between two financial institutions, derivatives entail "counterparty risk," which is the risk that the other party is unable or unwilling to pay. Putnam monitors the counterparty risks we assume. For example, Putnam often enters into collateral agreements that require the counterparties to post collateral on a regular basis to cover their obligations to the fund. Counterparty risk for exchange-traded futures and centrally cleared swaps is mitigated by the daily exchange of margin and other safeguards against default through their respective clearinghouses.

The fund's portfolio 6/30/22 (Unaudited)

U.S. GOVERNMENT AND AGENCY MORTGAGE OBLIGATIONS (30.8%)*

	Principal amount	Value
U.S. Government Agency Mortgage Obligations (30.8%)		
Uniform Mortgage-Backed Securities		
5.00%, TBA, 8/1/52	\$2,000,000	\$2,034,296
5.00%, TBA, 7/1/52	1,000,000	1,020,156
4.50%, TBA, 8/1/52	1,000,000	1,001,524
4.50%, TBA, 7/1/52	1,000,000	1,003,672
4.00%, TBA, 8/1/52	1,000,000	983,945
4.00%, TBA, 7/1/52	1,000,000	985,781

7,029,374

Total U.S. government and agency mortgage obligations (cost \$6,995,390) \$7,029,374

COMMON STOCKS (10.2%)*

	Shares	Value
Basic materials (0.9%)		
Anglo American Platinum, Ltd. (South Africa)	219	\$19,182
Asian Paints, Ltd. (India)	1,218	41,568
Northam Platinum Holdings, Ltd. (South Africa) †	988	10,402
Southern Copper Corp. (Peru)	596	29,687
United Tractors Tbk PT (Indonesia)	3,700	7,054
Vale SA ADR (Brazil)	4,277	62,573
Vedanta, Ltd. (India)	8,547	24,135

194,601

Capital goods (0.1%)
Haitian International Holdings, Ltd. (China) 8,000 20,441

20,441

	Shares	Value
Communication services (0.3%)		
Advanced Info Service PCL (Thailand)	6,700	36,859
Hellenic Telecommunications Organization SA (Greece)	907	15,750
KT Corp. (South Korea)	236	6,625
Turkcell Iletisim Hizmetleri AS (Turkey)	17,702	17,181

76,415

	Shares	Value
Consumer cyclicals (1.5%)		
Astra International Tbk PT (Indonesia)	78,600	34,954
Cheil Worldwide, Inc. (South Korea)	729	13,335
China Yongda Automobiles Services Holdings, Ltd. (China)	21,000	19,858
Haier Smart Home Co., Ltd. Class H (China)	14,000	51,830
Kia Corp. (South Korea)	762	45,366
KOC Holding A/S (Turkey)	14,248	31,243
Maruti Suzuki India, Ltd. (India)	146	15,660
MultiChoice Group (South Africa)	1,684	11,988
Page Industries, Ltd. (India)	72	36,620
Sun TV Network, Ltd. (India)	3,279	17,129
WalMart de Mexico (Walmex) SAB de CV (Mexico)	3,030	10,427
Zhongsheng Group Holdings, Ltd. (China)	6,500	45,850

334,260

	Shares	Value
Consumer staples (1.0%)		
Ambev SA (Brazil)	2,100	5,377
Arca Continental SAB de CV (Mexico)	6,770	44,651
Cencosud SA (Chile)	28,435	36,193
China Feihe, Ltd. (China)	16,000	18,392
Coca-Cola Icecek AS (Turkey)	771	5,968
Grupo Bimbo SAB de CV Class A (Mexico)	1,966	6,424
Indofood Sukses Makmur Tbk PT (Indonesia)	13,000	6,152
JD.com, Inc. Class A (China)	1,885	60,729
Marfrig Global Foods SA (Brazil)	3,400	7,867
Want Want China Holdings, Ltd. (China)	46,000	39,981

231,734

COMMON STOCKS (10.2%)* cont.

	Shares	Value
Energy (0.3%)		
China Shenhua Energy Co., Ltd. (China)	15,000	\$43,011
Indo Tambangraya Megah Tbk PT (Indonesia)	11,200	23,062

66,073

	Shares	Value
Financials (2.0%)		
Agricultural Bank of China, Ltd. Class H (China)	128,000	48,285
Banco Bradesco SA (Preference) (Brazil)	9,317	30,621
Cathay Financial Holding Co., Ltd. (Taiwan)	15,000	25,678
China Construction Bank Corp. Class H (China)	16,000	10,746
China Development Financial Holding Corp. (Taiwan)	72,000	35,596
China International Capital Corp., Ltd. Class H (China)	16,800	35,798
China Minsheng Banking Corp., Ltd. Class H (China)	43,500	15,522
CTBC Financial Holding Co., Ltd. (Taiwan)	56,000	47,273
Hana Financial Group, Inc. (South Korea)	1,204	36,489
Hong Leong Bank Bhd (Malaysia)	9,300	43,171
Itausa SA (Brazil)	23,700	37,768
KB Financial Group, Inc. (South Korea)	1,050	38,938
Ping An Insurance Group Co. of China, Ltd. Class H (China)	6,500	44,193
Shin Kong Financial Holding Co., Ltd. (Taiwan)	18,000	5,303
Tisco Financial Group PCL (Thailand)	3,400	8,511

463,892

	Shares	Value
Health care (0.4%)		
Cipla, Ltd./India (India) †	656	7,619
CSPC Pharmaceutical Group, Ltd. (China)	42,000	41,696
Sun Pharmaceutical Industries, Ltd. (India)	2,942	30,943

80,258

	Shares	Value
Technology (3.4%)		
Alibaba Group Holding, Ltd. (China) †	6,728	95,945
Infosys, Ltd. (India)	3,069	56,812
Kuaishou Technology 144A (China) †	3,300	36,756
Lenovo Group, Ltd. (China)	46,000	42,970
LG Electronics, Inc. (South Korea)	140	9,521
LG Innotek Co., Ltd. (South Korea)	121	31,918
Novatek Microelectronics Corp. (Taiwan)	3,000	30,471
Samsung Electro-Mechanics Co., Ltd. (South Korea)	265	26,635
Samsung Electronics Co., Ltd. (South Korea)	3,182	139,690
Taiwan Semiconductor Manufacturing Co., Ltd. ADR (Taiwan)	1,957	159,979
Tata Consultancy Services, Ltd. (India)	1,336	55,270
Tech Mahindra, Ltd. (India)	350	4,432
Tencent Holdings, Ltd. (China)	1,500	67,747
United Microelectronics Corp. (Taiwan)	11,000	14,484

772,630

	Shares	Value
Transportation (0.2%)		
COSCO SHIPPING Holdings Co., Ltd. Class H (China)	13,350	18,647
Evergreen Marine Corp. Taiwan, Ltd. (Taiwan)	10,000	28,453
International Container Terminal Services, Inc. (Philippines)	2,350	7,864

54,964

	Shares	Value
Utilities and power (0.1%)		
CPFL Energia SA (Brazil)	5,800	34,223
Glow Energy PCL (Thailand) † F	700	—

34,223

Total common stocks (cost \$2,384,162) \$2,329,491

INVESTMENT COMPANIES (8.6%)*	Shares	Value
Energy Select Sector SPDR Fund	4,112	\$294,049
Health Care Select Sector SPDR Fund ⁵	2,711	347,659
Materials Select Sector SPDR Fund	4,237	311,843
Real Estate Select Sector SPDR Fund ⁵	8,164	333,581
Technology Select Sector SPDR Fund ⁵	2,552	324,410
Utility Select Sector SPDR Fund ⁵	4,823	338,237
Total investment companies (cost \$2,011,769)		\$1,949,779

COMMODITY LINKED NOTES (7.5%)*†††	Principal amount	Value
BofA Finance LLC 144A sr. unsec. unsub. notes, compound SOFR less 0.05%, 3/7/23 (Indexed to the BofA Merrill Lynch Commodity MLBX4SX6 Excess Return Strategy multiplied by 3)	\$380,000	\$359,646
Citigroup Global Markets Holdings, Inc. sr. notes Ser. N, compound SOFR, 3/27/23 (Indexed to the Citi Commodities F3 vs F0 — 4x Leveraged Index multiplied by 3)	419,000	420,255
Citigroup Global Markets Holdings, Inc. 144A sr. notes, zero %, 11/28/22 (Indexed to the Citi Cross-Asset Trend 10% Vol Index multiplied by 3)	122,000	171,810
Goldman Sachs International 144A notes zero %, 7/24/23 (Indexed to the S&P GSCI Excess Return Index multiplied by 3)	190,000	169,848
Goldman Sachs International 144A notes zero %, 3/1/23 (Indexed to the S&P GSCI Excess Return Index multiplied by 3)	195,000	221,414
Citigroup Global Markets Holdings, Inc. sr. notes Ser. N, zero %, 3/7/23 (Indexed to the S&P GSCI Light Energy Excess Return Index multiplied by 3)	310,000	362,673
Total commodity linked notes (cost \$1,616,000)		\$1,705,646

MORTGAGE-BACKED SECURITIES (3.1%)*	Principal amount	Value
Agency collateralized mortgage obligations (2.0%)		
Federal Home Loan Mortgage Corporation		
REMICs IFB Ser. 4752, Class PS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.20%), 4.876%, 11/15/47	\$23,873	\$3,518
REMICs Ser. 4964, Class IA, IO, 4.50%, 3/25/50	58,890	14,547
REMICs Ser. 4193, Class PI, IO, 4.00%, 3/15/43	14,271	2,053
REMICs Ser. 5082, Class IQ, IO, 3.00%, 3/25/51	165,003	25,782
REMICs Ser. 4801, Class IG, IO, 3.00%, 6/15/48	14,688	2,088
REMICs Ser. 4206, Class IP, IO, 3.00%, 12/15/41	14,771	1,534
Federal National Mortgage Association		
REMICs Ser. 16-3, Class NI, IO, 6.00%, 2/25/46	26,181	4,901
REMICs Ser. 16-3, Class MI, IO, 5.50%, 2/25/46	102,819	17,620
REMICs Ser. 15-30, IO, 5.50%, 5/25/45	88,760	15,433
REMICs IFB Ser. 13-130, Class SD, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.60%), 4.976%, 1/25/44	28,800	4,322
REMICs IFB Ser. 17-108, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.15%), 4.526%, 1/25/48	45,794	6,887
REMICs Ser. 17-32, Class IP, IO, 4.50%, 5/25/47	43,453	8,103
REMICs IFB Ser. 17-8, Class SB, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 4.476%, 2/25/47	64,808	7,244
REMICs IFB Ser. 16-65, Class CS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 4.476%, 9/25/46	40,380	4,529
REMICs IFB Ser. 20-16, Class SG, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 4.426%, 3/25/50	44,626	5,928
REMICs IFB Ser. 16-88, Class SK, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.00%), 4.376%, 12/25/46	61,001	7,578

MORTGAGE-BACKED SECURITIES (3.1%)* cont.	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Federal National Mortgage Association		
REMICs IFB Ser. 17-74, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 5.75%), 4.126%, 10/25/47	\$169,678	\$17,153
REMICs Ser. 20-47, Class ID, IO, 4.00%, 7/25/50	87,226	16,614
REMICs Ser. 12-136, Class PI, IO, 3.50%, 11/25/42	7,393	388
REMICs Ser. 20-85, Class IP, IO, 3.00%, 12/25/50	213,694	34,017
REMICs Ser. 12-151, Class PI, IO, 3.00%, 1/25/43	18,195	2,329
REMICs Ser. 13-35, Class PI, IO, 3.00%, 2/25/42	27,840	872
REMICs Ser. 13-31, Class NI, IO, 3.00%, 6/25/41	5,036	60
Government National Mortgage Association		
Ser. 14-184, Class DI, IO, 5.50%, 12/16/44	81,475	16,292
IFB Ser. 10-125, Class SD, ((-1 x ICE LIBOR USD 1 Month) + 6.68%), 5.171%, 1/16/40	97,032	9,626
Ser. 16-150, Class I, IO, 5.00%, 11/20/46	48,163	9,392
Ser. 18-127, Class ID, IO, 5.00%, 7/20/45	19,166	2,810
Ser. 14-146, Class EI, IO, 5.00%, 10/20/44	22,367	4,525
Ser. 14-163, Class NI, IO, 5.00%, 2/20/44	15,414	2,336
Ser. 11-116, Class IB, IO, 5.00%, 10/20/40	82	6
Ser. 10-20, Class UI, IO, 5.00%, 2/20/40	15,078	2,896
Ser. 10-9, Class UI, IO, 5.00%, 1/20/40	21,522	4,560
Ser. 09-121, Class UI, IO, 5.00%, 12/20/39	15,748	3,160
Ser. 15-105, Class LI, IO, 5.00%, 10/20/39	22,833	4,506
IFB Ser. 18-91, Class SJ, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.25%), 4.655%, 7/20/48	50,217	5,515
IFB Ser. 18-104, Class SD, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.20%), 4.605%, 8/20/48	32,021	3,621
IFB Ser. 13-129, Class SN, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.15%), 4.555%, 9/20/43	9,842	1,117
IFB Ser. 20-33, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 4.505%, 3/20/50	97,800	12,769
IFB Ser. 19-121, Class DS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 4.505%, 8/20/49	31,170	3,402
Ser. 18-153, Class AI, IO, 4.50%, 9/16/45	112,664	20,372
Ser. 15-80, Class IA, IO, 4.50%, 6/20/45	30,147	5,519
Ser. 15-167, Class BI, IO, 4.50%, 4/16/45	25,443	5,038
Ser. 13-20, Class QI, IO, 4.50%, 12/16/42	26,973	3,157
Ser. 10-35, Class QI, IO, 4.50%, 3/20/40	5,577	977
IFB Ser. 11-17, Class S, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 4.455%, 2/20/41	21,279	2,655
Ser. 15-99, Class LI, IO, 4.00%, 7/20/45	4,028	435
Ser. 15-53, Class MI, IO, 4.00%, 4/16/45	32,766	6,455
Ser. 15-187, Class JI, IO, 4.00%, 3/20/45	31,110	4,911
Ser. 13-24, Class PI, IO, 4.00%, 11/20/42	11,706	1,463
Ser. 16-75, Class EI, IO, 3.50%, 8/20/45	13,019	1,572
Ser. 15-24, Class IA, IO, 3.50%, 2/20/45	17,983	2,122
Ser. 13-100, Class MI, IO, 3.50%, 2/20/43	4,760	354
Ser. 13-79, Class XI, IO, 3.50%, 11/20/39	11,468	483
Ser. 13-6, Class AI, IO, 3.50%, 8/20/39	42,742	2,846
FRB Ser. 16-H16, Class DI, IO, 3.373%, 6/20/66 ^W	54,950	2,844
Ser. 20-173, Class MI, IO, 2.50%, 11/20/50	199,781	26,159
Ser. 17-H02, Class BI, IO, 2.377%, 1/20/67 ^W	87,586	4,330
Ser. 17-H06, Class BI, IO, 2.286%, 2/20/67 ^W	67,020	4,075
Ser. 15-H24, Class HI, IO, 2.08%, 9/20/65 ^W	107,902	2,361
Ser. 15-H15, Class JI, IO, 1.966%, 6/20/65 ^W	169,986	9,672
Ser. 15-H19, Class NI, IO, 1.919%, 7/20/65 ^W	108,471	5,348
FRB Ser. 15-H16, Class XI, IO, 1.867%, 7/20/65 ^W	57,511	2,962
Ser. 15-H10, Class CI, IO, 1.816%, 4/20/65 ^W	99,387	5,357
Ser. 18-H05, Class AI, IO, 1.796%, 2/20/68 ^W	79,672	5,527
Ser. 15-H09, Class AI, IO, 1.68%, 4/20/65 ^W	122,853	3,594
Ser. 15-H09, Class BI, IO, 1.675%, 3/20/65 ^W	124,438	5,168

MORTGAGE-BACKED SECURITIES (3.1%)* cont.	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Government National Mortgage Association		
Ser. 15-H25, Class AI, IO, 1.619%, 9/20/65 W	\$176,136	\$7,503
Ser. 15-H20, Class CI, IO, 1.529%, 8/20/65 W	105,348	6,342
Ser. 16-H03, Class AI, IO, 1.462%, 1/20/66 W	83,995	2,687
Ser. 15-H25, Class BI, IO, 1.379%, 10/20/65 W	150,227	6,490
Ser. 16-H02, Class BI, IO, 1.339%, 11/20/65 W	188,649	10,696
Ser. 16-H04, Class KI, IO, 1.32%, 2/20/66 W	59,293	1,312
Ser. 14-H21, Class AI, IO, 1.111%, 10/20/64 W	116,282	4,408
		465,227
Commercial mortgage-backed securities (0.2%)		
GS Mortgage Securities Trust 144A FRB		
Ser. 14-GC24, Class D, 4.665%, 9/10/47 W	27,000	18,719
JPMBB Commercial Mortgage Securities Trust 144A FRB Ser. 13-C14, Class E, 4.699%, 8/15/46 W	16,000	12,066
JPMorgan Chase Commercial Mortgage Securities Trust Ser. 06-LDP9, Class AMS, 5.337%, 5/15/47	8,724	8,009
UBS-Barclays Commercial Mortgage Trust 144A Ser. 12-C2, Class F, 5.00%, 5/10/63 W	17,000	2
WF-RBS Commercial Mortgage Trust 144A		
Ser. 11-C3, Class E, 5.00%, 3/15/44 W	30,000	2,358
Ser. 12-C7, Class F, 4.50%, 6/15/45 W	99,439	1
		41,155
Residential mortgage-backed securities (non-agency) (0.9%)		
Citigroup Mortgage Loan Trust, Inc. FRB		
Ser. 07-AR5, Class 1A1A, 3.041%, 4/25/37 W	18,690	16,638
Countrywide Home Loans Mortgage Pass-Through Trust FRB Ser. 05-3, Class 1A1, (ICE LIBOR USD 1 Month + 0.62%), 2.244%, 4/25/35	4,919	4,300
Federal Home Loan Mortgage Corporation 144A		
Structured Agency Credit Risk Trust REMICs FRB Ser. 20-HQA2, Class M2, (ICE LIBOR USD 1 Month + 3.10%), 4.724%, 3/25/50	8,149	8,083
Seasoned Credit Risk Transfer Trust Ser. 19-4, Class M, 4.50%, 2/25/59 W	29,000	26,051
Federal National Mortgage Association		
Connecticut Avenue Securities FRB		
Ser. 16-C02, Class 1B, (ICE LIBOR USD 1 Month + 12.25%), 13.874%, 9/25/28	59,556	67,254
Connecticut Avenue Securities FRB		
Ser. 15-C04, Class 1M2, (ICE LIBOR USD 1 Month + 5.70%), 7.324%, 4/25/28	8,735	9,120
Connecticut Avenue Securities FRB		
Ser. 17-C02, Class 2B1, (ICE LIBOR USD 1 Month + 5.50%), 7.124%, 9/25/29	10,000	10,476
Connecticut Avenue Securities FRB		
Ser. 17-C03, Class 1M2, (ICE LIBOR USD 1 Month + 3.00%), 4.624%, 10/25/29	10,321	10,512
Connecticut Avenue Securities FRB		
Ser. 17-C06, Class 2M2, (ICE LIBOR USD 1 Month + 2.80%), 4.424%, 2/25/30	5,461	5,535
Federal National Mortgage Association 144A		
Connecticut Avenue Securities Trust FRB		
Ser. 20-R01, Class 1B1, (ICE LIBOR USD 1 Month + 3.25%), 4.874%, 1/25/40	10,000	8,667
Connecticut Avenue Securities Trust FRB		
Ser. 22-R02, Class 2M2, (US 30 Day Average SOFR + 3.00%), 3.926%, 1/25/42	22,000	20,274
WaMu Mortgage Pass-Through Certificates Trust		
FRB Ser. 04-AR12, Class A2B, (ICE LIBOR USD 1 Month + 0.92%), 2.544%, 10/25/44	9,942	9,283
		196,193
Total mortgage-backed securities (cost \$888,569)		\$702,575

WARRANTS (0.9%)*†	Expiration date	Strike price	Warrants	Value
Bank of Jiangsu Co., Ltd. 144A (China)	9/28/22	\$0.00	41,600	\$44,213
Chongqing Zhifei Biological Products Co., Ltd. 144A (China)	6/30/23	0.00	2,400	39,769
ENN Natural Gas Co., Ltd. 144A (China)	9/16/22	0.00	17,200	47,729
Inner Mongolia Yuan Xing Energy Co., Ltd. 144A (China)	6/30/23	0.00	9,700	15,218
Shaanxi Coal Industry Co., Ltd. 144A (China)	7/29/22	0.00	3,800	12,014
Shenzhen Mindray Bio-Medical Electronics Co., Ltd. 144A (China)	1/27/23	0.00	700	32,726
Youngor Group Co., Ltd. 144A (China)	7/29/22	0.00	4,100	4,058
Zhuzhou Kibing Group Co., Ltd. 144A (China)	7/29/22	0.00	3,127	5,951
Total warrants (cost \$188,924)				\$201,678

FOREIGN GOVERNMENT AND AGENCY BONDS AND NOTES (0.5%)*	Principal amount	Value
Mexico (Government of) sr. unsec. bonds 5.55%, 1/21/45 (Mexico)	\$35,000	\$32,101
Uruguay (Oriental Republic of) sr. unsec. unsub. notes 4.375%, 10/27/27 (Uruguay)	\$70,000	70,525
Total foreign government and agency bonds and notes (cost \$108,913)		\$102,626

ASSET-BACKED SECURITIES (0.4%)*	Principal amount	Value
1Sharpe Mortgage Trust 144A FRB Ser. 20-1, Class NOTE, (ICE LIBOR USD 3 Month + 2.90%), 3.025%, 7/25/24	\$25,000	\$24,938
Mello Warehouse Securitization Trust 144A FRB Ser. 20-2, Class A, (ICE LIBOR USD 1 Month + 0.80%), 2.424%, 11/25/53	15,000	15,000
Station Place Securitization Trust 144A		
FRB Ser. 22-3, Class A1, (CME TERM SOFR 1 Month + 1.25%), 2.755%, 5/29/23	15,000	15,000
FRB Ser. 22-2, Class A1, (CME TERM SOFR 1 Month + 0.93%), 2.435%, 5/25/23	15,000	15,000
FRB Ser. 21-10, Class A, (ICE LIBOR USD 1 Month + 0.75%), 2.383%, 8/8/22	25,000	25,000
Total asset-backed securities (cost \$95,000)		\$94,938

CORPORATE BONDS AND NOTES (0.3%)*	Principal amount	Value
Enbridge, Inc. sr. unsec. unsub. bonds 4.25%, 12/1/26 (Canada)	\$20,000	\$19,744
Petrobras Global Finance BV company guaranty sr. unsec. unsub. notes 6.25%, 3/17/24 (Brazil)	21,000	21,446
Petroleos Mexicanos company guaranty sr. unsec. unsub. notes 6.70%, 2/16/32 (Mexico)	30,000	22,875
Total corporate bonds and notes (cost \$69,542)		\$64,065

	Principal amount/ shares	Value
SHORT-TERM INVESTMENTS (75.2%)*		
Interest in \$50,000,000 joint tri-party repurchase agreement dated 6/30/2022 with JPMorgan Securities, LLC due 7/1/2022 — maturity value of \$5,511,237 for an effective yield of 1.550% (collateralized by Agency Mortgage-Backed Securities with coupon rates ranging from 1.500% to 4.000% and due dates ranging from 2/1/2027 to 10/1/2056, valued at \$51,002,196)	\$5,511,000	\$5,511,000
Putnam Cash Collateral Pool, LLC 1.61% ^d Shares	1,213,850	1,213,850
Putnam Short Term Investment Fund Class P 1.36% ^L Shares	9,500,000	9,500,000
State Street Institutional U.S. Government Money Market Fund, Premier Class 1.43% ^P Shares	215,000	215,000
U.S. Treasury Bills 1.132%, 8/4/22 # Δ	400,000	399,553
U.S. Treasury Bills 1.147%, 7/28/22 # Δ §	200,000	199,838
U.S. Treasury Bills 0.814%, 7/12/22 # Δ §	100,000	99,971
Total short-term investments (cost \$17,139,234)		\$17,139,212
Total investments (cost \$31,497,503)		\$31,319,384

Key to holding's currency abbreviations

AUD	Australian Dollar
CAD	Canadian Dollar
CHF	Swiss Franc
EUR	Euro
GBP	British Pound
NOK	Norwegian Krone
NZD	New Zealand Dollar
SEK	Swedish Krona

Key to holding's abbreviations

ADR	American Depository Receipts: Represents ownership of foreign securities on deposit with a custodian bank.
FRB	Floating Rate Bonds: The rate shown is the current interest rate at the close of the reporting period. Rates may be subject to a cap or floor. For certain securities, the rate may represent a fixed rate currently in place at the close of the reporting period.
IFB	Inverse Floating Rate Bonds, which are securities that pay interest rates that vary inversely to changes in the market interest rates. As interest rates rise, inverse floaters produce less current income. The rate shown is the current interest rate at the close of the reporting period. Rates may be subject to a cap or floor.
IO	Interest Only
JSC	Joint Stock Company
LIBOR	London Interbank Offered Rate
SOFR	Secured Overnight Financing Rate
SPDR	S&P Depository Receipts
TBA	To Be Announced Commitments

Notes to the fund's portfolio

Unless noted otherwise, the notes to the fund's portfolio are for the close of the fund's reporting period, which ran from January 1, 2022 through June 30, 2022 (the reporting period). Within the following notes to the portfolio, references to "Putnam Management" represent Putnam Investment Management, LLC, the fund's manager, an indirect wholly-owned subsidiary of Putnam Investments, LLC and references to "ASC 820" represent Accounting Standards Codification 820 *Fair Value Measurements and Disclosures*.

* Percentages indicated are based on net assets of \$22,785,786.

††† The value of the commodity linked notes, which are marked to market daily, may be based on a multiple of the performance of the index. The multiple (or leverage) will increase the volatility of the note's value relative to the change in the underlying index.

† This security is non-income-producing.

This security, in part or in entirety, was pledged and segregated with the broker to cover margin requirements for futures contracts at the close of the reporting period. Collateral at period end totaled \$189,817 and is included in Investments in securities on the Statement of assets and liabilities (Notes 1 and 8).

Δ This security, in part or in entirety, was pledged and segregated with the custodian for collateral on certain derivative contracts at the close of the reporting period. Collateral at period end totaled \$417,620 and is included in Investments in securities on the Statement of assets and liabilities (Notes 1 and 8).

§ This security, in part or in entirety, was pledged and segregated with the custodian for collateral on the initial margin on certain centrally cleared derivative contracts at the close of the reporting period. Collateral at period end totaled \$24,985 and is included in Investments in securities on the Statement of assets and liabilities (Notes 1 and 8).

^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 (Note 1).

^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.

^P This security was pledged, or purchased with cash that was pledged, to the fund for collateral on certain derivative contracts and TBA commitments. 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).

^W The rate shown represents the weighted average coupon associated with the underlying mortgage pools. Rates may be subject to a cap or floor.

At the close of the reporting period, the fund maintained liquid assets totaling \$8,402,023 to cover certain derivative contracts and delayed delivery securities.

Unless otherwise noted, the rates quoted in Short-term investments security descriptions represent the weighted average yield to maturity.

Debt obligations are considered secured unless otherwise indicated.

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.

See Note 1 to the financial statements regarding TBA commitments.

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):

United States	91.0%	India	1.0%
China	3.2	Brazil	0.7
South Korea	1.2	Other	1.7
Taiwan	1.2	Total	100.0%

FUTURES CONTRACTS OUTSTANDING at 6/30/22 (Unaudited)	Number of contracts	Notional amount	Value	Expiration date	Unrealized appreciation/ (depreciation)
S&P 500 Index E-Mini (Short)	6	\$1,135,614	\$1,136,850	Sep-22	\$(23,413)
U.S. Treasury Note 2 yr (Short)	11	2,310,172	2,310,172	Sep-22	13,639
U.S. Treasury Note 10 yr (Long)	61	7,230,406	7,230,406	Sep-22	(100,215)
Unrealized appreciation					13,639
Unrealized (depreciation)					(123,628)
Total					\$(109,989)

FORWARD PREMIUM SWAP OPTION CONTRACTS OUTSTANDING at 6/30/22 (Unaudited)

Counterparty	Fixed right or obligation % to receive or (pay)/ Floating rate index/Maturity date	Expiration date/strike	Contract amount	Premium receivable/ (payable)	Unrealized appreciation/ (depreciation)
Bank of America N.A.					
	(1.275)/3 month USD-LIBOR-ICE/Mar-50 (Purchased)	Mar-30/1.275	\$4,900	\$(638)	\$610
	1.275/3 month USD-LIBOR-ICE/Mar-50 (Purchased)	Mar-30/1.275	4,900	(638)	(388)
Citibank, N.A.					
	(2.725)/US SOFR/Jul-32 (Purchased)	Jul-22/2.725	440,100	(8,978)	(2,680)
	2.725/US SOFR/Jul-32 (Purchased)	Jul-22/2.725	440,100	(8,978)	(5,840)
Goldman Sachs International					
	(2.8175)/3 month USD-LIBOR-ICE/Mar-47 (Purchased)	Mar-27/2.8175	1,700	(215)	(10)
	2.8175/3 month USD-LIBOR-ICE/Mar-47 (Purchased)	Mar-27/2.8175	1,700	(215)	(58)
Unrealized appreciation					610
Unrealized (depreciation)					(8,976)
Total					\$(8,366)

TBA SALE COMMITMENTS OUTSTANDING at 6/30/22 (proceeds receivable \$4,705,020) (Unaudited)	Principal amount	Settlement date	Value
Uniform Mortgage-Backed Securities, 5.00%, 7/1/52	\$1,000,000	7/14/22	\$1,020,156
Uniform Mortgage-Backed Securities, 4.50%, 7/1/52	1,000,000	7/14/22	1,003,672
Uniform Mortgage-Backed Securities, 4.00%, 7/1/52	1,000,000	7/14/22	985,781
Uniform Mortgage-Backed Securities, 2.50%, 8/1/52	1,000,000	8/11/22	897,578
Uniform Mortgage-Backed Securities, 2.00%, 8/1/52	1,000,000	8/11/22	866,703
Total			\$4,773,890

CENTRALLY CLEARED INTEREST RATE SWAP CONTRACTS OUTSTANDING at 6/30/22 (Unaudited)

Notional amount	Value	Upfront premium received (paid)	Termination date	Payments made by fund	Payments received by fund	Unrealized appreciation/ (depreciation)
\$31,000	\$3,872	\$4	12/23/31	1.285% — Annually	Secured Overnight Financing Rate — Annually	\$3,723
5,000	357	—	12/24/26	Secured Overnight Financing Rate — Annually	1.096% — Annually	(334)
4,000	500	(2)	12/24/31	1.285% — Annually	Secured Overnight Financing Rate — Annually	478
6,000	1,473	1	12/24/51	Secured Overnight Financing Rate — Annually	1.435% — Annually	(1,438)
9,400	1,503	—	2/24/52	Secured Overnight Financing Rate — Annually	1.86% — Annually	(1,450)
3,700	465	(464)	6/22/52	2.3075% — Semiannually	3 month USD-LIBOR-ICE — Quarterly	1
422,000	612 ^E	1,463	9/21/32	Secured Overnight Financing Rate — Annually	2.835% — Annually	2,075
265,000	1,685 ^E	(546)	9/21/24	Secured Overnight Financing Rate — Annually	3.40% — Annually	1,139
593,000	13,117 ^E	6,713	9/21/27	3.30% — Annually	Secured Overnight Financing Rate — Annually	(6,404)
512,000	16,947 ^E	8,055	9/21/32	3.20% — Annually	Secured Overnight Financing Rate — Annually	(10,245)
210,000	19,263 ^E	(12,584)	9/21/52	Secured Overnight Financing Rate — Annually	3.10% — Annually	6,679

CENTRALLY CLEARED INTEREST RATE SWAP CONTRACTS OUTSTANDING at 6/30/22 (Unaudited) cont.

Notional amount	Value	Upfront premium received (paid)	Termination date	Payments made by fund	Payments received by fund	Unrealized appreciation/ (depreciation)	
\$145,000	\$328	\$(1)	7/1/24	3.1095% — Annually	Secured Overnight Financing Rate — Annually	\$(328)	
AUD	380,000	1,679 ^E	(593)	9/21/32	4.07% — Semiannually	6 month AUD-BBR-BBSW — Semiannually	1,086
CAD	418,000	513 ^E	(1,076)	9/21/32	3.72% — Semiannually	3 month CAD-BA-CDOR — Semiannually	(1,589)
CHF	210,000	1,445 ^E	1,593	9/21/32	Swiss Average Rate Overnight — Annually	1.64% — Annually	148
EUR	148,000	1,419 ^E	(3,577)	9/21/32	2.14% — Annually	6 month EUR-EURIBOR — Semiannually	(2,157)
GBP	131,000	880 ^E	(132)	9/21/32	Sterling Overnight Index Average — Annually	2.41% — Annually	749
NOK	806,000	496 ^E	(472)	9/21/32	3.235% — Annually	6 month NOK-NIBOR-NIBR — Semiannually	23
NZD	175,000	8 ^E	659	9/21/32	3 month NZD-BBR-FRA — Quarterly	4.15% — Semiannually	666
SEK	2,544,000	361 ^E	(1,423)	9/21/32	2.81% — Annually	3 month SEK-STIBOR-SIDE — Quarterly	(1,064)
Total		\$(2,382)				\$(8,242)	

^E Extended effective date.

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/22 (Unaudited)

Swap counterparty/ Notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
Bank of America N.A.						
\$43,933	\$43,415	\$—	6/20/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Sahara International Petrochemical Co. — Monthly	\$(543)
5,426,364	4,986,738	—	6/7/23	(Secured Overnight Financing Rate plus 0.22%) — Monthly	A basket (MLFCF15) of common stocks — Monthly*	(440,632)
5,952	5,717	—	6/20/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Al Rajhi Bank — Monthly	(235)
13,823	13,041	—	6/20/23	(Secured Overnight Financing Rate plus 1.00%) — Monthly	Etihad Etisalat Co. — Monthly	(790)
5,461,477	4,985,846	—	6/7/23	Secured Overnight Financing Rate plus 0.05% — Monthly	Russell 1000 Total Return Index — Monthly	478,785
Barclays Bank PLC						
1,962,730	1,968,870	—	5/26/23	0.10% — Monthly	Buraschi Barclays Adaptive Trend Strategy — Ex-Commodities — Monthly #	6,129
Citibank, N.A.						
13,172	12,298	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	ACI Worldwide Inc. — Monthly	879
33,761	30,637	—	7/5/24	Secured Overnight Financing Rate minus 0.35% — Monthly	Advance Auto Parts — Monthly	3,137
30,396	27,582	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	AKAMI Technologies Inc — Monthly	2,826
32,550	28,637	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Align Technology Inc. — Monthly	3,925

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/22 (Unaudited) cont.

Swap counterparty/ Notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
Citibank, N.A. cont.						
\$51,227	\$41,563	\$—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Array Technologies Inc. — Monthly	\$9,683
35,282	26,064	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	AZEK Co INC. — Monthly	9,231
7,258	7,633	—	7/5/24	Secured Overnight Financing Rate minus 4.50% — Monthly	B&G Foods Inc. — Monthly	(543)
29,081	26,426	—	7/5/24	Secured Overnight Financing Rate — Monthly	Bausch Health Cos Inc. — Monthly	2,667
26,282	24,421	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Beauty Health Co. — Monthly	1,871
24,341	21,104	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Digital Turbine Inc. — Monthly	3,246
20,862	19,847	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Doximity Inc Class A — Monthly	1,023
3,352	1,825	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Ebix Inc. — Monthly	1,528
27,705	26,366	—	7/5/24	Secured Overnight Financing Rate minus 0.35% — Monthly	Energizer Holdings Inc. — Monthly	1,350
12,487	11,478	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	F5 Inc. — Monthly	1,014
35,378	29,450	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Gibraltar Industries Inc. — Monthly	5,941
25,342	24,444	—	7/5/24	Secured Overnight Financing Rate minus 0.35% — Monthly	Healthcare Services Group — Monthly	908
36,043	37,050	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	INSULET Corp — Monthly	(993)
87,037	87,254	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	L3Harris Technologies Inc. — Monthly	(182)
24,140	22,453	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Lumen Technologies Inc. — Monthly	1,697
32,997	27,844	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	MACOM Technology Solutions — Monthly	5,164
41,279	36,733	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Penumbra Inc. — Monthly	4,562
6,243	5,568	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Plug Power Inc. — Monthly	678
35,492	33,896	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Premier Inc. Class A — Monthly	1,610
76,092	64,458	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Ralph Lauren Corp. — Monthly	11,124

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/22 (Unaudited) cont.

Swap counterparty/ Notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
Citibank, N.A. cont.						
\$16,995	\$15,314	\$—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Sanmina-Sci Corp. — Monthly	\$1,687
33,631	32,471	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Syneos Health Inc. — Monthly	1,172
64,336	60,608	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Tesla Inc. — Monthly	3,753
26,908	21,543	—	7/5/24	Secured Overnight Financing Rate minus 0.35% — Monthly	Universal Display Corp. — Monthly	5,375
30,012	23,000	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Wayfair Inc. Class A — Monthly	7,023
7,661	8,054	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	WD-40 Corp. — Monthly	(390)
25,664	22,611	—	7/5/24	Secured Overnight Financing Rate minus 0.35% — Monthly	Whirlpool Corp. — Monthly	3,063
32,216	29,597	—	7/5/24	Secured Overnight Financing Rate minus 0.28% — Monthly	Yeti Holdings Inc. — Monthly	2,632
3,096	3,455	—	7/5/24	Secured Overnight Financing Rate minus 0.75% — Monthly	Zynex Inc. — Monthly	(365)
Credit Suisse International						
1,352,252	1,281,185	—	11/2/22	Secured Overnight Financing Rate minus 0.05% — Monthly	MSCI Daily TR Net Emerging Markets USD — Monthly	72,097
Goldman Sachs International						
5,370,119	5,408,523	—	12/15/25	(Secured Overnight Financing Rate plus 0.40%) — Monthly	A basket (GSGLPWDL) of common stocks — Monthly*	40,413
5,379,010	5,433,181	—	12/15/25	Secured Overnight Financing Rate minus 0.25% — Monthly	A basket (GSGLPWDS) of common stocks — Monthly*	(58,525)
6,799	6,368	—	12/15/25	Secured Overnight Financing Rate minus 2.40% — Monthly	Beyond Meat Inc. — Monthly	374
11,082	10,989	—	12/15/25	Secured Overnight Financing Rate minus 0.35% — Monthly	Bloom Energy Corp. — A — Monthly	92
2,119	2,133	—	12/15/25	(Secured Overnight Financing Rate plus 0.40%) — Monthly	Evrax PLC — Monthly	12
220,615	220,001	—	12/15/25	(0.45%) — Monthly	Goldman Sachs Volatility Carry US Enhanced 3x Excess Return Strategy — Monthly ††	(614)
734,457	732,363	—	12/15/25	(0.45%) — Monthly	Goldman Sachs Volatility Carry US Series 85 Excess Return Strategy — Monthly ††	(2,093)
235,639	244,054	—	12/15/25	(0.30%) — Monthly	Goldman Sachs Volatility of Volatility Carry Excess Return Strategy — Monthly †	8,416
569,168	586,187	—	12/15/25	(0.30%) — Monthly	Goldman Sachs Volatility of Volatility Carry Series 69 Excess Return Strategy — Monthly †	17,020

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/22 (Unaudited) cont.

Swap counterparty/ Notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
Goldman Sachs International cont.						
\$18,008	\$20,020	\$—	12/15/25	Secured Overnight Financing Rate minus 0.35% — Monthly	New Relic Inc. — Monthly	\$(2,014)
4,323	4,296	—	12/15/25	Secured Overnight Financing Rate minus 0.18% — Monthly	Sillajen Inc. — Monthly	(2)
JPMorgan Chase Bank N.A.						
909,347	923,664	—	5/12/23	(Secured Overnight Financing Rate plus 0.41%) — Monthly	A basket (JPCMPTFL) of common stocks — Monthly*	14,483
UBS AG						
6,950,574	6,972,228	—	5/22/23	(Secured Overnight Financing Rate plus 0.35%) — Monthly	A basket (UBSPUSER) of common stocks — Monthly*	21,715
1,336,915	1,266,654	—	11/2/22	Secured Overnight Financing Rate minus 0.07% — Monthly	MSCI Daily TR Net Emerging Markets USD — Monthly	70,819
6,937,631	6,978,264	—	5/22/23	Secured Overnight Financing Rate plus 0.20% — Monthly	S&P 500 Total Return 4 Jan 1988 Index — Monthly	(38,740)
Upfront premium received		—		Unrealized appreciation		829,124
Upfront premium (paid)		—		Unrealized (depreciation)		(546,661)
Total		\$—		Total		\$282,463

† Replicates exposure to the difference between the implied and the realized volatility risk premium in the CBOE Volatility Index option market, with a delta hedge overlay.

†† Replicates exposure to the difference between the implied and the realized volatility risk premium on the S&P500 Index, with a delta hedge overlay.

BEFSBAXD is a trend strategy that invests in global futures (excluding commodities) based on long and short term trends in futures prices.

* The 50 largest components, and any individual component greater than 1% of basket value, are shown below.

ABASKET (MLFCF15) OF COMMON STOCKS

Common stocks	Sector	Shares	Value	Percentage value
Apple, Inc.	Technology	2,430	\$332,257	6.66%
Microsoft Corp.	Technology	886	227,472	4.56%
Alphabet, Inc. Class A	Technology	101	220,441	4.42%
Amazon.com, Inc.	Consumer cyclicals	1,329	141,196	2.83%
Procter & Gamble Co. (The)	Consumer staples	809	116,255	2.33%
Merck & Co., Inc.	Health care	1,115	101,650	2.04%
JPMorgan Chase & Co.	Financials	893	100,536	2.02%
NVIDIA Corp.	Technology	618	93,685	1.88%
Accenture PLC Class A	Technology	313	86,829	1.74%
Eli Lilly and Co.	Health care	241	78,245	1.57%
Qualcomm, Inc.	Technology	595	75,958	1.52%
Abbott Laboratories	Health care	658	71,447	1.43%
Vertex Pharmaceuticals, Inc.	Health care	250	70,544	1.41%
Intuit, Inc.	Technology	175	67,543	1.35%
Philip Morris International, Inc.	Consumer staples	663	65,492	1.31%
Coca-Cola Co. (The)	Consumer staples	957	60,231	1.21%
Booking Holdings, Inc.	Consumer cyclicals	33	56,855	1.14%
General Dynamics Corp.	Capital goods	255	56,319	1.13%
MetLife, Inc.	Financials	897	56,312	1.13%
Citigroup, Inc.	Financials	1,193	54,881	1.10%
AbbVie, Inc.	Health care	358	54,783	1.10%
Walmart, Inc.	Consumer cyclicals	445	54,147	1.09%
Bristol-Myers Squibb Co.	Health care	698	53,724	1.08%
Goldman Sachs Group, Inc. (The)	Financials	173	51,453	1.03%

ABASKET (MLFCF15) OF COMMON STOCKS cont.

Common stocks	Sector	Shares	Value	Percentage value
Adobe, Inc.	Technology	139	\$50,991	1.02%
Synopsys, Inc.	Technology	164	49,827	1.00%
Cisco Systems, Inc./Delaware	Technology	1,155	49,237	0.99%
AutoZone, Inc.	Consumer cyclicals	22	47,687	0.96%
AT&T, Inc.	Communication services	2,262	47,413	0.95%
Exxon Mobil Corp.	Energy	532	45,600	0.91%
O'Reilly Automotive, Inc.	Consumer cyclicals	72	45,567	0.91%
Tesla, Inc.	Consumer cyclicals	66	44,575	0.89%
Cadence Design Systems, Inc.	Technology	294	44,093	0.88%
CSX Corp.	Transportation	1,455	42,269	0.85%
Pfizer, Inc.	Health care	769	40,296	0.81%
Verizon Communications, Inc.	Communication services	783	39,729	0.80%
American Electric Power Co., Inc.	Utilities and power	398	38,197	0.77%
Lockheed Martin Corp.	Capital goods	86	37,096	0.74%
Wells Fargo & Co.	Financials	927	36,313	0.73%
Ulta Beauty, Inc.	Consumer staples	94	36,126	0.72%
Chevron Corp.	Energy	246	35,625	0.71%
Corteva, Inc.	Basic materials	623	33,706	0.68%
Meta Platforms, Inc. Class A	Technology	191	30,744	0.62%
Medtronic PLC	Health care	337	30,209	0.61%
Ford Motor Co.	Consumer cyclicals	2,713	30,197	0.61%
Ameriprise Financial, Inc.	Financials	126	29,911	0.60%
Marathon Oil Corp.	Energy	1,313	29,521	0.59%
CVS Health Corp.	Health care	312	28,912	0.58%
Gartner, Inc.	Consumer cyclicals	118	28,617	0.57%
Fortive Corp.	Capital goods	511	27,777	0.56%

ABASKET (GSGLPWDL) OF COMMON STOCKS

Common stocks	Sector	Shares	Value	Percentage value
FactSet Research Systems, Inc.	Consumer cyclicals	101	\$38,711	0.72%
Keysight Technologies, Inc.	Technology	260	35,869	0.66%
PepsiCo, Inc.	Consumer staples	214	35,636	0.66%
Weyerhaeuser Co.	Basic materials	1,064	35,248	0.65%
Eiffage SA (France)	Basic materials	387	34,708	0.64%
Nitto Denko Corp. (Japan)	Basic materials	535	34,577	0.64%
Merck & Co., Inc.	Health care	376	34,253	0.63%
Hershey Co. (The)	Consumer staples	158	33,940	0.63%
Exxon Mobil Corp.	Energy	393	33,665	0.62%
Diageo PLC (United Kingdom)	Consumer staples	782	33,532	0.62%
Moncler SpA (Italy)	Consumer cyclicals	743	31,784	0.59%
ConocoPhillips	Energy	348	31,273	0.58%
Colgate-Palmolive Co.	Consumer staples	390	31,231	0.58%
SEI Investments Co.	Financials	577	31,143	0.58%
GlaxoSmithKline PLC (United Kingdom)	Health care	1,436	30,797	0.57%
Camden Property Trust	Financials	228	30,636	0.57%
Hartford Financial Services Group, Inc. (The)	Financials	464	30,358	0.56%
Osaka Gas Co., Ltd. (Japan)	Utilities and power	1,588	30,348	0.56%
Dai Nippon Printing Co., Ltd. (Japan)	Consumer cyclicals	1,408	30,329	0.56%
Exor NV (Netherlands)	Financials	467	29,009	0.54%
Aristocrat Leisure, Ltd. (Australia)	Consumer cyclicals	1,200	28,360	0.52%
MSCI, Inc.	Technology	69	28,267	0.52%
Tokyo Gas Co., Ltd. (Japan)	Utilities and power	1,363	28,152	0.52%
W.R. Berkley Corp.	Financials	412	28,134	0.52%
Agilent Technologies, Inc.	Technology	235	27,890	0.52%
Toppan, Inc. (Japan)	Consumer cyclicals	1,653	27,580	0.51%

ABASKET (GSGLPWDL) OF COMMON STOCKS cont.

Common stocks	Sector	Shares	Value	Percentage value
Lockheed Martin Corp.	Capital goods	63	\$27,012	0.50%
Rheinmetall AG (Germany)	Capital goods	117	26,914	0.50%
Baloise Holding AG (Switzerland)	Financials	164	26,757	0.49%
Power Assets Holdings, Ltd. (Hong Kong)	Utilities and power	4,202	26,428	0.49%
Marubeni Corp. (Japan)	Conglomerates	2,871	25,866	0.48%
Repsol SA (Spain)	Energy	1,753	25,745	0.48%
KDDI Corp. (Japan)	Communication services	808	25,514	0.47%
Telefonica SA (Spain)	Communication services	4,941	25,117	0.46%
WH Group, Ltd. (Hong Kong)	Consumer staples	32,512	25,108	0.46%
Avery Dennison Corp.	Basic materials	154	24,931	0.46%
AT&T, Inc.	Communication services	1,185	24,837	0.46%
Fortive Corp.	Capital goods	443	24,115	0.45%
Airbnb, Inc. Class A	Consumer staples	269	23,992	0.44%
Cummins, Inc.	Capital goods	121	23,485	0.43%
Synopsys, Inc.	Technology	77	23,238	0.43%
Pentair PLC	Capital goods	506	23,174	0.43%
Accenture PLC Class A	Technology	83	23,011	0.43%
Edenred (France)	Consumer cyclicals	487	22,913	0.42%
Kirin Holdings Co., Ltd. (Japan)	Consumer staples	1,456	22,910	0.42%
Chevron Corp.	Energy	158	22,862	0.42%
Qualcomm, Inc.	Technology	178	22,772	0.42%
American Financial Group, Inc.	Financials	163	22,659	0.42%
Fairfax Financial Holdings, Ltd. (Canada)	Financials	43	22,549	0.42%
Cadence Design Systems, Inc.	Technology	150	22,514	0.42%

ABASKET (GSGLPWDS) OF COMMON STOCKS

Common stocks	Sector	Shares	Value	Percentage value
Rollins, Inc.	Consumer cyclicals	1,098	\$38,340	0.71%
Moody's Corp.	Consumer cyclicals	137	37,309	0.69%
Realty Income Corp.	Financials	542	36,972	0.68%
Cooper Cos., Inc. (The)	Health care	117	36,761	0.68%
Visa, Inc. Class A	Financials	184	36,205	0.67%
Broadridge Financial Solutions, Inc.	Financials	251	35,775	0.66%
Allianz SE (Germany)	Financials	183	34,892	0.64%
Alexandria Real Estate Equities, Inc.	Financials	239	34,681	0.64%
AXA SA (France)	Financials	1,495	33,942	0.62%
Prudential Financial, Inc.	Financials	350	33,452	0.62%
Welltower, Inc.	Financials	391	32,207	0.59%
Air Liquide SA (France)	Basic materials	230	30,924	0.57%
Toyota Motor Corp. (Japan)	Consumer cyclicals	1,986	30,737	0.57%
Heineken NV (Netherlands)	Consumer staples	335	30,583	0.56%
Ingersoll Rand, Inc.	Capital goods	727	30,579	0.56%
VF Corp.	Consumer cyclicals	690	30,492	0.56%
S&P Global, Inc.	Consumer cyclicals	89	29,923	0.55%
STERIS PLC	Health care	145	29,848	0.55%
Enbridge, Inc. (Canada)	Utilities and power	680	28,734	0.53%
Orange SA (France)	Communication services	2,405	28,283	0.52%
Aeon Co., Ltd. (Japan)	Consumer cyclicals	1,591	27,607	0.51%
SoftBank Corp. (Japan)	Communication services	2,474	27,471	0.51%
Berkshire Hathaway, Inc. Class B	Financials	100	27,187	0.50%
Assicurazioni Generali SpA (Italy)	Financials	1,698	27,098	0.50%
Tower Semiconductor, Ltd. (Israel)	Technology	587	27,088	0.50%
Digital Realty Trust, Inc.	Financials	205	26,660	0.49%
Atmos Energy Corp.	Utilities and power	237	26,530	0.49%
REA Group, Ltd. (Australia)	Technology	338	26,119	0.48%
Pioneer Natural Resources Co.	Energy	115	025,686	0.47%

ABASKET (GSGLPWDS) OF COMMON STOCKS cont.

Common stocks	Sector	Shares	Value	Percentage value
Molson Coors Beverage Co. Class B	Consumer staples	470	\$25,626	0.47%
Bouygues SA (France)	Conglomerates	832	25,593	0.47%
BHP Group, Ltd. (ASE Exchange) (Australia)	Basic materials	890	25,328	0.47%
Henderson Land Development Co., Ltd. (Hong Kong)	Financials	6,757	25,316	0.47%
Takeda Pharmaceutical Co., Ltd. (Japan)	Health care	892	25,113	0.46%
Equifax, Inc.	Consumer cyclicals	137	25,097	0.46%
Catalent, Inc.	Health care	232	24,889	0.46%
Elanco Animal Health, Inc.	Health care	1,257	24,670	0.45%
TransCanada Corp. (Canada)	Energy	475	24,611	0.45%
Otsuka Holdings Company, Ltd. (Japan)	Health care	693	24,601	0.45%
Hess Corp.	Energy	232	24,591	0.45%
Koei Tecmo Holdings Co., Ltd. (Japan)	Technology	761	24,573	0.45%
Imperial Brands PLC (United Kingdom)	Consumer staples	1,092	24,397	0.45%
Naturgy Energy Group SA (Spain)	Utilities and power	846	24,344	0.45%
BNP Paribas SA (France)	Financials	499	23,706	0.44%
J Sainsbury PLC (United Kingdom)	Consumer staples	9,524	23,651	0.44%
T Rowe Price Group, Inc.	Financials	206	23,443	0.43%
Enel SpA (Italy)	Utilities and power	4,271	23,362	0.43%
Kubota Corp. (Japan)	Capital goods	1,560	23,298	0.43%
CGI Group, Inc. Class A (Canada)	Technology	288	22,977	0.42%
Saputo, Inc. (Canada)	Consumer staples	1,051	22,910	0.42%

ABASKET (JPCMPTFL) OF COMMON STOCKS

Common stocks	Sector	Shares	Value	Percentage value
Shoals Technologies Group, Inc. Class A	Energy	1,327	\$21,863	2.37%
CrowdStrike Holdings, Inc. Class A	Technology	103	17,399	1.88%
Bristol-Myers Squibb Co.	Health care	189	14,591	1.58%
Cardinal Health, Inc.	Health care	262	13,708	1.48%
PulteGroup, Inc.	Consumer cyclicals	342	13,558	1.47%
Thor Industries, Inc.	Consumer cyclicals	180	13,417	1.45%
Signify Health, Inc. Class A	Health care	943	13,007	1.41%
Clorox Co. (The)	Consumer cyclicals	91	12,877	1.39%
Etsy, Inc.	Consumer staples	169	12,367	1.34%
Tandem Diabetes Care, Inc.	Health care	206	12,189	1.32%
Coty, Inc. Class A	Consumer staples	1,508	12,078	1.31%
Builders FirstSource, Inc.	Basic materials	224	12,002	1.30%
Block, Inc. Class A	Consumer cyclicals	195	11,988	1.30%
Driven Brands Holdings, Inc.	Consumer cyclicals	424	11,690	1.27%
AT&T, Inc.	Communication services	545	11,415	1.24%
Merck & Co., Inc.	Health care	124	11,327	1.23%
BorgWarner, Inc.	Capital goods	337	11,245	1.22%
Columbia Sportswear Co.	Consumer cyclicals	153	10,919	1.18%
DexCom, Inc.	Health care	146	10,869	1.18%
Olaplex Holdings, Inc.	Consumer staples	748	10,536	1.14%
FIGS, Inc. Class A	Consumer staples	1,125	10,249	1.11%
Gentex Corp.	Capital goods	363	10,156	1.10%
Advanced Micro Devices, Inc.	Technology	133	10,149	1.10%
ChargePoint Holdings, Inc.	Capital goods	710	9,719	1.05%
Ford Motor Co.	Consumer cyclicals	825	9,185	0.99%
BWX Technologies, Inc.	Capital goods	164	9,049	0.98%
Mercury Systems, Inc.	Technology	139	8,937	0.97%
Hanesbrands, Inc.	Consumer cyclicals	867	8,920	0.97%
Carvana Co.	Consumer cyclicals	393	8,872	0.96%
Zoetis, Inc.	Health care	51	8,715	0.94%
Amedisys, Inc.	Health care	80	8,395	0.91%

ABASKET (JPCMPTFL) OF COMMON STOCKS cont.

Common stocks	Sector	Shares	Value	Percentage value
Leggett & Platt, Inc.	Capital goods	236	\$8,172	0.88%
Quanta Services, Inc.	Capital goods	63	7,941	0.86%
Novavax, Inc.	Health care	152	7,800	0.84%
Change Healthcare, Inc.	Health care	330	7,601	0.82%
Timken Co. (The)	Basic materials	142	7,516	0.81%
Trex Co., Inc.	Basic materials	136	7,427	0.80%
CommScope Holding Co., Inc.	Technology	1,207	7,389	0.80%
Dentsply Sirona, Inc.	Health care	204	7,288	0.79%
Monolithic Power Systems, Inc.	Technology	19	7,175	0.78%
Lululemon Athletica, Inc. (Canada)	Consumer cyclicals	26	7,173	0.78%
Newell Brands, Inc.	Consumer staples	375	7,147	0.77%
Harley-Davidson, Inc.	Consumer cyclicals	223	7,056	0.76%
Fluence Energy, Inc.	Energy	735	6,968	0.75%
Lockheed Martin Corp.	Capital goods	16	6,944	0.75%
Carter's, Inc.	Consumer cyclicals	98	6,916	0.75%
Boston Scientific Corp.	Health care	185	6,896	0.75%
Petco Health & Wellness Co., Inc.	Consumer cyclicals	460	6,778	0.73%
T-Mobile US, Inc.	Communication services	50	6,744	0.73%
arista Networks, Inc.	Technology	69	6,489	0.70%

ABASKET (UBSPUSER) OF COMMON STOCKS

Common stocks	Sector	Shares	Value	Percentage value
Microsoft Corp.	Technology	2,146	\$551,206	7.91%
Apple, Inc.	Technology	2,636	360,352	5.17%
Amazon.com, Inc.	Consumer cyclicals	2,080	220,913	3.17%
Alphabet, Inc. Class C	Technology	93	202,799	2.91%
Northrop Grumman Corp.	Capital goods	289	138,228	1.98%
Union Pacific Corp.	Transportation	611	130,232	1.87%
Tesla, Inc.	Consumer cyclicals	177	118,994	1.71%
AbbVie, Inc.	Health care	737	112,860	1.62%
Walmart, Inc.	Consumer cyclicals	928	112,843	1.62%
Danaher Corp.	Health care	444	112,555	1.61%
Mastercard, Inc. Class A	Consumer cyclicals	335	105,735	1.52%
Bank of America Corp.	Financials	3,309	103,006	1.48%
American Tower Corp.	Communication services	401	102,372	1.47%
ConocoPhillips	Energy	1,109	99,616	1.43%
JPMorgan Chase & Co.	Financials	881	99,238	1.42%
Anthem, Inc.	Health care	205	98,888	1.42%
McKesson Corp.	Health care	294	95,849	1.37%
O'Reilly Automotive, Inc.	Consumer cyclicals	148	93,783	1.35%
Merck & Co., Inc.	Health care	1,024	93,323	1.34%
Visa, Inc. Class A	Financials	469	92,423	1.33%
Valero Energy Corp.	Energy	868	92,285	1.32%
Johnson & Johnson	Health care	495	87,816	1.26%
Regeneron Pharmaceuticals, Inc.	Health care	148	87,698	1.26%
NVIDIA Corp.	Technology	563	85,304	1.22%
Procter & Gamble Co. (The)	Consumer staples	564	81,159	1.16%
UnitedHealth Group, Inc.	Health care	154	78,975	1.13%
Thermo Fisher Scientific, Inc.	Health care	145	78,960	1.13%
Citigroup, Inc.	Financials	1,678	77,155	1.11%
Exxon Mobil Corp.	Energy	871	74,599	1.07%
Johnson Controls International PLC	Capital goods	1,501	71,888	1.03%
Adobe, Inc.	Technology	173	63,308	0.91%
Qualcomm, Inc.	Technology	495	63,225	0.91%
NRG Energy, Inc.	Utilities and power	1,636	62,456	0.90%

ABASKET (UBSPUSER) OF COMMON STOCKS cont.

Common stocks	Sector	Shares	Value	Percentage value
Costco Wholesale Corp.	Consumer staples	124	\$59,228	0.85%
Goldman Sachs Group, Inc. (The)	Financials	198	58,850	0.84%
Intuit, Inc.	Technology	152	58,675	0.84%
Corteva, Inc.	Basic materials	1,082	58,606	0.84%
Cadence Design Systems, Inc.	Technology	378	56,670	0.81%
Southwest Airlines Co.	Transportation	1,485	53,636	0.77%
Accenture PLC Class A	Technology	189	52,506	0.75%
IQVIA Holdings, Inc.	Health care	242	52,465	0.75%
Home Depot, Inc. (The)	Consumer cyclicals	184	50,415	0.72%
TJX Cos., Inc. (The)	Consumer cyclicals	895	49,999	0.72%
Raytheon Technologies Corp.	Capital goods	503	48,310	0.69%
Freeport-McMoRan, Inc. (Indonesia)	Basic materials	1,573	46,015	0.66%
HCA Healthcare, Inc.	Health care	267	44,871	0.64%
Nike, Inc. Class B	Consumer cyclicals	436	44,526	0.64%
PNC Financial Services Group, Inc. (The)	Financials	279	44,025	0.63%
Honeywell International, Inc.	Capital goods	250	43,430	0.62%
Deere & Co.	Capital goods	143	42,874	0.61%

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION SOLD at 6/30/22 (Unaudited)

Swap counterparty/ Referenced debt*	Rating***	Upfront premium received (paid)**	Notional amount	Value	Termination date	Payments received by fund	Unrealized appreciation/ (depreciation)
Bank of America N.A.							
CMBX NA BBB-.6 Index	B+/P	\$68	\$898	\$200	5/11/63	300 bp — Monthly	\$(131)
CMBX NA BBB-.6 Index	B+/P	121	1,796	400	5/11/63	300 bp — Monthly	(278)
CMBX NA BBB-.6 Index	B+/P	228	3,593	799	5/11/63	300 bp — Monthly	(570)
CMBX NA BBB-.6 Index	B+/P	247	3,593	799	5/11/63	300 bp — Monthly	(551)
Barclays Bank PLC							
CMBX NA BBB-.6 Index	B+/P	887	7,185	1,599	5/11/63	300 bp — Monthly	(708)
CMBX NA BBB-.7 Index	BB-/P	141	25,000	4,673	1/17/47	300 bp — Monthly	(4,519)
Citigroup Global Markets, Inc.							
CMBX NA BB.6 Index	CCC+/P	2,439	15,636	6,075	5/11/63	500 bp — Monthly	(3,623)
CMBX NA BB.7 Index	B/P	459	9,000	2,840	1/17/47	500 bp — Monthly	(2,373)
CMBX NA BBB-.6 Index	B+/P	25,281	356,578	79,336	5/11/63	300 bp — Monthly	(53,877)
Credit Suisse International							
CMBX NAA.6 Index	BBB+/P	(32)	23,200	2,283	5/11/63	200 bp — Monthly	(2,307)
CMBX NA BBB-.6 Index	B+/P	74,418	711,360	158,272	5/11/63	300 bp — Monthly	(83,498)
CMBX NA BBB-.7 Index	BB-/P	3,952	50,000	9,345	1/17/47	300 bp — Monthly	(5,368)
CMBX NA BBB-.7 Index	BB-/P	7,909	107,000	19,998	1/17/47	300 bp — Monthly	(12,036)
Goldman Sachs International							
CMBX NAA.6 Index	BBB+/P	309	4,800	472	5/11/63	200 bp — Monthly	(162)
CMBX NAA.6 Index	BBB+/P	419	6,400	630	5/11/63	200 bp — Monthly	(208)
CMBX NAA.6 Index	BBB+/P	1,018	16,000	1,574	5/11/63	200 bp — Monthly	(551)
CMBX NAA.6 Index	BBB+/P	3,977	49,600	4,881	5/11/63	200 bp — Monthly	(886)
CMBX NA BBB-.6 Index	B+/P	260	2,695	600	5/11/63	300 bp — Monthly	(338)
CMBX NA BBB-.6 Index	B+/P	259	2,695	600	5/11/63	300 bp — Monthly	(339)
CMBX NA BBB-.6 Index	B+/P	422	4,491	999	5/11/63	300 bp — Monthly	(575)
CMBX NA BBB-.6 Index	B+/P	661	5,389	1,199	5/11/63	300 bp — Monthly	(535)
CMBX NA BBB-.6 Index	B+/P	365	6,287	1,399	5/11/63	300 bp — Monthly	(1,031)
CMBX NA BBB-.6 Index	B+/P	591	6,287	1,399	5/11/63	300 bp — Monthly	(805)
CMBX NA BBB-.6 Index	B+/P	633	7,185	1,599	5/11/63	300 bp — Monthly	(962)
CMBX NA BBB-.6 Index	B+/P	435	8,084	1,799	5/11/63	300 bp — Monthly	(1,359)
CMBX NA BBB-.6 Index	B+/P	990	8,084	1,799	5/11/63	300 bp — Monthly	(804)
CMBX NA BBB-.6 Index	B+/P	1,218	8,982	1,998	5/11/63	300 bp — Monthly	(776)
CMBX NA BBB-.6 Index	B+/P	1,160	12,575	2,798	5/11/63	300 bp — Monthly	(1,631)
CMBX NA BBB-.6 Index	B+/P	1,671	13,473	2,998	5/11/63	300 bp — Monthly	(1,319)

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION SOLD at 6/30/22 (Unaudited) cont.

Swap counterparty/ Referenced debt*	Rating***	Upfront premium received (paid)**	Notional amount	Value	Termination date	Payments received by fund	Unrealized appreciation/ (depreciation)
Goldman Sachs International cont.							
CMBX NA BBB-.6 Index	B+/P	\$2,221	\$14,371	\$3,197	5/11/63	300 bp — Monthly	\$(969)
CMBX NA BBB-.6 Index	B+/P	1,090	14,371	3,197	5/11/63	300 bp — Monthly	(2,100)
CMBX NA BBB-.6 Index	B+/P	878	16,167	3,597	5/11/63	300 bp — Monthly	(2,712)
CMBX NA BBB-.6 Index	B+/P	2,923	24,251	5,396	5/11/63	300 bp — Monthly	(2,460)
CMBX NA BBB-.6 Index	B+/P	3,376	32,335	7,194	5/11/63	300 bp — Monthly	(3,802)
CMBX NA BBB-.6 Index	B+/P	4,360	52,095	11,591	5/11/63	300 bp — Monthly	(7,205)
CMBX NA BBB-.7 Index	BB-/P	695	8,000	1,495	1/17/47	300 bp — Monthly	(796)
CMBX NA BBB-.7 Index	BB-/P	1,448	17,000	3,177	1/17/47	300 bp — Monthly	(1,721)
CMBX NA BBB-.7 Index	BB-/P	1,478	20,000	3,738	1/17/47	300 bp — Monthly	(2,250)
JPMorgan Securities LLC							
CMBX NA BBB-.6 Index	B+/P	168,594	679,025	151,078	5/11/63	300 bp — Monthly	17,856
Merrill Lynch International							
CMBX NA BBB-.6 Index	B+/P	51,465	171,553	38,169	5/11/63	300 bp — Monthly	13,381
Morgan Stanley & Co. International PLC							
CMBX NA BBB-.6 Index	B+/P	4,306	58,382	12,990	5/11/63	300 bp — Monthly	(8,654)
Upfront premium received		373,372					Unrealized appreciation
							31,237
Upfront premium (paid)		(32)					Unrealized (depreciation)
							(214,789)
Total		\$373,340					Total
							\$(183,552)

* Payments related to the referenced debt are made upon a credit default event.

** Upfront premium is based on the difference between the original spread on issue and the market spread on day of execution.

*** Ratings for an underlying index represent the average of the ratings of all the securities included in that index. The Moody's, Standard & Poor's or Fitch ratings are believed to be the most recent ratings available at June 30, 2022. Securities rated by Fitch are indicated by "/F." Securities rated by Putnam are indicated by "/P." The Putnam rating categories are comparable to the Standard & Poor's classifications.

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION PURCHASED at 6/30/22 (Unaudited)

Swap counterparty/ Referenced debt*	Rating***	Upfront premium received (paid)**	Notional amount	Value	Termination date	Payments (paid) by fund	Unrealized appreciation/ (depreciation)
Citigroup Global Markets, Inc.							
CMBX NA BB.10 Index		\$(313)	\$3,000	\$976	11/17/59	(500 bp) — Monthly	\$660
CMBX NA BB.10 Index		(329)	3,000	976	11/17/59	(500 bp) — Monthly	644
CMBX NA BB.11 Index		(1,166)	9,000	1,763	11/18/54	(500 bp) — Monthly	590
CMBX NA BB.11 Index		(283)	3,000	588	11/18/54	(500 bp) — Monthly	302
CMBX NA BB.8 Index		(176)	966	359	10/17/57	(500 bp) — Monthly	182
CMBX NA BB.9 Index		(3,716)	36,000	10,537	9/17/58	(500 bp) — Monthly	6,791
Credit Suisse International							
CMBX NA BB.10 Index		(714)	6,000	1,952	11/17/59	(500 bp) — Monthly	1,233
CMBX NA BB.10 Index		(801)	6,000	1,952	11/17/59	(500 bp) — Monthly	1,146
CMBX NA BB.7 Index		(300)	15,636	6,075	5/11/63	(500 bp) — Monthly	5,762
CMBX NA BB.8 Index		(175)	966	359	10/17/57	(500 bp) — Monthly	183
CMBX NA BB.9 Index		(1,504)	15,000	4,391	9/17/58	(500 bp) — Monthly	2,874
Goldman Sachs International							
CMBX NA BB.7 Index		(9,130)	54,000	17,037	1/17/47	(500 bp) — Monthly	7,862
CMBX NA BB.7 Index		(2,738)	15,000	4,733	1/17/47	(500 bp) — Monthly	1,982
CMBX NA BB.9 Index		(357)	3,000	878	9/17/58	(500 bp) — Monthly	519
CMBX NA BB.9 Index		(361)	3,000	878	9/17/58	(500 bp) — Monthly	515
JPMorgan Securities LLC							
CMBX NA BBB-.7 Index		(44,370)	189,000	35,324	1/17/47	(300 bp) — Monthly	(9,141)
Merrill Lynch International							
CMBX NA BB.10 Index		(341)	6,000	1,952	11/17/59	(500 bp) — Monthly	1,605
CMBX NA BB.11 Index		(3,460)	7,000	1,371	11/18/54	(500 bp) — Monthly	(2,093)
CMBX NA BB.9 Index		(351)	9,000	2,634	9/17/58	(500 bp) — Monthly	2,276

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION PURCHASED at 6/30/22 (Unaudited) cont.

Swap counterparty/ Referenced debt*	Upfront premium received (paid)**	Notional amount	Value	Termi- nation date	Payments (paid) by fund	Unrealized appreciation/ (depreciation)
Morgan Stanley & Co. International PLC						
CMBX NA BBB-.7 Index	\$(3,869)	\$38,000	\$7,102	1/17/47	(300 bp) — Monthly	\$3,211
CMBX NA BB.10 Index	(315)	3,000	976	11/17/59	(500 bp) — Monthly	659
CMBX NA BB.9 Index	(728)	6,000	1,756	9/17/58	(500 bp) — Monthly	1,024
CMBX NA BB.9 Index	(364)	3,000	878	9/17/58	(500 bp) — Monthly	512
Upfront premium received	—					Unrealized appreciation
Upfront premium (paid)	(75,861)					Unrealized (depreciation)
Total	\$(75,861)		Total			40,532
						(11,234)
						\$29,298

* Payments related to the referenced debt are made upon a credit default event.

** Upfront premium is based on the difference between the original spread on issue and the market spread on day of execution.

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*:			
Basic materials	\$194,601	\$—	\$—
Capital goods	20,441	—	—
Communication services	76,415	—	—
Consumer cyclicals	334,260	—	—
Consumer staples	231,734	—	—
Energy	66,073	—	—
Financials	463,892	—	—
Health care	80,258	—	—
Technology	772,630	—	—
Transportation	54,964	—	—
Utilities and power	34,223	—	—
Total common stocks	2,329,491	—	—
Asset-backed securities	—	94,938	—
Commodity linked notes	—	1,705,646	—
Corporate bonds and notes	—	64,065	—
Foreign government and agency bonds and notes	—	102,626	—
Investment companies	1,949,779	—	—
Mortgage-backed securities	—	702,575	—
U.S. government and agency mortgage obligations	—	7,029,374	—
Warrants	—	201,678	—
Short-term investments	215,000	16,924,212	—
Totals by level	\$4,494,270	\$26,825,114	\$—

Other financial instruments:	Valuation inputs		
	Level 1	Level 2	Level 3
Futures contracts	\$(109,989)	\$—	\$—
Forward premium swap option contracts	—	(8,366)	—
TBA sale commitments	—	(4,773,890)	—
Interest rate swap contracts	—	(5,860)	—
Total return swap contracts	—	282,463	—
Credit default contracts	—	(451,733)	—
Totals by level	\$(109,989)	\$(4,957,386)	\$—

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

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

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

Statement of assets and liabilities

6/30/22 (Unaudited)

Assets

Investment in securities, at value, including \$1,187,277 of securities on loan (Notes 1 and 8):	
Unaffiliated issuers (identified cost \$15,272,653)	\$15,094,534
Affiliated issuers (identified cost \$10,713,850) (Note 5)	10,713,850
Repurchase agreements (identified cost \$5,511,000)	5,511,000
Foreign currency (cost \$2,411) (Note 1)	2,403
Dividends, interest and other receivables	49,157
Receivable for shares of the fund sold	215,298
Receivable for investments sold	249,622
Receivable for sales of TBA securities (Note 1)	8,180,790
Receivable from Manager (Note 2)	43,387
Receivable for variation margin on futures contracts (Note 1)	71,484
Receivable for variation margin on centrally cleared swap contracts (Note 1)	18,710
Unrealized appreciation on forward premium swap option contracts (Note 1)	610
Unrealized appreciation on OTC swap contracts (Note 1)	900,893
Premium paid on OTC swap contracts (Note 1)	75,893
Total assets	41,127,631

Liabilities

Payable to custodian	19,868
Payable for investments purchased	440,648
Payable for purchases of TBA securities (Note 1)	10,406,163
Payable for shares of the fund repurchased	5,372
Payable for custodian fees (Note 2)	26,909
Payable for investor servicing fees (Note 2)	2,760
Payable for Trustee compensation and expenses (Note 2)	2,813
Payable for administrative services (Note 2)	78
Payable for distribution fees (Note 2)	4,785
Payable for variation margin on futures contracts (Note 1)	6,188
Payable for variation margin on centrally cleared swap contracts (Note 1)	23,554
Unrealized depreciation on OTC swap contracts (Note 1)	772,684
Premium received on OTC swap contracts (Note 1)	373,372
Unrealized depreciation on forward premium swap option contracts (Note 1)	8,976
TBA sale commitments, at value (proceeds receivable \$4,705,020) (Note 1)	4,773,890
Collateral on securities loaned, at value (Note 1)	1,213,850
Collateral on certain derivative contracts and TBA commitments, at value (Notes 1 and 8)	215,000
Other accrued expenses	44,935
Total liabilities	18,341,845

Net assets **\$22,785,786**

Represented by

Paid-in capital (Unlimited shares authorized) (Notes 1 and 4)	\$23,281,707
Total distributable earnings (Note 1)	(495,921)
Total — Representing net assets applicable to capital shares outstanding	\$22,785,786

Computation of net asset value Class IA

Net assets	\$161,183
Number of shares outstanding	17,377
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$9.28

Computation of net asset value Class IB

Net assets	\$22,624,603
Number of shares outstanding	2,485,962
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$9.10

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

Statement of operations

Six months ended 6/30/22 (Unaudited)

Investment income

Dividends (net of foreign tax of \$11,594)	\$83,753
Interest (including interest income of \$32,770 from investments in affiliated issuers) (Note 5)	76,626
Securities lending (net of expenses) (Notes 1 and 5)	598
Total investment income	160,977

Expenses

Compensation of Manager (Note 2)	83,157
Investor servicing fees (Note 2)	8,199
Custodian fees (Note 2)	29,453
Trustee compensation and expenses (Note 2)	471
Distribution fees (Note 2)	28,836
Administrative services (Note 2)	233
Auditing and tax fees	66,380
Other	9,556
Fees waived and reimbursed by Manager (Note 2)	(92,781)
Total expenses	133,504

Expense reduction (Note 2) (274)

Net expenses **133,230**

Net investment income **27,747**

Realized and unrealized gain (loss)

Net realized gain (loss) on:

Securities from unaffiliated issuers (Notes 1 and 3)	437,525
Foreign currency transactions (Note 1)	(1,945)
Forward currency contracts (Note 1)	4,807
Futures contracts (Note 1)	(467,105)
Swap contracts (Note 1)	348,354
Written options (Note 1)	44,012

Total net realized gain **365,648**

Change in net unrealized appreciation (depreciation) on:

Securities from unaffiliated issuers and TBA sale commitments	(960,892)
Assets and liabilities in foreign currencies	(228)
Forward currency contracts	(4,807)
Futures contracts	(312,099)
Swap contracts	563,311

Total change in net unrealized depreciation **(714,715)**

Net loss on investments **(349,067)**

Net decrease in net assets resulting from operations **\$(321,320)**

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

Statement of changes in net assets

	Six months ended 6/30/22*	Year ended 12/31/21
Decrease in net assets		
Operations:		
Net investment income (loss)	\$27,747	\$(24,261)
Net realized gain on investments and foreign currency transactions	365,648	966,280
Change in net unrealized depreciation of investments and assets and liabilities in foreign currencies	(714,715)	(754,338)
Net increase (decrease) in net assets resulting from operations	(321,320)	187,681
Distributions to shareholders (Note 1):		
From ordinary income		
Net investment income		
Class IA	(3,072)	—
Class IB	(328,658)	—
Increase (decrease) from capital share transactions (Note 4)	170,935	(1,277,972)
Total decrease in net assets	(482,115)	(1,090,291)
Net assets:		
Beginning of period	23,267,901	24,358,192
End of period	\$22,785,786	\$23,267,901

* Unaudited.

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) ^a	Net realized and unrealized gain (loss) on investments	Total from investment operations	From Net investment income	From net realized gain on investments	From return of capital	Total distributions	Net asset value, end of period	Total return at net asset value (%) ^{b,c}	Net assets, end of period (in thousands)	Ratio of expenses to average net assets (%) ^{b,d,e}	Ratio of net investment income (loss) to average net assets (%) ^e	Portfolio turnover (%) ^f
Class IA														
6/30/22†	\$9.55	.03	(.14)	(.11)	(.16)	—	—	(.16)	\$9.28	(1.21)*	\$161	.45*	.29*	1,480*
12/31/21	9.45	.02	.08	.10	—	—	—	—	9.55	1.06	122	.90	.18	1,146
12/31/20	10.18	.07	(.80)	(.73)	—	—	—	—	9.45	(7.17)	58	.90	.75	749
12/31/19	9.61	.22	.35	.57	—	—	—	—	10.18	5.93	69	.90	2.17	476
12/31/18	10.88	.15	(.95)	(.80)	(.06)	(.39)	(.02)	(.47)	9.61	(7.57)	12	.90	1.45	449
12/31/17	10.15	.10	.63	.73	—	—	—	—	10.88	7.19	20	.90	.98	576
Class IB														
6/30/22†	\$9.36	.01	(.14)	(.13)	(.13)	—	—	(.13)	\$9.10	(1.38)*	\$22,625	.57*	.12*	1,480*
12/31/21	9.29	(.01)	.08	.07	—	—	—	—	9.36	.75	23,146	1.15	(.10)	1,146
12/31/20	10.03	.04	(.78)	(.74)	—	—	—	—	9.29	(7.38)	24,300	1.15	.46	749
12/31/19	9.47	.17	.39	.56	—	—	—	—	10.03	5.91	26,383	1.15	1.73	476
12/31/18	10.73	.12	(.94)	(.82)	(.03)	(.39)	(.02)	(.44)	9.47	(7.84)	27,359	1.15	1.22	449
12/31/17	10.03	.08	.62	.70	—	—	—	—	10.73	6.98	33,221	1.15	.76	576

Before April 30, 2018, 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.

* Not annualized.

† Unaudited.

^a Per share net investment income (loss) has been determined on the basis of the weighted average number of shares outstanding during the period.

^b The charges and expenses at the insurance company separate account level are not reflected.

^c Total return assumes dividend reinvestment.

^d Includes amounts paid through expense offset and brokerage/service arrangements, if any (Note 2). Also excludes acquired fund fees and expenses, if any.

^e Reflects an involuntary contractual expense limitation in effect during the period. As a result of such limitation and/or waivers, the expenses of each class reflect a reduction of the following amounts (Note 2):

	Percentage of average net assets
6/30/22	0.39%
12/31/21	0.59
12/31/20	0.61
12/31/19	0.45
12/31/18	0.60
12/31/17	0.45

^f Portfolio turnover includes TBA purchase and sale commitments.

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

Notes to financial statements 6/30/22 (Unaudited)

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, 2022 through June 30, 2022.

Putnam VT Multi-Asset Absolute Return 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 fund seeks a positive total return. In pursuing a positive total return, the fund’s strategies are generally intended to produce lower volatility over a reasonable period of time than has been historically associated with traditional asset classes that have earned similar levels of return over long historical periods. The fund aims to accomplish this objective by combining “directional” strategies and “non-directional” strategies. The directional strategies seek efficient, diversified exposure to investment markets. They also seek to balance risk and provide positive total return by investing, without limit, in many different asset classes, including U.S., international, and emerging markets equity securities (growth or value stocks or both) and fixed-income securities; mortgage- and asset-backed securities; below-investment-grade securities (sometimes referred to as “junk bonds”); inflation-protected securities; commodities; and real estate investment trusts (REITs). The non-directional strategies aim to provide positive returns that have minimal correlation with traditional asset classes, such as equities or equity-like investments. The non-directional strategies are generally implemented using paired long and short positions in an effort to capitalize on long-term market inefficiencies and short-term opportunities. The non-directional strategies may involve the use of active trading strategies, currency transactions and options transactions.

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 equity investments, and, among other factors, credit, interest rate and prepayment risks when deciding whether to buy or sell fixed-income investments. Putnam Management may also take into account general market conditions when making investment decisions. The fund typically uses derivatives, such as futures, options, certain foreign currency transactions, warrants and swap contracts, to a significant extent for hedging purposes and to increase the fund’s exposure to the asset classes and strategies mentioned above, which may create investment leverage.

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.

Market quotations are not considered to be readily available for certain debt obligations (including short-term investments with remaining maturities of 60 days or less) and other investments; such investments are valued on the basis of valuations furnished by an independent pricing service approved by the Trustees or dealers selected by Putnam Management. Such services or dealers determine valuations for normal institutional-size trading units of such securities using methods based on market transactions for comparable securities and various relationships, generally recognized by institutional traders, between securities (which consider such factors as security prices, yields, maturities and ratings). These securities will generally be categorized as Level 2.

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

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. Certain securities may be valued on the basis of a price provided by a single source. 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.

Joint trading account Pursuant to an exemptive order from the SEC, the fund may transfer uninvested cash balances into a joint trading account along with the cash of other registered investment companies and certain other accounts managed by Putnam Management. These balances may be invested in issues of short-term investments having maturities of up to 90 days.

Repurchase agreements The fund, or any joint trading account, through its custodian, receives delivery of the underlying securities, the fair value of which at the time of purchase is required to be in an amount at least equal to the resale price, including accrued interest. Collateral for certain tri-party repurchase agreements, which totaled \$5,621,462 at the end of the reporting period, is held at the counterparty's custodian in a segregated account for the benefit of the fund and the counterparty. Putnam Management is responsible for determining that the value of these underlying securities is at all times at least equal to the resale price, including accrued interest. In the event of default or bankruptcy by the other party to the agreement, retention of the collateral may be subject to legal proceedings.

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, and including amortization and accretion of premiums and discounts on debt securities, 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.

Stripped securities The fund may invest in stripped securities which represent a participation in securities that may be structured in classes with rights to receive different portions of the interest and principal. Interest-only securities receive all of the interest and principal-only securities receive all of the principal. If the interest-only securities experience greater than anticipated prepayments of principal, the fund may fail to recoup fully its initial investment in these securities. Conversely, principal-only securities increase in value if prepayments are greater than anticipated and decline if prepayments are slower than anticipated. The fair value of these securities is highly sensitive to changes in interest rates.

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.

Options contracts The fund uses options contracts to hedge duration and convexity, to isolate prepayment risk, to gain exposure to interest rates, to hedge against changes in values of securities it owns, owned or expects to own, to hedge prepayment risk, to generate additional income for the portfolio, to enhance

returns on securities owned, to enhance the return on a security owned, to gain exposure to securities and to manage downside risks.

The potential risk to the fund is that the change in value of options contracts may not correspond to the change in value of the hedged instruments. In addition, losses may arise from changes in the value of the underlying instruments if there is an illiquid secondary market for the contracts, if interest or exchange rates move unexpectedly or if the counterparty to the contract is unable to perform. Realized gains and losses on purchased options are included in realized gains and losses on investment securities. If a written call option is exercised, the premium originally received is recorded as an addition to sales proceeds. If a written put option is exercised, the premium originally received is recorded as a reduction to the cost of investments.

Exchange-traded options are valued at the last sale price or, if no sales are reported, the last bid price for purchased options and the last ask price for written options. OTC traded options are valued using prices supplied by dealers.

Options on swaps are similar to options on securities except that the premium paid or received is to buy or grant the right to enter into a previously agreed upon interest rate or credit default contract. Forward premium swap option contracts include premiums that have extended settlement dates. The delayed settlement of the premiums is factored into the daily valuation of the option contracts. In the case of interest rate cap and floor contracts, in return for a premium, ongoing payments between two parties are based on interest rates exceeding a specified rate, in the case of a cap contract, or falling below a specified rate in the case of a floor contract.

Written option contracts outstanding at period end, if any, are listed after the fund's portfolio.

Futures contracts The fund uses futures contracts to manage exposure to market risk, to hedge prepayment risk, to hedge interest rate risk, to gain exposure to interest rates and to equitize cash.

The potential risk to the fund is that the change in value of futures contracts may not correspond to the change in value of the hedged instruments. In addition, losses may arise from changes in the value of the underlying instruments, if there is an illiquid secondary market for the contracts, if interest or exchange rates move unexpectedly or if the counterparty to the contract is unable to perform. With futures, there is minimal counterparty credit risk to the fund since futures are exchange traded and the exchange's clearinghouse, as counterparty to all exchange traded futures, guarantees the futures against default. Risks may exceed amounts recognized on the Statement of assets and liabilities. When the contract is closed, the fund records a realized gain or loss equal to the difference between the value of the contract at the time it was opened and the value at the time it was closed.

Futures contracts are valued at the quoted daily settlement prices established by the exchange on which they trade. The fund and the broker agree to exchange an amount of cash equal to the daily fluctuation in the value of the futures contract. Such receipts or payments are known as "variation margin."

Futures contracts outstanding at period end, if any, are listed after the fund's portfolio.

Forward currency contracts The fund buys and sells forward currency contracts, which are agreements between two parties to buy and sell currencies at a set price on a future date. These contracts are used to hedge foreign exchange risk and to gain exposure to currencies.

The U.S. dollar value of forward currency contracts is determined using current forward currency exchange rates supplied by a quotation service. The fair value of the contract will fluctuate with changes in currency exchange rates. The contract is marked to market daily and the change in fair value is recorded as an unrealized gain or loss. The fund records a realized gain or loss equal to the difference between the value of the contract at the time it was opened and the value at the time it was closed when the contract matures or by delivery of the currency. The fund could be exposed to risk if the value of the currency changes unfavorably, if the counterparties to the contracts are unable to meet the terms of their contracts or if the fund is unable to enter into a closing position. Risks may exceed amounts recognized on the Statement of assets and liabilities.

Forward currency contracts outstanding at period end, if any, are listed after the fund's portfolio.

Interest rate swap contracts The fund entered into OTC and/or centrally cleared interest rate swap contracts, which are arrangements between two parties to exchange cash flows based on a notional principal amount, to hedge interest rate risk, to gain exposure on interest rates and to hedge prepayment risk.

An OTC and centrally cleared interest rate swap can be purchased or sold with an upfront premium. For OTC interest rate swap contracts, an upfront payment received by the fund is recorded as a liability on the fund's books. An upfront payment made by the fund is recorded as an asset on the fund's books. OTC and centrally cleared interest rate swap contracts are marked to market daily based upon quotations from an independent pricing service or market makers. Any change is recorded as an unrealized gain or loss on OTC interest rate swaps. Daily fluctuations in the value of centrally cleared interest rate swaps are settled through a central clearing agent and are recorded in variation margin on the Statement of assets and liabilities and recorded as unrealized gain or loss. Payments, including upfront premiums, received or made are recorded as realized gains or losses at the reset date or the closing of the contract. Certain OTC and centrally cleared interest rate swap contracts may include extended effective dates. Payments related to these swap contracts are accrued based on the terms of the contract.

The fund could be exposed to credit or market risk due to unfavorable changes in the fluctuation of interest rates or if the counterparty defaults, in the case of OTC interest rate contracts, or the central clearing agency or a clearing member defaults, in the case of centrally cleared interest rate swap contracts, on its respective obligation to perform under the contract. The fund's maximum risk of loss from counterparty risk or central clearing risk is the fair value of the contract. This risk may be mitigated for OTC interest rate swap contracts by having a master netting arrangement between the fund and the counterparty and for centrally cleared interest rate swap contracts through the daily exchange of variation margin. There is minimal counterparty risk with respect to centrally cleared interest rate swap contracts due to the clearinghouse guarantee fund and other resources that are available in the event of a clearing member default. Risk of loss may exceed amounts recognized on the Statement of assets and liabilities.

OTC and centrally cleared interest rate swap contracts outstanding, including their respective notional amounts at period end, if any, are listed after the fund's portfolio.

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

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

OTC and/or centrally cleared total return swap contracts outstanding, including their respective notional amounts at period end, if any, are listed after the fund's portfolio.

Credit default contracts The fund entered into OTC and/or centrally cleared credit default contracts to hedge credit risk, to hedge market risk and to gain exposure on individual names and/or baskets of securities.

In OTC and centrally cleared credit default contracts, the protection buyer typically makes a periodic stream of payments to a counterparty, the protection seller, in exchange for the right to receive a contingent payment upon the occurrence of a credit event on the reference obligation or all other equally ranked obligations

of the reference entity. Credit events are contract specific but may include bankruptcy, failure to pay, restructuring and obligation acceleration. For OTC credit default contracts, an upfront payment received by the fund is recorded as a liability on the fund's books. An upfront payment made by the fund is recorded as an asset on the fund's books. Centrally cleared credit default contracts provide the same rights to the protection buyer and seller except the payments between parties, including upfront premiums, are settled through a central clearing agent through variation margin payments. Upfront and periodic payments received or paid by the fund for OTC and centrally cleared credit default contracts are recorded as realized gains or losses at the reset date or close of the contract. The OTC and centrally cleared credit default contracts are marked to market daily based upon quotations from an independent pricing service or market makers. Any change in value of OTC credit default contracts is recorded as an unrealized gain or loss. Daily fluctuations in the value of centrally cleared credit default contracts are recorded in variation margin on the Statement of assets and liabilities and recorded as unrealized gain or loss. Upon the occurrence of a credit event, the difference between the par value and fair value of the reference obligation, net of any proportional amount of the upfront payment, is recorded as a realized gain or loss.

In addition to bearing the risk that the credit event will occur, the fund could be exposed to market risk due to unfavorable changes in interest rates or in the price of the underlying security or index or the possibility that the fund may be unable to close out its position at the same time or at the same price as if it had purchased the underlying reference obligations. In certain circumstances, the fund may enter into offsetting OTC and centrally cleared credit default contracts which would mitigate its risk of loss. Risks of loss may exceed amounts recognized on the Statement of assets and liabilities. The fund's maximum risk of loss from counterparty risk, either as the protection seller or as the protection buyer, is the fair value of the contract. This risk may be mitigated for OTC credit default contracts by having a master netting arrangement between the fund and the counterparty and for centrally cleared credit default contracts through the daily exchange of variation margin. Counterparty risk is further mitigated with respect to centrally cleared credit default swap contracts due to the clearinghouse guarantee fund and other resources that are available in the event of a clearing member default. Where the fund is a seller of protection, the maximum potential amount of future payments the fund may be required to make is equal to the notional amount.

OTC and centrally cleared credit default contracts outstanding, including their respective notional amounts at period end, if any, are listed after the fund's portfolio.

TBA commitments The fund may enter into TBA (to be announced) commitments to purchase securities for a fixed unit price at a future date beyond customary settlement time. Although the unit price and par amount have been established, the actual securities have not been specified. However, it is anticipated that the amount of the commitments will not significantly differ from the principal amount. The fund holds, and maintains until settlement date, cash or high-grade debt obligations in an amount sufficient to meet the purchase price, or the fund may enter into offsetting contracts for the forward sale of other securities it owns. Income on the securities will not be earned until settlement date.

The fund may also enter into TBA sale commitments to hedge its portfolio positions, to sell mortgage-backed securities it owns under delayed delivery arrangements or to take a short position in mortgage-backed securities. Proceeds of TBA sale commitments are not received until the contractual settlement date. During the time a TBA sale commitment is outstanding, either equivalent deliverable securities or an offsetting TBA purchase commitment deliverable on or before the sale commitment date are held as "cover" for the transaction, or other liquid assets in an amount equal to the notional value of the TBA sale commitment are segregated. If the TBA sale commitment is closed through the acquisition of an offsetting TBA purchase commitment, the fund realizes a gain or loss. If the fund delivers securities under the commitment, the fund realizes a gain or a loss from the sale of the securities based upon the unit price established at the date the commitment was entered into.

TBA commitments, which are accounted for as purchase and sale transactions, may be considered securities themselves, and involve a risk of loss due to changes in the value of the security prior to the settlement date as well as the risk that the counterparty to the transaction will not perform its obligations. Counterparty risk is mitigated by having a master agreement between the fund and the counterparty.

Unsettled TBA commitments are valued at their fair value according to the procedures described under "Security valuation" above. The contract is marked to market daily and the change in fair value is recorded by the fund as an unrealized gain or loss. Based on market circumstances, Putnam Management will determine whether to take delivery of the underlying securities or to dispose of the TBA commitments prior to settlement.

TBA purchase commitments outstanding at period end, if any, are listed within the fund's portfolio and TBA sale commitments outstanding at period end, if any, are listed after the fund's portfolio.

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

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

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

At the close of the reporting period, the fund had a net liability position of \$368,302 on open derivative contracts subject to the Master Agreements. Collateral pledged by the fund at period end for these agreements totaled \$417,620 and may include amounts related to unsettled agreements.

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 \$1,213,850 and the value of securities loaned amounted to \$1,187,277.

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. It is also the intention of the fund to distribute an amount sufficient to avoid imposition of any excise tax under Section 4982 of the Code.

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.

Under the Regulated Investment Company Modernization Act of 2010, the fund will be permitted to carry forward capital losses incurred for an unlimited period and the carry forwards will retain their character as either short-term or long-term capital losses. At December 31, 2021, the fund had the following capital loss carryovers available, to the extent allowed by the Code, to offset future net capital gain, if any:

Loss carryover			
Short-term	Long-term		Total
\$495,731	\$—		\$495,731

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 aggregate identified cost on a tax basis is \$26,621,111, resulting in gross unrealized appreciation and depreciation of \$1,416,243 and \$1,785,345, respectively, or net unrealized depreciation of \$369,102.

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. Dividend sources are estimated at the time of declaration. Actual results may vary. Any non-taxable return of capital cannot be determined until final tax calculations are completed after the end of the fund's fiscal year. 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.

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 45.2% 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:

0.880%	of the first \$5 billion,
0.830%	of the next \$5 billion,
0.780%	of the next \$10 billion,
0.730%	of the next \$10 billion,
0.680%	of the next \$50 billion,
0.660%	of the next \$50 billion,
0.650%	of the next \$100 billion and
0.645%	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 0.355% of the fund’s average net assets.

Putnam Management has contractually agreed, through April 30, 2024, 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 \$82,761 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, 2024, 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 0.90% of the fund’s average net assets. During the reporting period, the fund’s expenses were reduced by \$10,020 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 0.25% of the average net assets of the equity and asset allocation portion of the fund managed by PIL and 0.20% of the average net assets of the fixed income portion of the fund managed by PIL (prior to July 1, 2022, the annual rate was 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. PAC did not manage any portion of the assets of the fund during the reporting period. If Putnam Management or PIL were to engage the services of PAC, Putnam Management or PIL, as applicable, would pay a quarterly sub-advisory fee to PAC for its services at the annual rate of 0.25% of the average net assets of the equity and asset allocation portion of the fund’s assets for which PAC is engaged as sub-advisor and 0.20% of the average net assets of the fixed income portion of the fund’s assets for which PAC is engaged as sub-advisor (prior to July 1, 2022, the annual rate was 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	\$59
Class IB	8,140
Total	\$8,199

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 \$274 under the expense offset arrangements.

Each Independent Trustee of the fund receives an annual Trustee fee, of which \$17, 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, including TBA commitments (Long-term)	\$122,381,555	\$119,960,220
U.S. government securities (Long-term)	—	—
Total	\$122,381,555	\$119,960,220

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			
	Six months ended 6/30/22		Year ended 12/31/21		Six months ended 6/30/22		Year ended 12/31/21	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
Shares sold	27,983	\$263,873	7,711	\$72,310	321,021	\$2,972,638	324,686	\$2,989,334
Shares issued in connection with reinvestment of distributions	327	3,072	—	—	35,607	328,658	—	—
	28,310	266,945	7,711	72,310	356,628	3,301,296	324,686	2,989,334
Shares repurchased	(23,665)	(223,663)	(1,112)	(10,323)	(344,162)	(3,173,643)	(468,095)	(4,329,293)
Net increase (decrease)	4,645	\$43,282	6,599	\$61,987	12,466	\$127,653	(143,409)	\$(1,339,959)

At the close of the reporting period, Putnam Investments, LLC owned the following shares of the fund:

	Shares owned	Percentage of ownership	Value
Class IA	1,134	6.53%	\$10,524

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 12/31/21	Purchase cost	Sale proceeds	Investment income	Shares outstanding and fair value as of 6/30/22
Short-term investments					
Putnam Cash Collateral Pool, LLC*	\$942,055	\$16,641,625	\$16,369,830	\$891	\$1,213,850
Putnam Short Term Investment Fund**	9,968,560	9,500,000	9,968,560	32,770	9,500,000
Total Short-term investments	\$10,910,615	\$26,141,625	\$26,338,390	\$33,661	\$10,713,850

*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.

The fund may invest in higher-yielding, lower-rated bonds that may have a higher rate of default. The fund may invest a significant portion of its assets in securitized debt instruments, including mortgage-backed and asset-backed investments. The yields and values of these investments are sensitive to changes in interest rates, the rate of principal payments on the underlying assets and the market's perception of the issuers. The market for these investments may be volatile and limited, which may make them difficult to buy or sell.

On July 27, 2017, the United Kingdom's Financial Conduct Authority ("FCA"), which regulates LIBOR, announced its intention to cease compelling banks to provide the quotations needed to sustain LIBOR after 2021. ICE Benchmark Administration, the administrator of LIBOR, ceased publication of most LIBOR settings on a representative basis at the end of 2021 and is expected to cease publication of a majority of U.S. dollar LIBOR settings on a representative basis after June 30, 2023. In addition, global regulators have announced that, with limited exceptions, no new LIBOR-based contracts should be entered into after 2021. LIBOR has historically been a common benchmark interest rate index used to make adjustments to variable-rate loans. It is used throughout global banking and financial industries to determine interest rates for a variety of financial instruments and borrowing arrangements. Actions by regulators have resulted in the establishment of alternative reference rates to LIBOR in most major currencies. Various financial industry groups have been planning for the transition away from LIBOR, but there are obstacles to converting certain longer-term securities and transactions to new reference rates. Markets are developing slowly and questions around liquidity in these rates and how to appropriately adjust these rates to mitigate any economic value transfer at the time of transition remain a significant concern. Neither the effect of the transition process nor its ultimate success can yet be known. The transition process might lead to increased volatility and illiquidity in markets that rely on LIBOR to determine interest rates. It could also lead to a reduction in the value of some LIBOR-based investments and reduce the effectiveness of related transactions, such as hedges. While some LIBOR-based instruments may contemplate a scenario where LIBOR is no longer available by providing for an alternative rate-setting methodology, not all may have such provisions and there may be significant uncertainty regarding the effectiveness of any such alternative methodologies. Since the usefulness of LIBOR as a benchmark could deteriorate during the transition period, these effects could occur at any time.

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.

Note 7 — Summary of derivative activity

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

Purchased equity option contracts (contract amount)	\$—*
Purchased swap option contracts (contract amount)	\$770,000
Written equity option contracts (contract amount)	\$—*
Futures contracts (number of contracts)	100
Forward currency contracts (contract amount)	\$5,600,000
Centrally cleared interest rate swap contracts (notional)	\$5,500,000
OTC total return swap contracts (notional)	\$46,400,000
Centrally cleared total return swap contracts (notional)	\$1,500,000
OTC credit default contracts (notional)	\$3,100,000
Centrally cleared credit default contracts (notional)	\$560,000
Warrants (number of warrants)	110,000

*For the reporting period there were no holdings at the end of each fiscal quarter and the transactions were considered minimal.

The following is a summary of the fair value of derivative instruments as of the close of the reporting period:

Fair value of derivative instruments as of the close of the reporting period

Derivatives not accounted for as hedging instruments under ASC 815	Asset derivatives		Liability derivatives	
	Statement of assets and liabilities location	Fair value	Statement of assets and liabilities location	Fair value
Credit contracts	Receivables, Net assets — Unrealized appreciation	\$105,159	Payables, Net assets — Unrealized depreciation	\$556,892
Equity contracts	Investments, Receivables, Net assets — Unrealized appreciation	1,030,802	Payables, Net assets — Unrealized depreciation	570,074*
Interest rate contracts	Investments, Receivables, Net assets — Unrealized appreciation	45,314*	Payables, Net assets — Unrealized depreciation	146,116*
Total		\$1,181,275		\$1,273,082

*Includes cumulative appreciation/depreciation of futures contracts and/or centrally cleared swaps as reported in the fund's portfolio. Only current day's variation margin is reported within the Statement of assets and liabilities.

The following is a summary of realized and change in unrealized gains or losses of derivative instruments in the Statement of operations for the reporting period (Note 1):

Amount of realized gain or (loss) on derivatives recognized in net gain or (loss) on investments

Derivatives not accounted for as hedging instruments under ASC 815	Warrants	Options	Futures	Forward currency contracts	Swaps	Total
Credit contracts	\$—	\$—	\$—	\$—	\$103,873	\$103,873
Foreign exchange contracts	—	—	—	4,807	—	4,807
Equity contracts	(20,628)	29,249	(151,989)	—	597,992	454,624
Interest rate contracts	—	9,930	(315,116)	—	(353,511)	(658,697)
Total	\$(20,628)	\$39,179	\$(467,105)	\$4,807	\$348,354	\$(95,393)

Change in unrealized appreciation or (depreciation) on derivatives recognized in net gain or (loss) on investments

Derivatives not accounted for as hedging instruments under ASC 815	Warrants	Options	Futures	Forward currency contracts	Swaps	Total
Credit contracts	\$—	\$—	\$—	\$—	\$131,901	\$131,901
Foreign exchange contracts	—	—	—	(4,807)	—	(4,807)
Equity contracts	22,718	—	(112,172)	—	315,644	226,190
Interest rate contracts	—	(6,934)	(199,927)	—	115,766	(91,095)
Total	\$22,718	\$(6,934)	\$(312,099)	\$(4,807)	\$563,311	\$262,189

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Note 8 — Offsetting of financial and derivative assets and liabilities

The following table summarizes any derivatives, repurchase agreements and reverse repurchase agreements, at the end of the reporting period, that are subject to an enforceable master netting agreement or similar agreement. For securities lending transactions or borrowing transactions associated with securities sold short, if any, see Note 1. For financial reporting purposes, the fund does not offset financial assets and financial liabilities that are subject to the master netting agreements in the Statement of assets and liabilities.

	Bank of America N.A.	Barclays Bank PLC	Barclays Capital, Inc. (clearing broker)	BofA Securities, Inc.	Citibank, N.A.	Citigroup Global Markets, Inc.
Assets:						
Centrally cleared interest rate swap contracts [§]	\$—	\$—	\$18,710	\$—	\$—	\$—
OTC Total return swap contracts* [#]	478,785	6,129	—	—	98,769	—
OTC Credit default contracts — protection sold* [#]	—	—	—	—	—	—
OTC Credit default contracts — protection purchased* [#]	—	—	—	—	—	15,152
Futures contracts [§]	—	—	—	9,511	—	—
Forward premium swap option contracts [#]	610	—	—	—	—	—
Repurchase agreements**	—	—	—	—	—	—
Total Assets	\$479,395	\$6,129	\$18,710	\$9,511	\$98,769	\$15,152
Liabilities:						
Centrally cleared interest rate swap contracts [§]	—	—	23,554	—	—	—
OTC Total return swap contracts* [#]	442,200	—	—	—	2,473	—
OTC Credit default contracts — protection sold* [#]	2,194	6,255	—	—	—	88,052
OTC Credit default contracts — protection purchased* [#]	—	—	—	—	—	—
Futures contracts [§]	—	—	—	—	—	—
Forward premium swap option contracts [#]	388	—	—	—	8,520	—
Reverse repurchase agreements	—	—	—	—	—	—
Total Liabilities	\$444,782	\$6,255	\$23,554	\$—	\$10,993	\$88,052
Total Financial and Derivative Net Assets	\$34,613	\$(126)	\$(4,844)	\$9,511	\$87,776	\$(72,900)
Total collateral received (pledged) ^{†##}	\$—	\$—	\$—	\$—	\$87,776	\$(72,900)
Net amount	\$34,613	\$(126)	\$(4,844)	\$9,511	\$—	\$—
<i>Controlled collateral received (including TBA commitments)**</i>	\$—	\$—	\$—	\$—	\$110,000	\$—
<i>Uncontrolled collateral received</i>	\$—	\$—	\$—	\$—	\$—	\$—
<i>Collateral (pledged) (including TBA commitments)**</i>	\$—	\$—	\$—	\$—	\$—	\$(111,895)

* Excludes premiums, if any. Included in unrealized appreciation and depreciation on OTC swap contracts on the Statement of assets and liabilities.

** Included with Investments in securities on the Statement of assets and liabilities.

† Additional collateral may be required from certain brokers based on individual agreements.

Covered by master netting agreement (Note 1).

Any over-collateralization of total financial and derivative net assets is not shown. Collateral may include amounts related to unsettled agreements.

§ Includes current day's variation margin only as reported on the Statement of assets and liabilities, which is not collateralized. Cumulative appreciation/(depreciation) for futures contracts and centrally cleared swap contracts is represented in the tables listed after the fund's portfolio. Collateral pledged for initial margin on futures contracts and centrally cleared swap contracts, which is not included in the table above, amounted to \$189,817 and \$24,985, respectively.

Credit Suisse International	Goldman Sachs International	JPMorgan Chase Bank N.A.	JPMorgan Securities, LLC	Merrill Lynch International	Morgan Stanley & Co. International PLC	UBS AG	Total
\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$18,710
72,097	66,327	14,483	—	—	—	92,534	829,124
—	—	—	—	—	—	—	—
14,692	23,464	—	35,229	5,940	10,682	—	105,159
—	—	—	61,973	—	—	—	71,484
—	—	—	—	—	—	—	610
—	—	—	5,511,000	—	—	—	5,511,000
\$86,789	\$89,791	\$14,483	\$5,608,202	\$5,940	\$10,682	\$92,534	\$6,536,087
—	—	—	—	—	—	—	23,554
—	63,248	—	—	—	—	38,740	546,661
189,456	69,153	—	150,738	38,084	12,960	—	556,892
—	—	—	—	—	—	—	—
—	—	—	6,188	—	—	—	6,188
—	68	—	—	—	—	—	8,976
—	—	—	—	—	—	—	—
\$189,456	\$132,469	\$—	\$156,926	\$38,084	\$12,960	\$38,740	\$1,142,271
\$(102,667)	\$(42,678)	\$14,483	\$5,451,276	\$(32,144)	\$(2,278)	\$53,794	\$5,393,816
\$(102,667)	\$—	\$—	\$5,451,276	\$—	\$—	\$—	
\$—	\$(42,678)	\$14,483	\$—	\$(32,144)	\$(2,278)	\$53,794	
\$—	\$—	\$—	\$105,000	\$—	\$—	\$—	\$215,000
\$—	\$—	\$—	\$5,621,462	\$—	\$—	\$—	\$5,621,462
\$(184,822)	\$—	\$—	\$(120,903)	\$—	\$—	\$—	\$(417,620)

Shareholder meeting results (Unaudited)

June 29, 2022 special meeting

At the meeting, each of the nominees for Trustees was elected, with all funds of the Trust voting together as a single class, as follows:

	Votes for	Votes withheld
Liaquat Ahamed	367,407,973	17,233,651
Barbara M. Baumann	368,543,732	16,097,891
Katinka Domotorffy	370,405,107	14,236,517
Catharine Bond Hill	368,981,588	15,660,035
Kenneth R. Leibler	368,097,861	16,543,762
Jennifer W. Murphy	369,061,225	15,580,398
Marie Pillai	369,504,026	15,137,598
George Putnam, III	368,189,409	16,452,215
Robert L. Reynolds	369,089,761	15,551,863
Manoj P. Singh	369,110,059	15,531,565
Mona K. Sutphen	371,262,782	13,378,842

All tabulations are rounded to the nearest whole number.

Trustee approval of management contract

General conclusions

The Board of Trustees of The Putnam Funds oversees the management of each fund and, as required by law, determines annually whether to approve the continuance of your fund's management contract with Putnam Investment Management, LLC ("Putnam Management"), the sub-management contract with respect to your fund between Putnam Management and its affiliate, Putnam Investments Limited ("PIL"), and the sub-advisory contract among Putnam Management, PIL, and another affiliate, The Putnam Advisory Company ("PAC"). The Board, with the assistance of its Contract Committee, requests and evaluates all information it deems reasonably necessary under the circumstances in connection with its annual contract review. The Contract Committee consists solely of Trustees who are not "interested persons" (as this term is defined in the Investment Company Act of 1940, as amended (the "1940 Act")) of The Putnam Funds ("Independent Trustees").

At the outset of the review process, members of the Board's independent staff and independent legal counsel considered any possible changes to the annual contract review materials furnished to the Contract Committee during the course of the previous year's review and, as applicable, identified those changes to Putnam Management. Following these discussions and in consultation with the Contract Committee, the Independent Trustees' independent legal counsel requested that Putnam Management and its affiliates furnish specified information, together with any additional information that Putnam Management considered relevant, to the Contract Committee. Over the course of several months ending in June 2022, the Contract Committee met on a number of occasions with representatives of Putnam Management, and separately in executive session, to consider the information that Putnam Management provided. Throughout this process, the Contract Committee was assisted by the members of the Board's independent staff and by independent legal counsel for The Putnam Funds and the Independent Trustees.

In May 2022, the Contract Committee met in executive session to discuss and consider its recommendations with respect to the continuance of the contracts. At the Trustees' June 2022 meeting, the Contract Committee met in executive session with the other Independent Trustees to review a summary of the key financial, performance and other data that the Contract Committee considered in the course of its review. The Contract Committee then presented its written report, which summarized the key factors that the Committee had considered and set forth its recommendations. The Contract Committee recommended, and the Independent Trustees approved, the continuance of your fund's management contract and the approval of your fund's amended and restated sub-management and sub-advisory contracts, effective July 1, 2022. (Because PIL and PAC are affiliates of Putnam Management and Putnam Management remains fully responsible for all services provided by PIL and PAC, the Trustees have not attempted to evaluate PIL or PAC as separate entities, and all subsequent references to Putnam Management below should be deemed to include reference to PIL and PAC as necessary or appropriate in the context.)

The Independent Trustees' approval was based on the following conclusions:

- That the fee schedule in effect for your fund represented reasonable compensation in light of the nature and quality of the services being provided to the fund, the fees paid by competitive funds, the costs

incurred by Putnam Management in providing services to the fund and the application of certain reductions and waivers noted below; and

- That the fee schedule in effect for your fund represented an appropriate sharing between fund shareholders and Putnam Management of any economies of scale as may exist in the management of the fund at current asset levels.

These conclusions were based on a comprehensive consideration of all information provided to the Trustees and were not the result of any single factor. Some of the factors that figured particularly in the Trustees' deliberations and how the Trustees considered these factors are described below, although individual Trustees may have evaluated the information presented differently, giving different weights to various factors. It is also important to recognize that the management arrangements for your fund and the other Putnam funds are the result of many years of review and discussion between the Independent Trustees and Putnam Management, that some aspects of the arrangements may receive greater scrutiny in some years than others and that the Trustees' conclusions may be based, in part, on their consideration of fee arrangements in previous years. For example, with certain exceptions primarily involving newer or repositioned funds, the current fee arrangements under the vast majority of the funds' management contracts were first implemented at the beginning of 2010 following extensive review by the Contract Committee and discussions with representatives of Putnam Management, as well as approval by shareholders.

Management fee schedules and total expenses

The Trustees reviewed the management fee schedules in effect for all Putnam funds, including fee levels and breakpoints. Under its management contract, your fund has the benefit of breakpoints in its management fee schedule that provide shareholders with reduced fee levels as assets under management in the Putnam family of funds increase. The Trustees also reviewed the total expenses of each Putnam fund, recognizing that in most cases management fees represented the major, but not the sole, determinant of total costs to fund shareholders. (Two funds have implemented so-called "all-in" management fees covering substantially all routine fund operating costs.) The Trustees considered that the proposed amended and restated sub-management and sub-advisory contracts would lower the sub-management and sub-advisory fees paid by Putnam Management to PIL and PAC, respectively.

In reviewing fees and expenses, the Trustees generally focus their attention on material changes in circumstances — for example, changes in assets under management, changes in a fund's investment strategy, changes in Putnam Management's operating costs or profitability, or changes in competitive practices in the mutual fund industry — that suggest that consideration of fee changes might be warranted. The Trustees concluded that the circumstances did not indicate that changes to the management fee schedule for your fund would be appropriate at this time.

As in the past, the Trustees also focused on the competitiveness of each fund's total expense ratio. The Trustees and Putnam Management and the funds' investor servicing agent, Putnam Investor Services, Inc. ("PSERV"), have implemented expense limitations that were in effect during your fund's fiscal year ending in 2021. These expense limitations were: (i) a contractual expense limitation applicable to specified open-end funds, including your fund, of 25 basis points on investor servicing fees and expenses and (ii) a contractual expense limitation applicable

to specified open-end funds, including your fund, of 20 basis points on so-called “other expenses” (i.e., all expenses exclusive of management fees, distribution fees, investor servicing fees, investment-related expenses, interest, taxes, brokerage commissions, acquired fund fees and expenses and extraordinary expenses). These expense limitations attempt to maintain competitive expense levels for the funds. Most funds had sufficiently low expenses that these expense limitations were not operative during their fiscal years ending in 2021. However, in the case of your fund, the second expense limitation applied during its fiscal year ending in 2021. Putnam Management and PSERV have agreed to maintain these expense limitations until at least April 30, 2024. In addition, Putnam Management contractually agreed to waive fees and/or reimburse expenses of your fund to the extent that expenses of the fund (excluding payments under the fund’s distribution plans, brokerage, interest, taxes, investment-related expenses, extraordinary expenses, and acquired fund fees and expenses) would exceed an annual rate of 0.90% of its average net assets through at least April 30, 2024. During its fiscal year ending in 2021, your fund’s expenses were reduced as a result of this expense limitation. Putnam Management and PSERV’s commitment to these expense limitation arrangements, which were intended to support an effort to have fund expenses meet competitive standards, was an important factor in the Trustees’ decision to approve the continuance of your fund’s management contract and to approve your fund’s amended and restated sub-management and sub-advisory contracts.

The Trustees reviewed comparative fee and expense information for a custom group of competitive funds selected by Broadridge Financial Solutions, Inc. (“Broadridge”). This comparative information included your fund’s percentile ranking for effective management fees and total expenses (excluding any applicable 12b-1 fees), which provides a general indication of your fund’s relative standing. In the custom peer group, your fund ranked in the third quintile in effective management fees (determined for your fund and the other funds in the custom peer group based on fund asset size and the applicable contractual management fee schedule) and in the third quintile in total expenses (excluding any applicable 12b-1 fees) as of December 31, 2021. The first quintile represents the least expensive funds and the fifth quintile the most expensive funds. The fee and expense data reported by Broadridge as of December 31, 2021 reflected the most recent fiscal year-end data available in Broadridge’s database at that time.

In connection with their review of fund management fees and total expenses, the Trustees also reviewed the costs of the services provided and the profits realized by Putnam Management and its affiliates from their contractual relationships with the funds. This information included trends in revenues, expenses and profitability of Putnam Management and its affiliates relating to the investment management, investor servicing and distribution services provided to the funds. In this regard, the Trustees also reviewed an analysis of the revenues, expenses and profitability of Putnam Management and its affiliates, allocated on a fund-by-fund basis, with respect to the funds’ management, distribution and investor servicing contracts. For each fund, the analysis presented information about revenues, expenses and profitability for each of the agreements separately and for the agreements taken together on a combined basis. The Trustees concluded that, at current asset levels, the fee schedules in place for the Putnam funds, including the fee schedule for your fund, represented reasonable compensation for the services being provided and represented an appropriate sharing between fund shareholders and Putnam Management of any economies of scale as may exist in the management of the Putnam funds at that time.

The information examined by the Trustees in connection with their annual contract review for the Putnam funds included information regarding services provided and fees charged by Putnam Management and its affiliates to other clients, including collective investment trusts offered in the defined contribution and defined benefit retirement plan markets, sub-advised mutual funds, private funds sponsored by affiliates of Putnam Management, model-only separately managed accounts and Putnam Management’s exchange-traded funds. This information included, in cases where a product’s investment strategy corresponds with a fund’s strategy, comparisons of those fees with fees charged to the Putnam funds, as well as an assessment of the differences in the services provided to these clients as compared to the services provided to the Putnam funds. The Trustees observed that the differences in fee rates between these clients and the Putnam funds are by no means uniform when examined by individual asset sectors, suggesting that differences in the pricing of investment management services to these types of clients may reflect, among other things, historical competitive forces operating in separate marketplaces. The Trustees considered the fact that in many cases fee rates across different asset classes are higher on average for mutual funds than for other clients, and the Trustees also considered the differences between the services that Putnam Management provides to the Putnam funds and those that it provides to its other clients. The Trustees did not rely on these comparisons to any significant extent in concluding that the management fees paid by your fund are reasonable.

Investment performance

The quality of the investment process provided by Putnam Management represented a major factor in the Trustees’ evaluation of the quality of services provided by Putnam Management under your fund’s management contract. The Trustees were assisted in their review of Putnam Management’s investment process and performance by the work of the investment oversight committees of the Trustees and the full Board of Trustees, which meet on a regular basis with individual portfolio managers and with senior management of Putnam Management’s Investment Division throughout the year. The Trustees concluded that Putnam Management generally provides a high-quality investment process — based on the experience and skills of the individuals assigned to the management of fund portfolios, the resources made available to them and in general Putnam Management’s ability to attract and retain high-quality personnel — but also recognized that this does not guarantee favorable investment results for every fund in every time period.

The Trustees considered that, in the aggregate, the Putnam funds’ performance was generally solid in 2021 against a backdrop of strong U.S. economic and financial market growth. The Trustees considered Putnam Management’s observation that, despite an environment of generally strong growth, there had been various headwinds experienced in 2021. For the one-year period ended December 31, 2021, the Trustees noted that the Putnam funds, on an asset-weighted basis, ranked in the 52nd percentile of their peers as determined by Lipper Inc. (“Lipper”) and, on an asset-weighted-basis, delivered a gross return that trailed their benchmarks by 0.1%. Over the longer-term, the Committee noted that, on an asset-weighted basis, the Putnam funds delivered strong aggregate performance relative to their Lipper peers over the three-, five- and ten-year periods ended December 31, 2021, ranking in the 31st, 29th and 21st percentiles, respectively, and that the funds, in the aggregate, outperformed their benchmarks on a gross basis for each of those periods.

In addition to the performance of the individual Putnam funds, the Trustees considered, as they had in prior years, the performance of The

Putnam Fund complex versus competitor fund complexes. In particular, the Trustees considered The Putnam Fund complex's performance as reported in the Barron's/Lipper Fund Families survey (the "Survey"), which ranks mutual fund companies based on their performance across a variety of asset types. The Trustees noted that The Putnam Fund complex continued to rank highly in the Survey, especially over the longer-term, with The Putnam Funds ranking as the 6th best performing mutual fund complex out of 45 complexes for the ten-year period and 13th out of 49 complexes for the five-year period. The Trustees noted that 2021 marked the fifth consecutive year that The Putnam Funds have ranked in the top ten fund complexes for the ten-year period. The Trustees also considered that The Putnam Fund complex's Survey performance over the one-year period was solid, with The Putnam Funds ranking 27th out of 51 complexes. In addition to the Survey, the Trustees also considered the Putnam funds' ratings assigned by Morningstar Inc., noting that 25 of the funds were four- or five-star rated at the end of 2021 (representing a decrease of one fund year-over-year) and that this included nine funds that had achieved a five-star rating (representing an increase of two funds year-over-year). They also noted, however, the disappointing investment performance of some Putnam funds for periods ended December 31, 2021 and considered information provided by Putnam Management regarding the factors contributing to the underperformance and actions being taken to improve the performance of these particular funds. The Trustees indicated their intention to continue to monitor closely the performance of those funds and evaluate whether additional actions to address areas of underperformance may be warranted.

For purposes of the Trustees' evaluation of the Putnam funds' investment performance, the Trustees generally focus on a competitive industry ranking of each fund's total net return over a one-year, three-year and five-year period. For a number of Putnam funds with relatively unique investment mandates for which Putnam Management informed the Trustees that meaningful competitive performance rankings are not considered to be available, the Trustees evaluated performance based on their total gross and net returns and comparisons of those returns to the returns of selected investment benchmarks. In the case of your fund, the Trustees considered information about your fund's total return and its performance relative to its benchmark over the one-year, three-year and five-year periods ended December 31, 2021. Your fund's class IA shares' return, net of fees and expenses, was positive and exceeded the return of its benchmark over the one-year period ended December 31, 2021, and was negative and trailed the return of its benchmark over the three-year and five-year periods ended December 31, 2021. (When considering performance information, shareholders should be mindful that past performance is not a guarantee of future results.)

The Trustees considered Putnam Management's continued efforts to support fund performance through certain initiatives, including structuring compensation for portfolio managers to enhance accountability for fund performance, emphasizing accountability in the portfolio management process and affirming its commitment to a fundamental-driven approach to investing. The Trustees noted further that Putnam Management had made selective hires and internal promotions in 2021 to strengthen its investment team.

Brokerage and soft-dollar allocations; investor servicing

The Trustees considered various potential benefits that Putnam Management may receive in connection with the services it provides under the management contract with your fund. These include benefits related to brokerage allocation and the use of soft dollars, whereby a portion of the commissions paid by a fund for brokerage may be used to acquire research services that are expected to be useful to Putnam Management in managing the assets of the fund and of other clients. Subject to policies established by the Trustees, soft dollars generated by these means are used predominantly to acquire brokerage and research services (including third-party research and market data) that enhance Putnam Management's investment capabilities and supplement Putnam Management's internal research efforts. The Trustees indicated their continued intent to monitor regulatory and industry developments in this area with the assistance of their Brokerage Committee. In addition, with the assistance of their Brokerage Committee, the Trustees indicated their continued intent to monitor the allocation of the Putnam funds' brokerage in order to ensure that the principle of seeking best price and execution remains paramount in the portfolio trading process.

Putnam Management may also receive benefits from payments that the funds make to Putnam Management's affiliates for investor or distribution services. In conjunction with the annual review of your fund's management, sub-management and sub-advisory contracts, the Trustees reviewed your fund's investor servicing agreement with PSERV and its distributor's contract and distribution plans with Putnam Retail Management Limited Partnership ("PRM"), both of which are affiliates of Putnam Management. The Trustees concluded that the fees payable by the funds to PSERV and PRM, as applicable, for such services are fair and reasonable in relation to the nature and quality of such services, the fees paid by competitive funds and the costs incurred by PSERV and PRM, as applicable, in providing such services. Furthermore, the Trustees were of the view that the investor services provided by PSERV were required for the operation of the funds, and that they were of a quality at least equal to those provided by other providers.

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, 2022, are available in the Individual Investors section of putnam.com and on the Securities and Exchange Commission's (SEC) website at 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.

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.

Liquidity risk management program

Putnam, as the administrator of the fund's liquidity risk management program (appointed by the Board of Trustees), presented the most recent annual report on the program to the Trustees in April 2022. The report covered the structure of the program, including the program documents and related policies and procedures adopted to comply with Rule 22e-4 under the Investment Company Act of 1940, and reviewed the operation of the program from January 2021 through December 2021. The report included a description of the annual liquidity assessment of the fund that Putnam performed in November 2021. The report noted that there were no material compliance exceptions identified under Rule 22e-4 during the period. The report included a review of the governance of the program and the methodology for classification of the fund's investments. The report also included a discussion of liquidity monitoring during the period, including during the market liquidity challenges caused by the Covid-19 pandemic, and the impact those challenges had on the liquidity of the fund's investments. Putnam concluded that the program has been operating effectively and adequately to ensure compliance with Rule 22e-4.

Fund information

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Marketing Services

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Marie Pillai
George Putnam, III
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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.