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Putnam Variable Trust

Putnam VT Diversified Income Fund

Semiannual report

6 | 30 | 23

Message from the Trustees

August 11, 2023

Dear Shareholder:

Stocks have generally advanced through the first half of 2023. Recently, a strong pulse of innovation has been gaining investors' attention, and the technology sector has started to rebound from a difficult 2022. More broadly, international markets are performing well, even though the reopening of China's economy lacked the dynamism many had anticipated.

Bond markets have experienced more ups and downs, but performance has improved compared with 2022. U.S. inflation has been trending downward, while the country's economic growth has remained positive. Against this backdrop, investors are weighing the impact of high borrowing costs, stress in the banking system, and a weaker housing market.

As active managers, your investment team continues to research attractive opportunities for your fund while monitoring risks. This report offers an update on their efforts.

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: Emerging market securities carry illiquidity and volatility risks. Lower-rated bonds may offer higher yields in return for more risk. Funds that invest in government securities are not guaranteed. Mortgage-backed investments, unlike traditional debt investments, 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's investments in mortgage-backed securities and asset-backed securities, and in certain other securities and derivatives, may be or become illiquid. The fund's concentration in an industry group comprising mortgage-backed securities may make the fund's net asset value more susceptible to economic, market, political, and other developments affecting the housing or real estate markets and the servicing of mortgage loans secured by real estate properties. The fund currently has significant investment exposure to commercial mortgage-backed securities. 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. 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. Unlike bonds, funds that invest in bonds have fees and expenses. The value of investments in the fund's portfolio may fall or fail to rise over time for a variety of reasons, including general economic, political, or financial market conditions; investor sentiment and market perceptions; government actions; geopolitical events or changes; and factors related to a specific issuer, geography, industry, or sector. International investing involves currency, economic, and political risks. These and other factors may lead to increased volatility and reduced liquidity in the fund's portfolio holdings.

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

Performance summary (as of 6/30/23)

Investment objective

As high a level of current income as Putnam Investment Management, LLC, (Putnam Management) believes is consistent with preservation of capital

Net asset value June 30, 2023

Class IA: \$4.40	Class IB: \$4.43
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Annualized total return at net asset value (as of 6/30/23)

	Class IA shares (9/15/93)	Class IB shares (4/6/98)	ICE BofA U.S. Treasury Bill Index	Bloomberg U.S. Aggregate Bond Index
6 months	0.01%	-0.14%	2.28%	2.09%
1 year	0.22	-0.14	3.59	-0.94
5 years	-0.45	-0.70	1.56	0.77
10 years	1.65	1.39	1.00	1.52
Life of fund	4.42	4.22	2.42	4.33

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

Recent performance may have benefited from one or more legal settlements.

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

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

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.

All Bloomberg indices are provided by Bloomberg Index Services Limited.

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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. Performance of class IB shares before their inception is derived from the historical performance of class IA shares, adjusted to reflect the higher operating expenses applicable to such shares. For more recent performance, contact your variable annuity provider who can provide you with performance that reflects the charges and expenses at your contract level.

Portfolio composition

Agency pass-throughs	45.2%
Agency collateralized mortgage obligations	13.1%
Commercial mortgage-backed securities	12.5%
Emerging market bonds	12.4%
High-yield corporate bonds	11.6%
Non-agency residential mortgage-backed securities	10.2%
Convertible securities	5.9%
Investment-grade corporate bonds	1.8%
Bank loans	1.8%
Asset-backed securities	0.8%
Cash and net other assets	31.8%

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. Allocations may not total 100% because the table includes the notional value of certain derivatives (the economic value for purposes of calculating periodic payment obligations), in addition to the market value of securities. Holdings and allocations may vary over time.

Credit quality

AAA	13.5%
AA	0.6%
A	1.2%
BBB	8.6%
BB	16.4%
B	6.6%
CCC and below	7.1%
Not rated	14.3%
Cash and net other assets	31.8%

Credit qualities are shown as a percentage of the fund's net assets. A bond rated BBB or higher is considered investment grade. This table reflects the highest security rating provided by one or more of Standard & Poor's, Moody's, and Fitch. Ratings and portfolio credit quality will vary over time. Cash and net other assets, if any, represent the market value weights of cash, derivatives, and short-term securities in the portfolio. The fund itself has not been rated by an independent rating agency. Due to rounding, percentages may not equal 100%.

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 1/1/23 to 6/30/23. 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 12/31/22*†	0.82%	1.07%
Total annual operating expenses for the fiscal year ended 12/31/22†	0.84%	1.09%
Annualized expense ratio for the six-month period ended 6/30/23	0.81%	1.06%

Fiscal year expense information in this table is taken from the most recent prospectus, is subject to change, and may differ from that shown for the annualized expense ratio and in the financial highlights of this report.

Expenses are shown as a percentage of average net assets.

*Reflects Putnam Management's contractual obligation to limit certain fund expenses through 4/30/24.

†Restated to reflect current fees.

Expenses per \$1,000

	Expenses and value for a \$1,000 investment, assuming actual returns for the 6 months ended 6/30/23		Expenses and value for a \$1,000 investment, assuming a hypothetical 5% annualized return for the 6 months ended 6/30/23	
	Class IA	Class IB	Class IA	Class IB
Expenses paid per \$1,000*†	\$4.02	\$5.25	\$4.06	\$5.31
Ending value (after expenses)	\$1,000.10	\$998.60	\$1,020.78	\$1,019.54

*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 6/30/23. 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 **Michael V. Salm** is Chief Investment Officer, Fixed Income. He joined Putnam in 1997 and has been in the investment industry since 1989.

Albert Chan, CFA; Robert L. Davis, CFA; Brett S. Kozlowski, CFA; and Robert L. Salvin 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.

The fund's portfolio 6/30/23 (Unaudited)

U.S. GOVERNMENT AND AGENCY MORTGAGE OBLIGATIONS (174.5%)*	Principal amount	Value
U.S. Government Guaranteed Mortgage Obligations (6.2%)		
Government National Mortgage Association Pass-Through Certificates		
5.50%, 5/20/49	\$16,084	\$16,324
5.00%, with due dates from 5/20/49 to 3/20/50	100,011	99,055
4.50%, TBA, 7/1/53	4,000,000	3,859,458
4.00%, TBA, 7/1/53	3,000,000	2,836,583
3.50%, with due dates from 9/20/49 to 11/20/49	144,008	133,674

U.S. Government Agency Mortgage Obligations (168.3%)	Principal amount	Value
Federal National Mortgage Association Pass-Through Certificates		
5.00%, with due dates from 1/1/49 to 5/1/49	37,347	36,655
4.50%, 5/1/49	6,853	6,670
Uniform Mortgage-Backed Securities		
6.00%, TBA, 8/1/53	7,000,000	7,059,608
6.00%, TBA, 7/1/53	7,000,000	7,061,796
5.50%, TBA, 8/1/53	29,000,000	28,861,774
5.50%, TBA, 7/1/53	58,000,000	57,719,048
5.00%, TBA, 8/1/53	7,000,000	6,860,547
5.00%, TBA, 7/1/53	40,000,000	39,189,064
4.50%, TBA, 8/1/53	1,000,000	961,563
4.50%, TBA, 7/1/53	16,000,000	15,382,496
4.00%, TBA, 7/1/53	2,000,000	1,876,796
3.50%, TBA, 8/1/53	3,000,000	2,735,625
3.50%, TBA, 7/1/53	3,000,000	2,733,633
3.00%, TBA, 7/1/53	10,000,000	8,773,440
2.50%, TBA, 8/1/53	1,000,000	848,672
2.50%, TBA, 7/1/53	10,000,000	8,478,910

Total U.S. government and agency mortgage obligations (cost \$196,445,476) \$195,531,391

U.S. TREASURY OBLIGATIONS (0.2%)*	Principal amount	Value
U.S. Treasury Notes		
1.625%, 5/15/31 ⁱ	\$135,000	\$115,007
0.25%, 7/31/25 ⁱ	120,000	109,292

Total U.S. treasury obligations (cost \$224,299) \$224,299

MORTGAGE-BACKED SECURITIES (35.0%)*	Principal amount	Value
Agency collateralized mortgage obligations (13.0%)		
Federal Home Loan Mortgage Corporation		
REMICs Ser. 4077, Class IK, IO, 5.00%, 7/15/42	\$267,853	\$53,249
REMICs Ser. 5091, Class IL, IO, 4.50%, 3/25/51	2,382,574	456,105
REMICs Ser. 5093, Class YI, IO, 4.50%, 12/25/50	1,774,444	380,086
REMICs Ser. 5024, Class HI, IO, 4.50%, 10/25/50	2,505,608	530,189
REMICs Ser. 4000, Class PI, IO, 4.50%, 1/15/42	164,031	23,678
REMICs Ser. 4024, Class PI, IO, 4.50%, 12/15/41	296,334	38,486
REMICs Ser. 5134, Class IC, IO, 4.00%, 8/25/51	3,179,249	572,732
REMICs Ser. 4546, Class TI, IO, 4.00%, 12/15/45	235,101	42,565
REMICs Ser. 4425, IO, 4.00%, 1/15/45	734,593	107,060
REMICs Ser. 4452, Class QI, IO, 4.00%, 11/15/44	686,175	133,116
REMICs Ser. 4105, Class HI, IO, 3.50%, 7/15/41	239,660	17,375
Strips Ser. 304, Class C37, IO, 3.50%, 12/15/27	153,745	5,311
REMICs Ser. 4210, Class PI, IO, 3.00%, 12/15/41	60,153	455

MORTGAGE-BACKED SECURITIES (35.0%)* cont.	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Federal Home Loan Mortgage Corporation		
REMICs IFB Ser. 5011, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.25%), 1.10%, 9/25/50	\$2,286,523	\$283,232
REMICs IFB Ser. 4742, Class S, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.20%), 1.007%, 12/15/47	498,310	53,967
REMICs IFB Ser. 5002, Class SJ, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.95%, 7/25/50	2,261,460	257,214
REMICs IFB Ser. 4839, Class WS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.907%, 8/15/56	1,802,162	214,998
REMICs IFB Ser. 4678, Class MS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.907%, 4/15/47	447,425	51,397
REMICs IFB Ser. 4945, Class SL, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.90%, 1/25/50	1,725,654	154,939
Structured Pass-Through Certificates FRB Ser. 57, Class 1AX, IO, 0.381%, 7/25/43 ^W	539,392	5,933
Federal National Mortgage Association		
REMICs Ser. 16-3, Class NI, IO, 6.00%, 2/25/46	587,266	99,301
Interest Strip Ser. 374, Class 6, IO, 5.50%, 8/25/36	46,983	7,671
REMICs Ser. 15-30, IO, 5.50%, 5/25/45	939,164	144,547
Interest Strip Ser. 378, Class 19, IO, 5.00%, 6/25/35	143,825	20,255
REMICs Ser. 20-76, Class BI, IO, 4.50%, 11/25/50	2,318,835	412,935
REMICs Ser. 12-127, Class BI, IO, 4.50%, 11/25/42	114,426	21,878
REMICs Ser. 15-88, Class QI, IO, 4.00%, 10/25/44	155,977	10,042
REMICs Ser. 15-83, IO, 4.00%, 10/25/43	676,457	100,888
REMICs Ser. 13-41, Class IP, IO, 4.00%, 5/25/43	387,838	55,069
REMICs Ser. 13-44, Class PI, IO, 4.00%, 1/25/43	279,999	38,427
REMICs IFB Ser. 10-35, Class SG, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.40%), 1.25%, 4/25/40	260,944	26,405
REMICs IFB Ser. 18-20, Class SB, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.25%), 1.10%, 3/25/48	1,357,869	109,173
REMICs IFB Ser. 18-38, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.20%), 1.05%, 6/25/48	1,754,241	182,723
REMICs IFB Ser. 15-42, Class LS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.20%), 1.05%, 6/25/45	1,381,791	70,748
REMICs IFB Ser. 17-32, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.15%), 1.00%, 5/25/47	2,755,326	254,757
REMICs IFB Ser. 16-96, Class ST, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.95%, 12/25/46	1,037,029	69,819
REMICs IFB Ser. 20-12, Class SK, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.90%, 3/25/50	1,343,007	139,968
REMICs IFB Ser. 19-43, Class JS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.90%, 8/25/49	1,199,698	88,690
Grantor Trust Ser. 00-T6, IO, 0.717%, 11/25/40 ^W	388,800	1,866
Government National Mortgage Association		
Ser. 16-42, IO, 5.00%, 2/20/46	495,210	92,269
Ser. 18-127, Class IC, IO, 5.00%, 10/20/44	898,235	202,821
Ser. 14-76, IO, 5.00%, 5/20/44	270,874	53,367
Ser. 12-146, IO, 5.00%, 12/20/42	455,956	84,671
Ser. 10-35, Class UI, IO, 5.00%, 3/20/40	148,245	30,166
Ser. 10-20, Class UI, IO, 5.00%, 2/20/40	224,751	44,837
Ser. 10-9, Class UI, IO, 5.00%, 1/20/40	984,857	199,434
Ser. 09-121, Class UI, IO, 5.00%, 12/20/39	562,396	110,741
Ser. 17-26, Class MI, IO, 5.00%, 11/20/39	870,752	170,065
Ser. 15-79, Class GI, IO, 5.00%, 10/20/39	182,945	35,462
Ser. 18-94, Class AI, IO, 4.50%, 7/20/48	1,185,584	225,923
Ser. 13-34, Class IH, IO, 4.50%, 3/20/43	650,812	125,813
Ser. 17-42, Class IC, IO, 4.50%, 8/20/41	362,100	69,919

MORTGAGE-BACKED SECURITIES (35.0%)* cont.	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Government National Mortgage Association		
Ser. 10-35, Class AI, IO, 4.50%, 3/20/40	\$417,097	\$67,604
Ser. 10-35, Class QI, IO, 4.50%, 3/20/40	415,128	71,707
Ser. 15-186, Class AI, IO, 4.00%, 12/20/45	1,121,739	173,084
Ser. 15-64, Class YI, IO, 4.00%, 11/20/44	383,270	44,915
Ser. 17-63, Class PI, IO, 4.00%, 12/20/43	147,482	5,206
Ser. 13-165, Class IL, IO, 4.00%, 3/20/43	259,441	39,710
Ser. 21-156, IO, 3.50%, 7/20/51	3,363,334	575,671
Ser. 20-167, Class PI, IO, 3.50%, 11/20/50	2,701,321	485,930
Ser. 16-75, Class EI, IO, 3.50%, 8/20/45	320,089	49,753
Ser. 13-28, IO, 3.50%, 2/20/43	146,635	19,922
Ser. 13-54, Class JI, IO, 3.50%, 2/20/43	214,784	23,485
Ser. 12-140, Class IC, IO, 3.50%, 11/20/42	704,320	116,109
Ser. 12-128, Class IA, IO, 3.50%, 10/20/42	802,093	124,771
Ser. 21-59, Class IP, IO, 3.00%, 4/20/51	3,021,566	444,744
Ser. 16-H16, Class EI, IO, 2.238%, 6/20/66 W	1,453,862	50,304
Ser. 16-H03, Class DI, IO, 2.047%, 12/20/65 W	1,886,867	84,164
Ser. 15-H25, Class EI, IO, 1.872%, 10/20/65 W	1,527,978	64,175
FRB Ser. 15-H08, Class CI, IO, 1.786%, 3/20/65 W	1,038,810	35,112
Ser. 15-H23, Class BI, IO, 1.727%, 9/20/65 W	2,107,768	69,978
Ser. 16-H24, Class CI, IO, 1.665%, 10/20/66 W	1,465,722	53,059
Ser. 16-H14, IO, 1.653%, 6/20/66 W	1,026,738	29,912
Ser. 13-H08, Class CI, IO, 1.596%, 2/20/63 W	1,219,973	41,235
Ser. 15-H25, Class AI, IO, 1.581%, 9/20/65 W	3,172,290	97,389
Ser. 14-H21, Class BI, IO, 1.515%, 10/20/64 W	1,735,062	55,175
Ser. 17-H16, Class JI, IO, 1.296%, 8/20/67 W	2,353,102	109,891
IFB Ser. 21-98, Class SK, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.30%), 1.143%, 6/20/51	1,829,814	207,721
IFB Ser. 21-77, Class SM, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.30%), 1.143%, 5/20/51	2,600,717	308,206
IFB Ser. 21-59, Class SQ, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.30%), 1.143%, 4/20/51	2,048,311	212,447
IFB Ser. 20-133, Class CS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.30%), 1.143%, 9/20/50	2,397,092	297,501
FRB Ser. 21-116, Class ES, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.20%), 1.042%, 11/20/47	2,801,069	369,028
IFB Ser. 14-60, Class SD, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.18%), 1.023%, 4/20/44	1,389,427	133,844
IFB Ser. 20-97, Class QS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.15%), 0.993%, 7/20/50	2,255,756	277,018
IFB Ser. 18-139, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.15%), 0.993%, 10/20/48	1,243,893	100,884
IFB Ser. 20-63, Class PS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.943%, 4/20/50	2,374,262	266,146
IFB Ser. 19-96, Class SY, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.943%, 8/20/49	3,861,744	357,211
IFB Ser. 19-83, Class SY, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.943%, 7/20/49	1,642,931	139,140
IFB Ser. 19-89, Class PS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.943%, 7/20/49	2,490,527	208,178
IFB Ser. 20-7, Class SK, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.904%, 1/20/50	1,242,261	114,654
IFB Ser. 19-152, Class ES, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.893%, 12/20/49	1,023,333	90,060
IFB Ser. 20-63, Class AS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.00%), 0.843%, 8/20/43	1,975,824	173,082
Ser. 17-H16, Class IG, IO, 0.528%, 7/20/67 W	2,134,507	53,461
Ser. 17-H11, Class DI, IO, 0.476%, 5/20/67 W	1,379,606	68,958
IFB Ser. 14-119, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 5.60%), 0.454%, 8/20/44	601,505	45,491
Ser. 17-H12, Class QI, IO, 0.147%, 5/20/67 W	1,482,298	48,410

MORTGAGE-BACKED SECURITIES (35.0%)* cont.	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Government National Mortgage Association		
Ser. 16-H09, Class BI, IO, 0.105%, 4/20/66 W	\$2,733,759	\$126,300
Ser. 16-H24, Class JI, IO, 0.081%, 11/20/66 W	1,805,867	85,443
Ser. 17-H11, Class TI, IO, 0.079%, 4/20/67 W	1,180,977	65,426
Ser. 16-H17, Class KI, IO, 0.063%, 7/20/66 W	821,487	33,984
Ser. 15-H10, Class BI, IO, 0.047%, 4/20/65 W	1,319,604	52,520
Ser. 18-H05, Class AI, IO, 0.036%, 2/20/68 W	1,619,976	79,227
Ser. 18-H05, Class BI, IO, 0.036%, 2/20/68 W	1,875,426	87,618
Ser. 16-H03, Class AI, IO, 0.034%, 1/20/66 W	1,351,562	43,918
Ser. 17-H02, Class BI, IO, 0.031%, 1/20/67 W	1,494,611	45,344
Ser. 16-H22, Class AI, IO, 0.029%, 10/20/66 W	1,744,994	56,313
Ser. 16-H23, Class NI, IO, 0.026%, 10/20/66 W	5,226,133	198,593
Ser. 17-H10, Class MI, IO, 0.021%, 4/20/67 W	2,799,718	82,032
Ser. 18-H03, Class XI, IO, 0.019%, 2/20/68 W	1,779,280	78,644
Ser. 17-H08, Class NI, IO, 0.019%, 3/20/67 W	2,073,771	66,983
Ser. 17-H06, Class BI, IO, 0.015%, 2/20/67 W	1,599,694	50,968
Ser. 17-H09, IO, 0.014%, 4/20/67 W	2,089,195	54,027
Ser. 15-H24, Class AI, IO, 0.014%, 9/20/65 W	1,781,821	45,661
Ser. 16-H06, Class DI, IO, 0.009%, 7/20/65 W	2,691,955	52,175
Ser. 16-H06, Class CI, IO, 0.002%, 2/20/66 W	2,954,941	44,292
Ser. 16-H10, Class AI, IO, zero %, 4/20/66 W	2,853,164	45,876
		14,482,526
Commercial mortgage-backed securities (11.8%)		
Barclays Commercial Mortgage Trust 144A FRB		
Ser. 19-C5, Class F, 2.729%, 11/15/52 W	247,000	127,816
Benchmark Mortgage Trust 144A FRB Ser. 18-B3, Class D, 3.176%, 4/10/51 W		
	346,000	214,214
BWAY Mortgage Trust 144A FRB Ser. 22-26BW, Class F, 5.029%, 2/10/44 W		
	420,000	258,005
CD Commercial Mortgage Trust FRB Ser. 17-CD3, Class C, 4.697%, 2/10/50 W		
	319,000	191,299
CD Commercial Mortgage Trust 144A		
Ser. 17-CD3, Class D, 3.25%, 2/10/50	460,000	210,493
CFCRE Commercial Mortgage Trust 144A		
FRB Ser. 11-C2, Class F, 5.25%, 12/15/47 W	644,000	412,160
FRB Ser. 11-C2, Class E, 5.249%, 12/15/47 W	326,000	262,372
COMM Mortgage Trust		
FRB Ser. 14-CR16, Class C, 5.08%, 4/10/47 W	283,000	259,235
Ser. 12-LC4, Class B, 4.934%, 12/10/44 W	156,622	144,288
Ser. 13-CR12, Class AM, 4.30%, 10/10/46	276,000	241,652
Ser. 15-DC1, Class B, 4.035%, 2/10/48 W	264,000	228,148
COMM Mortgage Trust 144A		
FRB Ser. 14-CR17, Class D, 5.006%, 5/10/47 W	182,000	157,626
FRB Ser. 14-UBS3, Class D, 4.923%, 6/10/47 W	116,000	77,599
Ser. 12-CR3, Class F, 4.75%, 10/15/45 W	700,000	158,195
FRB Ser. 13-CR9, Class D, 4.59%, 7/10/45 W	289,000	275,236
FRB Ser. 15-LC19, Class E, 4.355%, 2/10/48 W	257,000	195,640
Credit Suisse Mortgage Trust 144A FRB		
Ser. 22-NWPT, Class A, 8.29%, 9/9/24	158,000	157,834
CSAIL Commercial Mortgage Trust 144A FRB		
Ser. 15-C1, Class D, 3.893%, 4/15/50 W	307,000	180,054
Federal Home Loan Mortgage Corporation		
144A Multifamily Structured Credit Risk FRB		
Ser. 21-MN3, Class M2, 9.067%, 11/25/51	460,000	417,279
GS Mortgage Securities Corp., II 144A		
FRB Ser. 13-GC10, Class D, 4.688%, 2/10/46 W	237,000	200,122
Ser. 13-GC10, Class C, 4.285%, 2/10/46 W	132,683	127,119
GS Mortgage Securities Trust Ser. 14-GC18, Class B, 4.885%, 1/10/47 W		
	265,000	217,715
GS Mortgage Securities Trust 144A Ser. 19-GC38, Class D, 3.00%, 2/10/52		
	330,000	209,617

MORTGAGE-BACKED SECURITIES (35.0%)* cont.	Principal amount	Value
Commercial mortgage-backed securities cont.		
JPMBB Commercial Mortgage Securities Trust 144A		
FRB Ser. 14-C18, Class D, 4.893%, 2/15/47 W	\$787,000	\$519,459
FRB Ser. 14-C19, Class C19, 4.783%, 4/15/47 W	208,000	194,137
FRB Ser. 14-C18, Class E, 4.393%, 2/15/47 W	381,000	207,056
FRB Ser. 14-C25, Class D, 4.082%, 11/15/47 W	194,000	131,876
FRB Ser. 14-C25, Class E, 3.332%, 11/15/47 W	656,000	394,452
JPMDB Commercial Mortgage Securities Trust		
FRB Ser. 18-C8, Class C, 4.971%, 6/15/51 W	124,000	100,180
FRB Ser. 17-C5, Class C, 4.512%, 3/15/50 W	291,000	205,300
JPMorgan Chase Commercial Mortgage Securities Trust FRB Ser. 13-LC11, Class D, 4.307%, 4/15/46 W		
	408,000	271,982
JPMorgan Chase Commercial Mortgage Securities Trust 144A FRB Ser. 11-C3, Class F, 5.71%, 2/15/46 W		
	401,000	100,572
Mezz Cap Commercial Mortgage Trust 144A FRB Ser. 07-C5, Class X, IO, 7.004%, 12/15/49 W		
	11,396	—
Morgan Stanley Bank of America Merrill Lynch Trust Ser. 12-C6, Class C, 4.536%, 11/15/45 W		
	244,293	223,783
Morgan Stanley Bank of America Merrill Lynch Trust 144A		
FRB Ser. 13-C12, Class D, 5.102%, 10/15/46 W	275,000	227,858
FRB Ser. 13-C11, Class D, 4.484%, 8/15/46 W	750,000	42,044
FRB Ser. 15-C23, Class D, 4.277%, 7/15/50 W	347,000	285,595
FRB Ser. 13-C10, Class D, 4.20%, 7/15/46 W	478,000	200,537
FRB Ser. 14-C17, Class E, 3.50%, 8/15/47	369,000	275,574
FRB Ser. 14-C18, Class D, 3.389%, 10/15/47	230,000	193,381
FRB Ser. 14-C19, Class D, 3.25%, 12/15/47	240,000	191,305
Morgan Stanley Capital I Trust		
FRB Ser. 06-HQ10, Class B, 5.448%, 11/12/41 W	92,521	77,944
FRB Ser. 18-H3, Class C, 5.013%, 7/15/51 W	178,000	144,320
Multifamily Connecticut Avenue Securities Trust 144A		
FRB Ser. 20-01, Class M10, 8.90%, 3/25/50	577,000	552,651
FRB Ser. 19-01, Class M10, 8.40%, 10/25/49	331,446	319,846
Ready Capital Mortgage Financing, LLC 144A		
FRB Ser. 22-FL9, Class A, 7.556%, 6/25/37	338,237	337,324
RIAL Issuer, Ltd. 144A FRB Ser. 22-FL8, Class B, 8.341%, 1/19/37		
	217,000	209,405
TIAA Real Estate CDO, Ltd. 144A Ser. 03-1A, Class E, 8.00%, 12/28/38 (In default) †		
	472,775	5
UBS-Barclays Commercial Mortgage Trust 144A		
FRB Ser. 12-C2, Class F, 5.00%, 5/10/63 W	490,000	5
Wells Fargo Commercial Mortgage Trust FRB Ser. 15-C29, Class D, 4.359%, 6/15/48 W		
	243,000	203,202
Wells Fargo Commercial Mortgage Trust 144A		
FRB Ser. 15-C30, Class D, 4.648%, 9/15/58 W	95,000	74,717
FRB Ser. 13-LC12, Class D, 4.435%, 7/15/46 W	513,000	185,933
FRB Ser. 14-LC16, Class D, 3.938%, 8/15/50	828,000	58,419
FRB Ser. 16-C33, Class D, 3.123%, 3/15/59	534,000	415,470
WF-RBS Commercial Mortgage Trust 144A		
FRB Ser. 13-UBS1, Class D, 5.195%, 3/15/46 W	160,000	153,020
FRB Ser. 13-UBS1, Class E, 5.195%, 3/15/46 W	192,000	182,057
FRB Ser. 11-C4, Class F, 5.00%, 6/15/44 W	1,331,000	847,158
FRB Ser. 13-C15, Class D, 4.584%, 8/15/46 W	1,543,000	386,840
FRB Ser. 12-C10, Class D, 4.538%, 12/15/45 W	694,000	384,852
	13,221,977	

MORTGAGE-BACKED SECURITIES (35.0%)* cont.	Principal amount	Value
Residential mortgage-backed securities (non-agency) (10.2%)		
BCAP, LLC Trust 144A FRB Ser. 11-RR3, Class 3A6, 5.139%, 11/27/36 W		
	\$257,280	\$177,523
Bear Stearns Alt-A Trust FRB Ser. 05-8, Class 21A1, 4.117%, 10/25/35 W		
	144,390	116,974
Chevy Chase Funding, LLC Mortgage-Backed Certificates 144A FRB Ser. 06-4A, Class A2, (ICE LIBOR USD 1 Month + 0.18%), 5.33%, 11/25/47		
	107,987	78,718
Countrywide Alternative Loan Trust		
FRB Ser. 06-OA10, Class 4A1, (ICE LIBOR USD 1 Month + 0.38%), 5.53%, 8/25/46	893,266	737,917
FRB Ser. 05-65CB, Class 2A1, (ICE LIBOR USD 1 Month + 0.43%), 5.50%, 12/25/35	300,292	197,934
FRB Ser. 05-38, Class A1, (Federal Reserve US 12 Month Cumulative Avg 1 yr CMT + 1.50%), 5.476%, 9/25/35	252,502	233,580
FRB Ser. 07-OH1, Class A1D, (ICE LIBOR USD 1 Month + 0.21%), 5.36%, 4/25/47	81,138	64,590
FRB Ser. 06-OA7, Class 1A2, (Federal Reserve US 12 Month Cumulative Avg 1 yr CMT + 0.94%), 4.916%, 6/25/46	164,188	139,177
FRB Ser. 06-OA7, Class 1A1, 3.335%, 6/25/46 W	555,156	492,867
Federal Home Loan Mortgage Corporation		
Structured Agency Credit Risk Debt FRN Ser. 16-DNA1, Class B, (ICE LIBOR USD 1 Month + 10.00%), 15.15%, 7/25/28	1,020,417	1,127,493
Structured Agency Credit Risk Debt FRN Ser. 15-DNA3, Class B, (ICE LIBOR USD 1 Month + 9.35%), 14.50%, 4/25/28	517,228	555,402
Structured Agency Credit Risk Debt FRN Ser. 15-HQA1, Class B, (ICE LIBOR USD 1 Month + 8.80%), 13.95%, 3/25/28	323,657	334,589
Structured Agency Credit Risk Debt FRN Ser. 15-DNA2, Class B, (ICE LIBOR USD 1 Month + 7.55%), 12.70%, 12/25/27	376,043	386,468
Federal Home Loan Mortgage Corporation 144A		
Structured Agency Credit Risk Trust FRB Ser. 18-HQA2, Class B2, (ICE LIBOR USD 1 Month + 11.00%), 16.15%, 10/25/48	333,000	397,799
Structured Agency Credit Risk Trust FRB Ser. 19-DNA2, Class B2, (ICE LIBOR USD 1 Month + 10.50%), 15.65%, 3/25/49	152,000	175,963
Structured Agency Credit Risk Trust REMICs FRB Ser. 20-DNA4, Class B2, (ICE LIBOR USD 1 Month + 10.00%), 15.15%, 8/25/50	135,000	171,028
Structured Agency Credit Risk Trust REMICs FRB Ser. 20-DNA3, Class B2, (ICE LIBOR USD 1 Month + 9.35%), 14.50%, 6/25/50	237,000	280,253
Structured Agency Credit Risk Trust FRB Ser. 18-DNA3, Class B2, (ICE LIBOR USD 1 Month + 7.75%), 12.90%, 9/25/48	389,000	416,099
Structured Agency Credit Risk Trust REMICs FRB Ser. 20-HQA2, Class M2, (ICE LIBOR USD 1 Month + 3.10%), 8.25%, 3/25/50	77,288	79,258
Seasoned Credit Risk Transfer Trust Ser. 19-2, Class M, 4.75%, 8/25/58 W	253,000	220,189
Federal National Mortgage Association		
Connecticut Avenue Securities FRB Ser. 16-C02, Class 1B, (ICE LIBOR USD 1 Month + 12.25%), 17.40%, 9/25/28	966,531	1,115,285
Connecticut Avenue Securities FRB Ser. 16-C03, Class 1B, (ICE LIBOR USD 1 Month + 11.75%), 16.90%, 10/25/28	495,980	560,521

MORTGAGE-BACKED SECURITIES (35.0%)* cont.	Principal amount	Value
Residential mortgage-backed securities (non-agency) cont.		
Federal National Mortgage Association		
Connecticut Avenue Securities FRB Ser. 16-C05, Class 2B, (ICE LIBOR USD 1 Month + 10.75%), 15.90%, 1/25/29	\$89,601	\$97,213
Connecticut Avenue Securities FRB Ser. 17-C02, Class 2B1, (ICE LIBOR USD 1 Month + 5.50%), 10.65%, 9/25/29	242,000	268,046
Connecticut Avenue Securities FRB Ser. 18-C04, Class 2B1, (ICE LIBOR USD 1 Month + 4.50%), 9.65%, 12/25/30	451,000	490,582
Connecticut Avenue Securities FRB Ser. 17-C07, Class 2B1, (ICE LIBOR USD 1 Month + 4.45%), 9.60%, 5/25/30	22,000	23,852
Federal National Mortgage Association 144A		
Connecticut Avenue Securities Trust FRB Ser. 22-R02, Class 2B1, (US 30 Day Average SOFR + 4.50%), 9.567%, 1/25/42	148,000	148,555
Connecticut Avenue Securities Trust FRB Ser. 19-R03, Class 1B1, (ICE LIBOR USD 1 Month + 4.10%), 9.25%, 9/25/31	505,000	528,833
Connecticut Avenue Securities Trust FRB Ser. 20-SBT1, Class 1M2, (ICE LIBOR USD 1 Month + 3.65%), 8.80%, 2/25/40	276,000	285,004
Connecticut Avenue Securities Trust FRB Ser. 20-R01, Class 1B1, (ICE LIBOR USD 1 Month + 3.25%), 8.40%, 1/25/40	155,000	153,234
GSAA Home Equity Trust FRB Ser. 06-8, Class 2A2, (ICE LIBOR USD 1 Month + 0.36%), 5.51%, 5/25/36	506,603	128,014
GSR Mortgage Loan Trust FRB Ser. 07-OA1, Class 2A3A, (ICE LIBOR USD 1 Month + 0.31%), 5.46%, 5/25/37	122,922	71,141
HarborView Mortgage Loan Trust FRB Ser. 05-2, Class 1A, (ICE LIBOR USD 1 Month + 0.52%), 5.677%, 5/19/35	170,532	55,884
Morgan Stanley Re-REMIC Trust 144A FRB Ser. 10-R4, Class 4B, (ICE LIBOR USD 1 Month + 0.23%), 2.702%, 2/26/37	150,642	124,187
MortgageIT Trust FRB Ser. 05-3, Class M2, (ICE LIBOR USD 1 Month + 0.80%), 5.945%, 8/25/35	36,609	34,406
Structured Asset Mortgage Investments II Trust FRB Ser. 07-AR1, Class 2A1, (ICE LIBOR USD 1 Month + 0.18%), 5.33%, 1/25/37	204,154	176,249
Towd Point Mortgage Trust 144A Ser. 19-2, Class A2, 3.75%, 12/25/58 ^W	202,000	176,500
WaMu Asset-Backed Certificates Trust FRB Ser. 07-HE4, Class 1A, (ICE LIBOR USD 1 Month + 0.17%), 5.32%, 7/25/47	117,927	78,037
WaMu Mortgage Pass-Through Certificates Trust FRB Ser. 05-AR17, Class A1B3, (ICE LIBOR USD 1 Month + 0.70%), 5.85%, 12/25/45	314,415	280,606
Washington Mutual Asset-Backed Certificates Trust FRB Ser. 06-HE2, Class A3, (ICE LIBOR USD 1 Month + 0.30%), 5.45%, 5/25/36	387,140	276,684
	11,456,654	
Total mortgage-backed securities (cost \$45,494,682)		\$39,161,157

CORPORATE BONDS AND NOTES (15.8%)*	Principal amount	Value
Basic materials (1.7%)		
Braskem Netherlands Finance BV 144A company guaranty sr. unsec. notes 7.25%, 2/13/33 (Brazil)	\$250,000	\$245,354
Builders FirstSource, Inc. 144A company guaranty sr. unsec. bonds 6.375%, 6/15/32	25,000	24,838
Builders FirstSource, Inc. 144A company guaranty sr. unsec. bonds 4.25%, 2/1/32	60,000	52,209
Celanese US Holdings, LLC company guaranty sr. unsec. notes 6.33%, 7/15/29 (Germany)	75,000	74,484
Celanese US Holdings, LLC company guaranty sr. unsec. notes 6.165%, 7/15/27 (Germany)	30,000	29,845
Constellium SE sr. unsec. notes Ser. REGS, 3.125%, 7/15/29 (France)	EUR 315,000	289,082
Freeport-McMoRan, Inc. company guaranty sr. unsec. notes 4.375%, 8/1/28 (Indonesia)	\$50,000	47,174
Freeport-McMoRan, Inc. company guaranty sr. unsec. unsub. notes 5.45%, 3/15/43 (Indonesia)	240,000	223,787
HudBay Minerals, Inc. 144A company guaranty sr. unsec. notes 6.125%, 4/1/29 (Canada)	125,000	115,096
HudBay Minerals, Inc. 144A company guaranty sr. unsec. notes 4.50%, 4/1/26 (Canada)	60,000	55,868
IHS Holding, Ltd. company guaranty sr. unsec. notes Ser. REGS, 6.25%, 11/29/28 (Nigeria)	320,000	261,200
Novelis Corp. 144A company guaranty sr. unsec. bonds 3.875%, 8/15/31	15,000	12,339
Novelis Corp. 144A company guaranty sr. unsec. notes 4.75%, 1/30/30	21,000	18,663
Novelis Corp. 144A company guaranty sr. unsec. notes 3.25%, 11/15/26	66,000	59,741
WR Grace Holdings, LLC 144A company guaranty sr. notes 4.875%, 6/15/27	51,000	47,299
WR Grace Holdings, LLC 144A sr. notes 7.375%, 3/1/31	295,000	289,100
		1,846,079
Capital goods (2.2%)		
Adient Global Holdings, Ltd. 144A sr. notes 7.00%, 4/15/28	145,000	146,450
Ball Corp. company guaranty sr. unsec. notes 6.00%, 6/15/29	5,000	4,950
Chart Industries, Inc. 144A company guaranty sr. notes 7.50%, 1/1/30	100,000	102,026
Clarios Global LP 144A company guaranty sr. notes 6.75%, 5/15/25	58,000	58,036
Clarios Global LP 144A sr. notes 6.75%, 5/15/28	27,000	26,906
Clarios Global LP/Clarios US Finance Co. company guaranty sr. notes Ser. REGS, 4.375%, 5/15/26	EUR 175,000	181,666
GFL Environmental, Inc. 144A company guaranty sr. unsec. notes 4.75%, 6/15/29 (Canada)	\$233,000	212,871

CORPORATE BONDS AND NOTES (15.8%)* cont.	Principal amount	Value
Capital goods cont.		
Great Lakes Dredge & Dock Corp. 144A company guaranty sr. unsec. notes 5.25%, 6/1/29	\$190,000	\$158,694
Howmet Aerospace, Inc. sr. unsec. unsub. bonds 5.95%, 2/1/37	135,000	137,436
Owens-Brockway Glass Container, Inc. 144A company guaranty sr. unsec. notes 7.25%, 5/15/31	55,000	55,688
Ritchie Bros Holdings, Inc. 144A company guaranty sr. notes 6.75%, 3/15/28	15,000	15,150
Ritchie Bros Holdings, Inc. 144A company guaranty sr. unsec. unsub. notes 7.75%, 3/15/31	163,000	169,520
Sensata Technologies BV 144A company guaranty sr. unsec. unsub. notes 5.875%, 9/1/30	288,000	280,018
Terex Corp. 144A company guaranty sr. unsec. notes 5.00%, 5/15/29	133,000	123,647
TransDigm, Inc. company guaranty sr. unsec. sub. notes 5.50%, 11/15/27	243,000	229,198
TransDigm, Inc. company guaranty sr. unsec. sub. notes 4.875%, 5/1/29	100,000	89,326
TransDigm, Inc. company guaranty sr. unsec. sub. notes 4.625%, 1/15/29	65,000	57,821
TransDigm, Inc. 144A company guaranty sr. notes 6.25%, 3/15/26	75,000	74,633
TransDigm, Inc. 144A sr. notes 6.75%, 8/15/28	20,000	20,050
Vertiv Group Corp. 144A company guaranty sr. notes 4.125%, 11/15/28	234,000	210,828
WESCO Distribution, Inc. 144A company guaranty sr. unsec. unsub. notes 7.25%, 6/15/28	6,000	6,120
WESCO Distribution, Inc. 144A company guaranty sr. unsec. unsub. notes 7.125%, 6/15/25	111,000	112,169
		2,473,203
Communication services (0.5%)		
CCO Holdings, LLC/CCO Holdings Capital Corp. 144A sr. unsec. bonds 5.375%, 6/1/29	322,000	291,119
Frontier Communications Corp. 144A company guaranty sr. notes 5.875%, 10/15/27	75,000	68,832
Frontier Communications Holdings, LLC 144A company guaranty sr. notes 8.75%, 5/15/30	215,000	210,135
		570,086
Consumer cyclicals (3.8%)		
Bath & Body Works, Inc. 144A company guaranty sr. unsec. unsub. bonds 6.625%, 10/1/30	297,000	286,720
Benteler International AG 144A company guaranty sr. notes 10.50%, 5/15/28 (Austria)	200,000	200,500
Boyd Gaming Corp. 144A sr. unsec. bonds 4.75%, 6/15/31	45,000	40,201
Caesars Entertainment, Inc. 144A sr. notes 7.00%, 2/15/30	161,000	161,683
Caesars Resort Collection, LLC/CRC Finco, Inc. 144A company guaranty sr. notes 5.75%, 7/1/25	235,000	237,779

CORPORATE BONDS AND NOTES (15.8%)* cont.	Principal amount	Value
Consumer cyclicals cont.		
Carnival Corp. notes Ser. REGS, 10.125%, 2/1/26	EUR 165,000	\$188,645
Carnival Corp. 144A notes 9.875%, 8/1/27	\$95,000	98,955
Everi Holdings, Inc. 144A company guaranty sr. unsec. notes 5.00%, 7/15/29	155,000	135,743
Hilton Domestic Operating Co., Inc. company guaranty sr. unsec. bonds 4.875%, 1/15/30	153,000	142,660
Hilton Domestic Operating Co., Inc. 144A company guaranty sr. unsec. notes 4.00%, 5/1/31	310,000	269,229
Levi Strauss & Co. sr. unsec. notes 3.375%, 3/15/27	EUR 134,000	138,351
Levi Strauss & Co. 144A sr. unsec. sub. bonds 3.50%, 3/1/31	\$47,000	38,893
Mattel, Inc. 144A company guaranty sr. unsec. notes 3.75%, 4/1/29	70,000	61,588
Mattel, Inc. 144A company guaranty sr. unsec. notes 3.375%, 4/1/26	20,000	18,404
McGraw-Hill Education, Inc. 144A sr. notes 5.75%, 8/1/28	330,000	285,942
Neptune Bidco US, Inc. 144A sr. notes 9.29%, 4/15/29	535,000	491,137
News Corp. 144A company guaranty sr. unsec. unsub. bonds 5.125%, 2/15/32	8,000	7,299
News Corp. 144A sr. unsec. notes 3.875%, 5/15/29	75,000	65,835
Royal Caribbean Cruises, Ltd. 144A company guaranty sr. unsec. unsub. notes 9.25%, 1/15/29	200,000	213,082
Spectrum Brands, Inc. 144A company guaranty sr. unsec. bonds 5.00%, 10/1/29	50,000	44,629
Standard Industries, Inc. 144A sr. unsec. bonds 3.375%, 1/15/31	35,000	28,177
Standard Industries, Inc. 144A sr. unsec. notes 5.00%, 2/15/27	330,000	314,506
Standard Industries, Inc. 144A sr. unsec. notes 4.75%, 1/15/28	10,000	9,312
Station Casinos, LLC 144A sr. unsec. notes 4.50%, 2/15/28	95,000	85,269
Taylor Morrison Communities, Inc. 144A sr. unsec. bonds 5.125%, 8/1/30	211,000	194,817
Taylor Morrison Communities, Inc. 144A sr. unsec. notes 5.75%, 1/15/28	133,000	128,600
Univision Communications, Inc. 144A sr. notes 7.375%, 6/30/30	19,000	18,090
Verisure Holding AB company guaranty sr. notes Ser. REGS, 3.25%, 2/15/27 (Sweden)	EUR 300,000	290,208
Victoria's Secret & Co. 144A sr. unsec. notes 4.625%, 7/15/29	\$40,000	29,200
		4,225,454
Consumer staples (1.0%)		
1011778 BC ULC/New Red Finance, Inc. 144A bonds 4.00%, 10/15/30 (Canada)	75,000	64,187
1011778 BC ULC/New Red Finance, Inc. 144A company guaranty sr. notes 3.875%, 1/15/28 (Canada)	80,000	72,900

CORPORATE BONDS AND NOTES (15.8%)* cont.	Principal amount	Value
Consumer staples cont.		
Albertsons Cos., Inc./Safeway, Inc./ New Albertsons LP/Albertsons, LLC 144A company guaranty sr. unsec. notes 4.875%, 2/15/30	\$115,000	\$106,170
Albertsons Cos., Inc./Safeway, Inc./ New Albertsons LP/Albertsons, LLC 144A company guaranty sr. unsec. notes 3.50%, 3/15/29	213,000	184,381
Aramark Services, Inc. 144A company guaranty sr. unsec. notes 5.00%, 2/1/28	128,000	120,645
Lamb Weston Holdings, Inc. 144A company guaranty sr. unsec. notes 4.875%, 5/15/28	70,000	67,042
Lamb Weston Holdings, Inc. 144A company guaranty sr. unsec. notes 4.125%, 1/31/30	70,000	62,560
Loxam SAS notes 3.75%, 7/15/26 (France)	EUR 250,000	257,712
Match Group Holdings II, LLC 144A sr. unsec. bonds 5.00%, 12/15/27	\$28,000	25,968
Match Group Holdings II, LLC 144A sr. unsec. bonds 3.625%, 10/1/31	25,000	20,549
Match Group Holdings II, LLC 144A sr. unsec. notes 4.125%, 8/1/30	20,000	17,130
US Foods, Inc. 144A company guaranty sr. unsec. notes 4.75%, 2/15/29	134,000	122,684
		1,121,928
Energy (4.1%)		
Apache Corp. sr. unsec. unsubs. notes 5.10%, 9/1/40	327,000	265,688
Apache Corp. sr. unsec. unsubs. notes 4.375%, 10/15/28	32,000	29,226
Callon Petroleum Co. 144A company guaranty sr. unsec. notes 7.50%, 6/15/30	311,000	293,544
Centennial Resource Production, LLC 144A company guaranty sr. unsec. notes 6.875%, 4/1/27	190,000	187,150
Cheniere Energy Partners LP company guaranty sr. unsec. unsubs. notes 4.00%, 3/1/31	75,000	66,037
Civitas Resources, Inc. 144A company guaranty sr. unsec. notes 8.375%, 7/1/28	55,000	55,622
Civitas Resources, Inc. 144A company guaranty sr. unsec. unsubs. notes 8.75%, 7/1/31	115,000	116,587
Ecopetrol SA sr. unsec. unsubs. bonds 8.875%, 1/13/33 (Colombia)	360,000	356,481
Endeavor Energy Resources LP/EER Finance, Inc. 144A sr. unsec. bonds 5.75%, 1/30/28	470,000	459,745
Energy Transfer LP/Regency Energy Finance Corp. sr. unsec. unsubs. notes 4.50%, 11/1/23	69,000	68,655
Kinetik Holdings LP 144A company guaranty sr. unsec. notes 5.875%, 6/15/30	10,000	9,505
Ovintiv, Inc. company guaranty sr. unsec. unsubs. bonds 7.375%, 11/1/31	131,000	140,485
Ovintiv, Inc. company guaranty sr. unsec. unsubs. bonds 6.625%, 8/15/37	60,000	59,223

CORPORATE BONDS AND NOTES (15.8%)* cont.	Principal amount	Value
Energy cont.		
Patterson-UTI Energy, Inc. sr. unsec. notes 3.95%, 2/1/28	\$40,000	\$35,843
Patterson-UTI Energy, Inc. sr. unsec. sub. notes 5.15%, 11/15/29	270,000	244,591
Petrobras Global Finance BV company guaranty sr. unsec. unsubs. bonds 6.50%, 7/3/33 (Brazil)	123,000	120,356
Petrobras Global Finance BV company guaranty sr. unsec. unsubs. notes 6.25%, 3/17/24 (Brazil)	70,000	70,105
Petrobras Global Finance BV company guaranty sr. unsec. unsubs. notes 5.299%, 1/27/25 (Brazil)	35,000	34,665
Petroleos Mexicanos company guaranty sr. unsec. unsubs. notes 6.70%, 2/16/32 (Mexico)	143,000	108,731
Petroleos Mexicanos company guaranty sr. unsec. unsubs. notes 6.49%, 1/23/27 (Mexico)	420,000	373,235
Petroleos Mexicanos 144A sr. unsec. bonds 10.00%, 2/7/33 (Mexico)	540,000	494,100
Rockcliff Energy II, LLC 144A sr. unsec. notes 5.50%, 10/15/29	205,000	189,103
SM Energy Co. sr. unsec. unsubs. notes 6.75%, 9/15/26	150,000	146,206
SM Energy Co. sr. unsec. unsubs. notes 6.50%, 7/15/28	105,000	100,800
SM Energy Co. sr. unsec. unsubs. notes 5.625%, 6/1/25	51,000	49,837
Southwestern Energy Co. company guaranty sr. unsec. bonds 4.75%, 2/1/32	147,000	129,556
Southwestern Energy Co. company guaranty sr. unsec. notes 5.375%, 3/15/30	278,000	259,430
Southwestern Energy Co. company guaranty sr. unsec. notes 5.375%, 2/1/29	30,000	28,250
Venture Global LNG, Inc. 144A sr. notes 8.375%, 6/1/31	45,000	45,368
Venture Global LNG, Inc. 144A sr. notes 8.125%, 6/1/28	20,000	20,313
		4,558,437
Financials (0.4%)		
Alliant Holdings Intermediate, LLC/ Alliant Holdings Co-Issuer 144A sr. notes 4.25%, 10/15/27	25,000	22,435
Ford Motor Credit Co., LLC sr. unsec. unsubs. notes 4.00%, 11/13/30	200,000	170,917
Freedom Mortgage Corp. 144A sr. unsec. notes 7.625%, 5/1/26	200,000	184,102
Stichting AK Rabobank Certificaten jr. unsec. sub. FRN 6.50%, perpetual maturity (Netherlands)	EUR 94,525	95,668
		473,122
Health care (0.8%)		
Charles River Laboratories International, Inc. 144A company guaranty sr. unsec. notes 4.00%, 3/15/31	\$45,000	38,925
Charles River Laboratories International, Inc. 144A company guaranty sr. unsec. notes 3.75%, 3/15/29	45,000	39,431

CORPORATE BONDS AND NOTES (15.8%)* cont.	Principal amount	Value
Health care cont.		
Service Corp. International sr. unsec. bonds 5.125%, 6/1/29	\$130,000	\$122,489
Service Corp. International sr. unsec. notes 3.375%, 8/15/30	165,000	137,990
Service Corp. International sr. unsec. sub. notes 4.00%, 5/15/31	35,000	29,961
Tenet Healthcare Corp. company guaranty sr. notes 5.125%, 11/1/27	110,000	105,014
Tenet Healthcare Corp. company guaranty sr. notes 4.875%, 1/1/26	102,000	99,347
Tenet Healthcare Corp. company guaranty sr. notes 4.25%, 6/1/29	45,000	40,654
Tenet Healthcare Corp. company guaranty sr. unsec. notes 6.125%, 6/15/30	70,000	68,999
Teva Pharmaceutical Finance Netherlands III BV company guaranty sr. unsec. unsec. notes 8.125%, 9/15/31 (Israel)	230,000	240,638
		923,448
Technology (0.9%)		
Cloud Software Group, Inc. 144A sr. notes 6.50%, 3/31/29	160,000	142,461
CrowdStrike Holdings, Inc. company guaranty sr. unsec. notes 3.00%, 2/15/29	201,000	173,330
Imola Merger Corp. 144A sr. notes 4.75%, 5/15/29	256,000	222,645
Twilio, Inc. company guaranty sr. unsec. notes 3.875%, 3/15/31	355,000	295,578
ZoomInfo Technologies, LLC/ ZoomInfo Finance Corp. 144A company guaranty sr. unsec. notes 3.875%, 2/1/29	203,000	174,599
		1,008,613
Utilities and power (0.4%)		
Diamond II, Ltd. 144A company guaranty sr. notes 7.95%, 7/28/26 (India)	360,000	354,150
Energy Transfer LP jr. unsec. sub. FRN 6.625%, perpetual maturity	13,000	9,946
NRG Energy, Inc. 144A company guaranty sr. unsec. bonds 3.875%, 2/15/32	72,000	55,475
Vistra Operations Co., LLC 144A company guaranty sr. notes 4.30%, 7/15/29	40,000	35,447
		455,018
Total corporate bonds and notes (cost \$18,550,485)		\$17,655,388
FOREIGN GOVERNMENT AND AGENCY BONDS AND NOTES (8.2%)*		
Benin (Republic of) sr. unsec. bonds Ser. REGS, 4.95%, 1/22/35 (Benin)	EUR 310,000	\$238,343
Cameroon (Republic of) sr. unsec. unsec. notes Ser. REGS, 5.95%, 7/7/32 (Cameroon)	EUR 240,000	187,190
Cote d'Ivoire (Republic of) sr. unsec. notes Ser. REGS, 4.875%, 1/30/32 (Cote d'Ivoire)	EUR 830,000	703,309

FOREIGN GOVERNMENT AND AGENCY BONDS AND NOTES (8.2%)* cont.	Principal amount	Value
Cote d'Ivoire (Republic of) sr. unsec. unsec. bonds Ser. REGS, 6.125%, 6/15/33 (Cote d'Ivoire)	\$600,000	\$524,250
Cote d'Ivoire (Republic of) sr. unsec. unsec. notes Ser. REGS, 5.375%, 7/23/24 (Cote d'Ivoire)	275,000	266,750
Development Bank of Mongolia, LLC unsec. notes Ser. REGS, 7.25%, 10/23/23 (Mongolia)	260,000	258,700
Dominican (Republic of) sr. unsec. bonds Ser. REGS, 4.875%, 9/23/32 (Dominican Republic)	435,000	369,702
Dominican (Republic of) sr. unsec. unsec. notes Ser. REGS, 6.875%, 1/29/26 (Dominican Republic)	365,000	367,159
Dominican (Republic of) sr. unsec. unsec. notes Ser. REGS, 6.00%, 7/19/28 (Dominican Republic)	390,000	379,130
Dominican (Republic of) sr. unsec. unsec. notes Ser. REGS, 5.95%, 1/25/27 (Dominican Republic)	205,000	200,664
Egypt (Arab Republic of) sr. unsec. notes Ser. REGS, 7.60%, 3/1/29 (Egypt)	880,000	567,600
Ghana (Republic of) sr. unsec. unsec. notes Ser. REGS, 8.125%, 1/18/26 (Ghana) (In default) †	670,000	301,500
Ghana (Republic of) sr. unsec. unsec. notes Ser. REGS, 6.375%, 2/11/27 (Ghana) (In default) †	850,000	363,375
Indonesia (Republic of) sr. unsec. unsec. bonds 2.85%, 2/14/30 (Indonesia)	1,285,000	1,139,939
Indonesia (Republic of) sr. unsec. unsec. notes 4.65%, 9/20/32 (Indonesia)	205,000	201,187
Mongolia (Government of) sr. unsec. notes Ser. REGS, 5.125%, 4/7/26 (Mongolia)	200,000	186,750
Mozambique (Republic of) unsec. notes Ser. REGS, 5.00%, 9/15/31 (Mozambique)	200,000	150,750
Romania (Government of) sr. unsec. unsec. notes 7.125%, 1/17/33 (Romania)	260,000	275,365
Serbia (Republic of) sr. unsec. notes 6.25%, 5/26/28 (Serbia)	280,000	278,250
Tunisia (Central Bank of) sr. unsec. unsec. notes Ser. REGS, 5.75%, 1/30/25 (Tunisia)	1,110,000	738,154
Turkey (Republic of) sr. unsec. unsec. notes 9.125%, 7/13/30 (Turkey)	200,000	198,250
United Mexican States sr. unsec. unsec. bonds 4.28%, 8/14/41 (Mexico)	390,000	320,839
United Mexican States sr. unsec. unsec. notes 6.338%, 5/4/53 (Mexico)	330,000	336,157
Vietnam (Socialist Republic of) sr. unsec. notes Ser. REGS, 4.80%, 11/19/24 (Vietnam)	600,000	588,294
Total foreign government and agency bonds and notes (cost \$10,446,387)		\$9,141,607

CONVERTIBLE BONDS AND NOTES (5.9%)*	Principal amount	Value
Basic materials (—%)		
MP Materials Corp. 144A cv. sr. unsec. notes 0.25%, 4/1/26	\$34,000	\$30,120
		30,120
Capital goods (0.2%)		
Axon Enterprise, Inc. 144A cv. sr. unsec. notes 0.50%, 12/15/27	87,000	92,612
John Bean Technologies Corp. cv. sr. unsec. notes 0.25%, 5/15/26	60,000	56,910
Middleby Corp. (The) cv. sr. unsec. notes 1.00%, 9/1/25	47,000	58,351
		207,873
Communication services (0.2%)		
Liberty Broadband Corp. 144A cv. sr. unsec. notes 3.125%, 3/31/53	90,000	87,795
Liberty Media Corp. 144A cv. sr. unsec. unsub. bonds 2.75%, 12/1/49	100,000	92,700
		180,495
Consumer cyclicals (1.2%)		
Alarm.com Holdings, Inc. cv. sr. unsec. notes zero %, 1/15/26	73,000	62,190
Block, Inc. cv. sr. unsec. sub. notes 0.25%, 11/1/27	80,000	61,350
Block, Inc. cv. sr. unsec. sub. notes zero %, 5/1/26	37,000	30,562
Booking Holdings, Inc. cv. sr. unsec. notes 0.75%, 5/1/25	86,000	128,897
Burlington Stores, Inc. cv. sr. unsec. notes 2.25%, 4/15/25	49,000	50,684
Cinemark Holdings, Inc. cv. sr. unsec. notes 4.50%, 8/15/25	37,000	50,483
DraftKings, Inc. cv. sr. unsec. unsub. notes zero %, 3/15/28	68,000	50,728
Expedia Group, Inc. company guaranty cv. sr. unsec. unsub. notes zero %, 2/15/26	78,000	68,156
Ford Motor Co. cv. sr. unsec. notes zero %, 3/15/26	113,000	123,792
Liberty Media Corp. 144A cv. sr. unsec. notes 2.25%, 8/15/27	89,000	95,586
Liberty TripAdvisor Holdings, Inc. 144A cv. sr. unsec. bonds 0.50%, 6/30/51	78,000	60,801
Live Nation Entertainment, Inc. 144A cv. sr. unsec. notes 3.125%, 1/15/29	114,000	125,628
NCL Corp., Ltd. company guaranty cv. sr. unsec. notes 5.375%, 8/1/25	30,000	41,100
NCL Corp., Ltd. company guaranty cv. sr. unsec. unsub. notes 2.50%, 2/15/27	65,000	61,458
Patrick Industries, Inc. cv. sr. unsec. notes 1.75%, 12/1/28	38,000	36,898
Royal Caribbean Cruises, Ltd. 144A cv. sr. unsec. unsub. notes 6.00%, 8/15/25	73,000	160,454
Shift4 Payments, Inc. cv. sr. unsec. sub. notes 0.50%, 8/1/27	85,000	74,970
Vail Resorts, Inc. cv. sr. unsec. sub. notes zero %, 1/1/26	101,000	90,206
		1,373,943
Consumer staples (0.7%)		
Airbnb, Inc. cv. sr. unsec. sub. notes zero %, 3/15/26	40,000	34,880
Beauty Health Co. (The) 144A cv. sr. unsec. sub. notes 1.25%, 10/1/26	68,000	53,338
Cheesecake Factory, Inc. (The) cv. sr. unsec. sub. notes 0.375%, 6/15/26	55,000	46,131
Chefs' Warehouse, Inc. (The) 144A cv. sr. unsec. unsub. notes 2.375%, 12/15/28	53,000	55,601

CONVERTIBLE BONDS AND NOTES (5.9%)* cont.	Principal amount	Value
Consumer staples cont.		
Chegg, Inc. cv. sr. unsec. notes zero %, 9/1/26	\$43,000	\$32,207
Etsy, Inc. cv. sr. unsec. notes 0.25%, 6/15/28	120,000	92,400
Lyft, Inc. cv. sr. unsec. notes 1.50%, 5/15/25	40,000	35,820
Post Holdings, Inc. 144A company guaranty cv. sr. unsec. notes 2.50%, 8/15/27	62,000	62,508
Shake Shack, Inc. cv. sr. unsec. notes zero %, 3/1/28	66,000	53,473
Uber Technologies, Inc. cv. sr. unsec. notes zero %, 12/15/25	77,000	70,226
Upwork, Inc. cv. sr. unsec. notes 0.25%, 8/15/26	60,000	48,593
Wayfair, Inc. cv. sr. unsec. notes 0.625%, 10/1/25	80,000	68,087
Zillow Group, Inc. cv. sr. unsec. notes 2.75%, 5/15/25	75,000	78,675
		731,939
Energy (0.2%)		
Enphase Energy, Inc. cv. sr. unsec. sub. notes zero %, 3/1/28	76,000	71,446
Nabors Industries, Inc. 144A company guaranty cv. sr. unsec. unsub. notes 1.75%, 6/15/29	41,000	30,689
Northern Oil and Gas, Inc. 144A cv. sr. unsec. notes 3.625%, 4/15/29	67,000	74,720
SolarEdge Technologies, Inc. cv. sr. unsec. notes zero %, 9/15/25 (Israel)	46,000	54,556
		231,411
Financials (0.1%)		
SoFi Technologies, Inc. 144A cv. sr. unsec. notes zero %, 10/15/26	55,000	42,460
Welltower OP, LLC 144A company guaranty cv. sr. unsec. notes 2.75%, 5/15/28 ^R	101,000	101,758
		144,218
Health care (0.9%)		
Alnylam Pharmaceuticals, Inc. 144A cv. sr. unsec. unsub. notes 1.00%, 9/15/27	87,000	82,987
BioMarin Pharmaceutical, Inc. cv. sr. unsec. sub. notes 1.25%, 5/15/27	54,000	54,286
CONMED Corp. cv. sr. unsec. notes 2.25%, 6/15/27	42,000	46,872
Dexcom, Inc. 144A cv. sr. unsec. unsub. notes 0.375%, 5/15/28	143,000	145,789
Exact Sciences Corp. cv. sr. unsec. sub. notes 0.375%, 3/1/28	121,000	123,804
Halozyme Therapeutics, Inc. cv. sr. unsec. notes 0.25%, 3/1/27	132,000	109,635
Insulet Corp. cv. sr. unsec. notes 0.375%, 9/1/26	47,000	64,555
Integer Holdings Corp. 144A cv. sr. unsec. unsub. notes 2.125%, 2/15/28	41,000	48,298
Jazz Investments I, Ltd. company guaranty cv. sr. unsec. sub. notes 1.50%, 8/15/24 (Ireland)	94,000	89,383
Lantheus Holdings, Inc. 144A company guaranty cv. sr. unsec. unsub. notes 2.625%, 12/15/27	72,000	93,283
Neurocrine Biosciences, Inc. cv. sr. unsec. notes 2.25%, 5/15/24	17,000	21,633
Pacira Pharmaceuticals, Inc. cv. sr. unsec. sub. notes 0.75%, 8/1/25	28,000	25,900
Sarepta Therapeutics, Inc. 144A cv. sr. unsec. unsub. notes 1.25%, 9/15/27	57,000	61,658
Teladoc Health, Inc. cv. sr. unsec. sub. notes 1.25%, 6/1/27	61,000	48,495
		1,016,578
Technology (1.9%)		
3D Systems Corp. cv. sr. unsec. notes zero %, 11/15/26	30,000	22,669
Akamai Technologies, Inc. cv. sr. unsec. notes 0.375%, 9/1/27	78,000	75,328

CONVERTIBLE BONDS AND NOTES (5.9%)* cont.	Principal amount	Value
Technology cont.		
Akamai Technologies, Inc. cv. sr. unsec. notes 0.125%, 5/1/25	\$61,000	\$65,079
Altair Engineering, Inc. 144A cv. sr. unsec. sub. notes 1.75%, 6/15/27	39,000	47,249
Bentley Systems, Inc. cv. sr. unsec. sub. notes 0.375%, 7/1/27	62,000	55,986
Bill.com Holdings, Inc. cv. sr. unsec. unsub. notes zero %, 4/1/27	73,000	59,860
Box, Inc. cv. sr. unsec. notes zero %, 1/15/26	52,000	64,584
Ceridian HCM Holding, Inc. cv. sr. unsec. notes 0.25%, 3/15/26	74,000	65,105
Cloudflare, Inc. cv. sr. unsec. notes zero %, 8/15/26	37,000	31,395
Confluent, Inc. cv. sr. unsec. unsub. notes zero %, 1/15/27	59,000	48,986
CyberArk Software, Ltd. cv. sr. unsec. notes zero %, 11/15/24 (Israel)	46,000	52,095
Datadog, Inc. cv. sr. unsec. notes 0.125%, 6/15/25	63,000	78,183
DigitalOcean Holdings, Inc. cv. sr. unsec. notes zero %, 12/1/26	64,000	49,990
Dropbox, Inc. cv. sr. unsec. sub. notes zero %, 3/1/28	48,000	45,912
Envestnet, Inc. 144A company guaranty cv. sr. unsec. notes 2.625%, 12/1/27	55,000	57,695
Everbridge, Inc. cv. sr. unsec. notes zero %, 3/15/26	42,000	34,650
Five9, Inc. cv. sr. unsec. notes 0.50%, 6/1/25	42,000	40,488
HubSpot, Inc. cv. sr. unsec. notes 0.375%, 6/1/25	55,000	105,105
Impinj, Inc. cv. sr. unsec. notes 1.125%, 5/15/27	47,000	50,819
Lumentum Holdings, Inc. cv. sr. unsec. notes 0.50%, 12/15/26	92,000	81,179
Lumentum Holdings, Inc. 144A cv. sr. unsec. notes 1.50%, 12/15/29	21,000	21,714
MongoDB, Inc. cv. sr. unsec. notes 0.25%, 1/15/26	69,000	137,241
Okta, Inc. cv. sr. unsec. notes 0.375%, 6/15/26	109,000	93,032
ON Semiconductor Corp. cv. sr. unsec. notes zero %, 5/1/27	21,000	38,567
ON Semiconductor Corp. 144A cv. company guaranty sr. unsec. notes 0.50%, 3/1/29	73,000	82,442
Palo Alto Networks, Inc. cv. sr. unsec. notes 0.375%, 6/1/25	21,000	54,044
Progress Software Corp. cv. sr. unsec. notes 1.00%, 4/15/26	51,000	55,845
RingCentral, Inc. cv. sr. unsec. notes zero %, 3/1/25	59,000	54,251
Snap, Inc. cv. sr. unsec. notes zero %, 5/1/27	83,000	61,420
Splunk, Inc. cv. sr. unsec. notes 1.125%, 6/15/27	125,000	107,813
Spotify USA, Inc. company guaranty cv. sr. unsec. notes zero %, 3/15/26	56,000	47,572
Tyler Technologies, Inc. cv. sr. unsec. sub. notes 0.25%, 3/15/26	65,000	66,950
Unity Software, Inc. cv. sr. unsec. notes zero %, 11/15/26	64,000	51,104
Wolfspeed, Inc. 144A cv. sr. unsec. notes 1.875%, 12/1/29	42,000	32,382
Workiva, Inc. cv. sr. unsec. notes 1.125%, 8/15/26	36,000	50,574
Ziff Davis, Inc. 144A cv. sr. unsec. notes 1.75%, 11/1/26	55,000	51,288
Zscaler, Inc. cv. sr. unsec. notes 0.125%, 7/1/25	37,000	43,124
		2,181,720

CONVERTIBLE BONDS AND NOTES (5.9%)* cont.	Principal amount	Value
Transportation (0.2%)		
JetBlue Airways Corp. cv. sr. unsec. notes 0.50%, 4/1/26	\$61,000	\$50,097
Southwest Airlines Co. cv. sr. unsec. notes 1.25%, 5/1/25	116,000	132,994
		183,091
Utilities and power (0.3%)		
CMS Energy Corp. 144A cv. sr. unsec. notes 3.375%, 5/1/28	34,000	33,439
NextEra Energy Partners LP 144A company guaranty cv. sr. unsec. unsub. notes 2.50%, 6/15/26	74,000	66,267
NRG Energy, Inc. company guaranty cv. sr. unsec. bonds 2.75%, 6/1/48	75,000	79,163
Southern Co. (The) 144A cv. sr. unsec. notes 3.875%, 12/15/25	100,000	99,750
		278,619
Total convertible bonds and notes (cost \$6,896,422)		\$6,560,007

SENIOR LOANS (1.8%)*c	Principal amount	Value
Axalta Coating Systems US Holdings, Inc. bank term loan FRN Ser. B, (CME Term SOFR 1 Month + 3.00%), 8.242%, 12/7/29	\$110,700	\$110,838
Chart Industries, Inc. bank term loan FRN Ser. B, (CME Term SOFR 1 Month + 3.75%), 8.941%, 12/8/29	268,328	267,544
Clear Channel Outdoor Holdings, Inc. bank term loan FRN Ser. B, (ICE LIBOR USD 3 Month + 3.50%), 8.807%, 8/21/26	166,347	158,563
Cloud Software Group, Inc. bank term loan FRN Ser. B, (CME Term SOFR 1 Month + 4.50%), 9.842%, 3/30/29	104,738	97,799
CQP Holdco LP bank term loan FRN (ICE LIBOR USD 3 Month + 3.75%), 9.288%, 5/27/28	339,135	338,287
DIRECTV Financing, LLC bank term loan FRN (CME Term SOFR 3 Month + 5.00%), 10.217%, 7/22/27	170,491	166,490
IRB Holding Corp. bank term loan FRN (CME Term SOFR 3 Month Plus CSA + 3.00%), 8.203%, 12/15/27	174,558	173,195
PetSmart, LLC bank term loan FRN Ser. B, (CME Term SOFR 1 Month + 3.75%), 8.953%, 1/29/28	294,251	293,271
Proofpoint, Inc. bank term loan FRN Ser. B, (ICE LIBOR USD 3 Month + 6.25%), 11.467%, 8/31/29	45,000	43,538
Robertshaw US Holding Corp. bank term loan FRN (CME Term SOFR 1 Month + 8.00%), 13.342%, 2/28/27	55,000	12,100
Rocket Software, Inc. bank term loan FRN Ser. B, (CME Term SOFR 1 Month + 4.25%), 9.392%, 11/28/25	139,635	138,017
Vision Solutions, Inc. bank term loan FRN (ICE LIBOR USD 1 Month + 4.25%), 9.505%, 4/24/28	163,750	154,914
Total senior loans (cost \$1,977,495)		\$1,954,556

ASSET-BACKED SECURITIES (0.8%)*	Principal amount	Value
Mello Warehouse Securitization Trust 144A FRB Ser. 21-3, Class E, (ICE LIBOR USD 1 Month + 3.25%), 8.40%, 10/22/24	\$469,000	\$458,264
FRB Ser. 21-3, Class D, (ICE LIBOR USD 1 Month + 2.00%), 7.15%, 10/22/24	350,000	339,765
NewRez Warehouse Securitization Trust 144A FRB Ser. 21-1, Class F, (ICE LIBOR USD 1 Month + 5.25%), 10.40%, 5/7/24	125,667	125,667
Total asset-backed securities (cost \$893,727)		\$923,696

COMMON STOCKS (—%)*	Shares	Value
Texas Competitive Electric Holdings Co., LLC/ TCEH Finance, Inc. (Rights) †	10,369	\$11,925
Total common stocks (cost \$10,414)		\$11,925
SHORT-TERM INVESTMENTS (31.6%)*	Principal amount/ shares	Value
ABN AMRO Funding USA, LLC commercial paper 5.171%, 7/14/23	\$500,000	\$499,000
Banco Santander SA commercial paper 5.530%, 8/17/23 (Spain)	500,000	496,497
BPCE SA commercial paper 5.253%, 7/21/23 (France)	500,000	498,501
ING (U.S.) Funding, LLC commercial paper 5.057%, 9/1/23	750,000	742,970
Interest in \$409,057,000 joint tri-party repurchase agreement dated 6/30/2023 with Citigroup Global Markets, Inc. due 7/3/2023 — maturity value of \$747,315 for an effective yield of 5.060% (collateralized by Agency Mortgage- Backed Securities and U.S. Treasuries (including strips) with coupon rates ranging from 2.625% to 7.500% and due dates ranging from 5/31/2027 to 3/15/2058, valued at \$417,238,212)	747,000	747,000
Lloyds Bank PLC commercial paper 5.329%, 9/7/23 (United Kingdom)	500,000	494,820
National Bank of Canada commercial paper 5.215%, 7/27/23 (Canada)	500,000	498,076
Putnam Short Term Investment Fund Class P 5.23% ^L	Shares 27,315,933	27,315,933
Societe Generale SA commercial paper 5.375%, 7/31/23 (France)	\$500,000	497,815
State Street Institutional U.S. Government Money Market Fund, Premier Class 5.03% ^P	Shares 910,000	910,000
Svenska Handelsbanken AB commercial paper 5.349%, 8/1/23 (Sweden)	\$500,000	497,746
U.S. Treasury Bills 5.453%, 10/26/23 # Δ	1,900,000	1,868,439
U.S. Treasury Bills 5.308%, 11/16/23	100,000	98,043
U.S. Treasury Bills 5.015%, 11/2/23 Δ	300,000	294,711
Total short-term investments (cost \$35,459,992)		\$35,459,551
Total investments (cost \$316,399,379)		\$306,623,577

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
USD/\$	United States Dollar

Key to holding's abbreviations

bp	Basis Points
CME	Chicago Mercantile Exchange
DAC	Designated Activity Company
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.

FRN	Floating Rate Notes: The rate shown is the current interest rate or yield 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.
ICE	Intercontinental Exchange
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
LIBOR	London Interbank Offered Rate
OTC	Over-the-counter
REGS	Securities sold under Regulation S may not be offered, sold or delivered within the United States except pursuant to an exemption from, or in a transaction not subject to, the registration requirements of the Securities Act of 1933.
REMICs	Real Estate Mortgage Investment Conduits
SOFR	Secured Overnight Financing Rate
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, 2023 through June 30, 2023 (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 \$112,041,457.
- † 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 \$254,571 and is included in Investments in securities on the Statement of assets and liabilities (Notes 1 and 9).
- 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 \$1,402,473 and is included in Investments in securities on the Statement of assets and liabilities (Notes 1 and 9).
- c Senior loans are exempt from registration under the Securities Act of 1933, as amended, but contain certain restrictions on resale and cannot be sold publicly. These loans pay interest at rates which adjust periodically. The interest rates shown for senior loans are the current interest rates at the close of the reporting period. Senior loans are also subject to mandatory and/or optional prepayment which cannot be predicted. As a result, the remaining maturity may be substantially less than the stated maturity shown (Notes 1 and 7).
- i This security was pledged, or purchased with cash that was pledged, to the fund for collateral on certain derivative contracts (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. The rate quoted in the security description is the annualized 7-day yield of the fund at the close of the reporting period.
- R Real Estate Investment Trust.
- W The rate shown represents the weighted average coupon associated with the underlying mortgage pools. Rates may be subject to a cap or floor. 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.

See Note 1 to the financial statements regarding TBA commitments.

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.

The dates shown on debt obligations are the original maturity dates.

FORWARD CURRENCY CONTRACTS at 6/30/23 (aggregate face value \$23,465,958) (Unaudited)

Counterparty	Currency	Contract type*	Delivery date	Value	Aggregate face value	Unrealized appreciation/(depreciation)
Bank of America N.A.						
	Canadian Dollar	Buy	7/19/23	\$4,455	\$4,393	\$62
	Canadian Dollar	Sell	7/19/23	4,455	4,415	(40)
	Euro	Sell	9/20/23	185,556	183,651	(1,905)
	New Zealand Dollar	Buy	7/19/23	8,591	8,537	54
	New Zealand Dollar	Sell	7/19/23	8,591	8,816	225
	New Zealand Dollar	Sell	10/18/23	8,588	8,533	(55)
	Swedish Krona	Sell	9/20/23	82,431	83,511	1,080
Barclays Bank PLC						
	Canadian Dollar	Buy	7/19/23	51,114	50,990	124
	Canadian Dollar	Sell	7/19/23	51,114	50,496	(618)
	Canadian Dollar	Sell	10/18/23	51,189	51,062	(127)
	Euro	Sell	9/20/23	9,420	9,311	(109)
	Swiss Franc	Buy	9/20/23	44,939	44,608	331
Citibank, N.A.						
	Australian Dollar	Buy	7/19/23	7,064	7,038	26
	Australian Dollar	Sell	7/19/23	7,064	7,183	119
	Australian Dollar	Sell	10/18/23	7,082	7,056	(26)
	Canadian Dollar	Buy	7/19/23	26,954	26,894	60
	Canadian Dollar	Sell	7/19/23	26,954	26,587	(367)
	Canadian Dollar	Sell	10/18/23	26,993	26,934	(59)
	Euro	Sell	9/20/23	442,640	435,968	(6,672)
	Norwegian Krone	Sell	9/20/23	47,688	47,254	(434)
	Swedish Krona	Sell	9/20/23	3,529	3,573	44
Goldman Sachs International						
	Canadian Dollar	Buy	7/19/23	4,455	4,445	10
	Canadian Dollar	Sell	7/19/23	4,455	4,364	(91)
	Canadian Dollar	Sell	10/18/23	4,461	4,451	(10)
	Swiss Franc	Buy	9/20/23	887,175	880,727	6,448
HSBC Bank USA, National Association						
	Australian Dollar	Buy	7/19/23	83,168	82,841	327
	Australian Dollar	Sell	7/19/23	83,168	84,726	1,558
	Australian Dollar	Sell	10/18/23	83,376	83,044	(332)
	Canadian Dollar	Buy	7/19/23	24,085	23,856	229
	Canadian Dollar	Sell	7/19/23	24,085	23,789	(296)
	Canadian Dollar	Sell	10/18/23	7,712	7,695	(17)
	Japanese Yen	Buy	8/16/23	625,891	663,019	(37,128)
	New Zealand Dollar	Buy	7/19/23	8,775	8,720	55
	New Zealand Dollar	Sell	7/19/23	8,775	9,004	229
	New Zealand Dollar	Sell	10/18/23	8,772	8,716	(56)
	Swedish Krona	Sell	9/20/23	76,382	77,437	1,055
	Swiss Franc	Buy	9/20/23	225	225	—
JPMorgan Chase Bank N.A.						
	Canadian Dollar	Buy	7/19/23	118,537	118,271	266
	Canadian Dollar	Sell	7/19/23	118,537	117,092	(1,445)
	Canadian Dollar	Sell	10/18/23	118,710	118,446	(264)
	Norwegian Krone	Sell	9/20/23	6,287	6,177	(110)
	Swiss Franc	Buy	9/20/23	10,701	10,623	78

FORWARD CURRENCY CONTRACTS at 6/30/23 (aggregate face value \$23,465,958) (Unaudited) cont.

Counterparty	Currency	Contract type*	Delivery date	Value	Aggregate face value	Unrealized appreciation/(depreciation)
Morgan Stanley & Co. International PLC						
	Australian Dollar	Buy	7/19/23	\$21,725	\$21,643	\$82
	Australian Dollar	Sell	7/19/23	21,725	21,909	184
	Australian Dollar	Sell	10/18/23	21,779	21,697	(82)
	British Pound	Sell	9/20/23	460,219	452,967	(7,252)
	Canadian Dollar	Buy	7/19/23	862,904	869,039	(6,135)
	Canadian Dollar	Sell	7/19/23	862,904	857,468	(5,436)
	Euro	Sell	9/20/23	2,413,653	2,378,941	(34,712)
	New Zealand Dollar	Buy	7/19/23	941,419	935,701	5,718
	New Zealand Dollar	Sell	7/19/23	941,419	959,277	17,858
	New Zealand Dollar	Sell	10/18/23	918,638	912,720	(5,918)
	Norwegian Krone	Sell	9/20/23	404,719	395,240	(9,479)
NatWest Markets PLC						
	British Pound	Buy	9/20/23	34,297	34,433	(136)
	Euro	Sell	9/20/23	15,664	15,594	(70)
	Japanese Yen	Buy	8/16/23	268,210	284,158	(15,948)
	New Zealand Dollar	Buy	7/19/23	2,823	2,804	19
	New Zealand Dollar	Sell	7/19/23	2,823	2,785	(38)
	New Zealand Dollar	Sell	10/18/23	2,822	2,803	(19)
State Street Bank and Trust Co.						
	Australian Dollar	Buy	7/19/23	837,346	834,128	3,218
	Australian Dollar	Sell	7/19/23	837,346	851,123	13,777
	Australian Dollar	Sell	10/18/23	839,434	836,128	(3,306)
	British Pound	Sell	9/20/23	100,097	97,597	(2,500)
	Canadian Dollar	Buy	7/19/23	147,001	146,681	320
	Canadian Dollar	Sell	7/19/23	147,001	145,183	(1,818)
	Canadian Dollar	Sell	10/18/23	147,216	146,899	(317)
	Euro	Sell	9/20/23	1,324,415	1,310,843	(13,572)
	Japanese Yen	Buy	8/16/23	362,349	383,899	(21,550)
	New Zealand Dollar	Buy	7/19/23	14,114	14,023	91
	New Zealand Dollar	Sell	7/19/23	14,114	14,485	371
	New Zealand Dollar	Sell	10/18/23	14,109	14,017	(92)
	Norwegian Krone	Sell	9/20/23	145,904	143,354	(2,550)
	Swedish Krona	Sell	9/20/23	672,095	680,807	8,712
	Swiss Franc	Buy	9/20/23	58,341	57,926	415
Toronto-Dominion Bank						
	British Pound	Sell	9/20/23	37,219	36,316	(903)
	Canadian Dollar	Buy	7/19/23	1,641,323	1,639,528	1,795
	Canadian Dollar	Sell	7/19/23	1,641,323	1,621,130	(20,193)
	Canadian Dollar	Sell	10/18/23	1,417,792	1,414,709	(3,083)
	Japanese Yen	Buy	8/16/23	2,897	3,069	(172)
	Norwegian Krone	Sell	9/20/23	138,768	136,391	(2,377)
UBSAG						
	Canadian Dollar	Buy	7/19/23	10,495	10,472	23
	Canadian Dollar	Sell	7/19/23	10,495	10,367	(128)
	Canadian Dollar	Sell	10/18/23	10,510	10,487	(23)
	Euro	Buy	9/20/23	197,824	191,887	5,937
	Japanese Yen	Buy	8/16/23	577,300	611,580	(34,280)
	New Zealand Dollar	Buy	7/19/23	32,524	32,322	202
	New Zealand Dollar	Sell	7/19/23	32,524	33,268	744
	New Zealand Dollar	Sell	10/18/23	32,513	32,309	(204)
	Swedish Krona	Sell	9/20/23	4,597	4,657	60
	Swiss Franc	Sell	9/20/23	564	559	(5)

FORWARD CURRENCY CONTRACTS at 6/30/23 (aggregate face value \$23,465,958) (Unaudited) cont.

Counterparty	Currency	Contract type*	Delivery date	Value	Aggregate face value	Unrealized appreciation/(depreciation)
WestPac Banking Corp.						
	Australian Dollar	Buy	7/19/23	\$129,351	\$128,860	\$491
	Australian Dollar	Sell	7/19/23	129,351	131,506	2,155
	Australian Dollar	Sell	10/18/23	129,673	129,177	(496)
	Euro	Sell	9/20/23	6,682	6,614	(68)
Unrealized appreciation						74,552
Unrealized (depreciation)						(243,023)
Total						\$(168,471)

* The exchange currency for all contracts listed is the United States Dollar.

FUTURES CONTRACTS OUTSTANDING at 6/30/23 (Unaudited)	Number of contracts	Notional amount	Value	Expiration date	Unrealized appreciation/(depreciation)
U.S. Treasury Note 2yr (Short)	161	\$32,738,344	\$32,738,344	Sep-23	\$425,575
U.S. Treasury Note Ultra 10yr (Short)	11	1,302,813	1,302,813	Sep-23	11,835
Unrealized appreciation					437,410
Unrealized (depreciation)					—
Total					\$437,410

FORWARD PREMIUM SWAP OPTION CONTRACTS OUTSTANDING at 6/30/23 (Unaudited)

Counterparty	Fixed right or obligation % to receive or (pay)/ Floating rate index/Maturity date	Expiration date/strike	Notional/ contract amount	Premium receivable/ (payable)	Unrealized appreciation/ (depreciation)
Bank of America N.A.					
	(0.7988)/US SOFR/Apr-34 (Written)	Apr-24/0.7988	\$20,001,300	\$24,697	\$18,601
	(3.095)/US SOFR/Mar-36 (Written)	Mar-26/3.095	12,836,700	849,790	189,470
	3.095/US SOFR/Mar-36 (Written)	Mar-26/3.095	12,836,700	849,790	96,019
	1.8838/US SOFR/Apr-34 (Purchased)	Apr-24/1.8838	10,000,600	(73,146)	(45,103)
	(3.1625)/US SOFR/Mar-37 (Written)	Mar-27/3.1625	9,638,700	665,070	86,074
	3.1625/US SOFR/Mar-37 (Written)	Mar-27/3.1625	9,638,700	665,070	61,109
	(2.063)/US SOFR/Apr-56 (Purchased)	Apr-26/2.063	5,511,400	(1,154,247)	(6,228)
	2.063/US SOFR/Apr-56 (Purchased)	Apr-26/2.063	5,511,400	(261,017)	(43,264)
	(1.0035)/US SOFR/Mar-34 (Written)	Mar-24/1.0035	5,000,300	7,575	6,050
	(3.03)/US SOFR/Mar-36 (Purchased)	Mar-26/3.03	4,256,400	(272,197)	(12,897)
	3.03/US SOFR/Mar-36 (Purchased)	Mar-26/3.03	4,256,400	(272,197)	(64,910)
	(3.073)/US SOFR/Jun-37 (Written)	Jun-27/3.073	4,211,100	306,358	60,977
	3.073/US SOFR/Jun-37 (Written)	Jun-27/3.073	4,211,100	306,358	21,224
	2.0035/US SOFR/Mar-34 (Purchased)	Mar-24/2.0035	3,500,200	(27,183)	(17,956)
	3.49/US SOFR/May-40 (Purchased)	May-30/3.49	2,919,000	(342,700)	22,681
	(3.49)/US SOFR/May-40 (Purchased)	May-30/3.49	2,919,000	(342,700)	(22,447)
	3.343/US SOFR/Dec-35 (Purchased)	Dec-25/3.343	2,847,800	(184,680)	(13,869)
	(3.343)/US SOFR/Dec-35 (Purchased)	Dec-25/3.343	2,847,800	(184,680)	(46,419)
	(0.6385)/US SOFR/Mar-40 (Purchased)	Mar-30/0.6385	2,832,600	(656,406)	28
	0.6385/US SOFR/Mar-40 (Purchased)	Mar-30/0.6385	2,832,600	(27,694)	(2,833)
	(3.17)/US SOFR/Dec-35 (Purchased)	Dec-25/3.17	2,770,500	(144,066)	2,244
	2.67/US SOFR/Dec-35 (Purchased)	Dec-25/2.67	2,770,500	(141,296)	(48,789)
	(2.558)/US SOFR/Dec-57 (Purchased)	Dec-27/2.558	2,723,200	(402,489)	16,503
	2.558/US SOFR/Dec-57 (Purchased)	Dec-27/2.558	2,723,200	(402,489)	(124,723)
	(3.03)/US SOFR/Feb-33 (Written)	Feb-28/3.03	2,067,100	78,550	3,039
	3.03/US SOFR/Feb-33 (Written)	Feb-28/3.03	2,067,100	78,550	(5,209)
	(0.9876)/US SOFR/Mar-50 (Purchased)	Mar-30/0.9876	1,717,500	(554,682)	(2,782)
	0.9876/US SOFR/Mar-50 (Purchased)	Mar-30/0.9876	1,717,500	(37,307)	(4,500)
	(3.101)/US SOFR/Jun-39 (Written)	Jun-29/3.101	1,667,600	130,240	19,511
	3.101/US SOFR/Jun-39 (Written)	Jun-29/3.101	1,667,600	130,240	3,587
	(0.5644)/US SOFR/Mar-40 (Purchased)	Mar-30/0.5644	1,442,500	(342,505)	70
	0.5644/US SOFR/Mar-40 (Purchased)	Mar-30/0.5644	1,442,500	(13,198)	(1,370)

FORWARD PREMIUM SWAP OPTION CONTRACTS OUTSTANDING at 6/30/23 (Unaudited) cont.

Counterparty	Fixed right or obligation % to receive or (pay)/	Expiration	Notional/	Premium	Unrealized
Floating rate index/Maturity date		date/strike	contract	receivable/	appreciation/
			amount	(payable)	(depreciation)
Bank of America N.A. cont.					
(2.47)/US SOFR/Dec-57 (Purchased)		Dec-27/2.47	\$1,021,200	\$(151,648)	\$14,093
2.47/US SOFR/Dec-57 (Purchased)		Dec-27/2.47	1,021,200	(151,648)	(53,766)
(1.405)/US SOFR/Dec-58 (Purchased)		Dec-28/1.405	799,300	(122,593)	106,475
1.405/US SOFR/Dec-58 (Purchased)		Dec-28/1.405	799,300	(122,593)	(77,077)
Barclays Bank PLC					
1.945/US SOFR/Jun-51 (Purchased)		Jun-31/1.945	1,909,000	(102,895)	(3,207)
(1.945)/US SOFR/Jun-51 (Purchased)		Jun-31/1.945	1,909,000	(404,708)	(8,591)
Citibank, N.A.					
(3.166)/US SOFR/Jul-28 (Purchased)		Jul-23/3.166	13,472,200	(167,897)	266,211
3.166/US SOFR/Jul-28 (Purchased)		Jul-23/3.166	13,472,200	(167,897)	(167,055)
2.394/US SOFR/Sep-33 (Purchased)		Sep-23/2.394	8,029,300	(97,155)	(90,330)
(1.826)/US SOFR/Jan-42 (Purchased)		Jan-32/1.826	5,420,500	(400,304)	305,066
1.826/US SOFR/Jan-42 (Purchased)		Jan-32/1.826	5,420,500	(400,304)	(187,712)
(3.20)/US SOFR/Jul-33 (Purchased)		Jul-23/3.20	3,316,600	(52,568)	45,039
3.58/US SOFR/Jul-33 (Written)		Jul-23/3.58	3,316,600	18,905	(6,832)
3.39/US SOFR/Jul-33 (Written)		Jul-23/3.39	3,316,600	31,508	(24,112)
(1.34)/US SOFR/Jan-61 (Purchased)		Jan-41/1.34	1,533,900	(358,564)	307
1.34/US SOFR/Jan-61 (Purchased)		Jan-41/1.34	1,533,900	(128,081)	(7,992)
(2.14)/US SOFR/Jun-41 (Purchased)		Jun-31/2.14	1,498,600	(193,379)	809
2.14/US SOFR/Jun-41 (Purchased)		Jun-31/2.14	1,498,600	(58,146)	(5,860)
(0.055)/3 month EUR-EURIBOR/Mar-25 (Written)		Mar-24/0.055	EUR 81,528,100	261,576	254,436
0.555/3 month EUR-EURIBOR/Mar-25 (Purchased)		Mar-24/0.555	EUR 40,764,100	(257,143)	(249,988)
3.18/6 month EUR-EURIBOR/Mar-29 (Purchased)		Mar-24/3.18	EUR 8,591,200	(187,957)	(12,562)
(3.18)/6 month EUR-EURIBOR/Mar-29 (Purchased)		Mar-24/3.18	EUR 8,591,200	(187,957)	(64,873)
Deutsche Bank AG					
(3.19)/US SOFR/Mar-38 (Written)		Mar-28/3.19	\$2,855,000	198,851	13,247
3.19/US SOFR/Mar-38 (Written)		Mar-28/3.19	2,855,000	198,851	7,166
2.818/3 month EUR-EURIBOR/Mar-29 (Written)		Mar-28/2.818	EUR 12,265,300	118,431	15,659
(2.818)/3 month EUR-EURIBOR/Mar-29 (Written)		Mar-28/2.818	EUR 12,265,300	118,431	(8,700)
Goldman Sachs International					
(2.40)/US SOFR/May-57 (Purchased)		May-27/2.40	\$5,162,000	(665,898)	180,515
2.40/US SOFR/May-57 (Purchased)		May-27/2.40	5,162,000	(665,898)	(243,698)
(3.123)/US SOFR/Jul-33 (Purchased)		Jul-23/3.123	1,882,300	(37,270)	28,874
3.123/US SOFR/Jul-33 (Purchased)		Jul-23/3.123	1,882,300	(37,270)	(35,274)
(2.525)/US SOFR/Mar-47 (Purchased)		Mar-27/2.525	596,900	(84,163)	(555)
2.525/US SOFR/Mar-47 (Purchased)		Mar-27/2.525	596,900	(35,128)	(3,002)
2.85/3 month EUR-EURIBOR/Mar-29 (Purchased)		Mar-28/2.85	EUR 12,234,100	(115,079)	10,546
(2.85)/3 month EUR-EURIBOR/Mar-29 (Purchased)		Mar-28/2.85	EUR 12,234,100	(115,079)	(16,954)
3.18/6 month EUR-EURIBOR/Sep-33 (Purchased)		Sep-23/3.18	EUR 443,300	(12,486)	(1,050)
(3.18)/6 month EUR-EURIBOR/Sep-33 (Purchased)		Sep-23/3.18	EUR 443,300	(12,486)	(8,983)
JPMorgan Chase Bank N.A.					
(1.70)/US SOFR/Jan-29 (Written)		Jan-24/1.70	\$8,128,800	173,448	162,901
1.70/US SOFR/Jan-29 (Written)		Jan-24/1.70	8,128,800	173,448	(529,673)
(3.0175)/US SOFR/Dec-42 (Purchased)		Dec-32/3.0175	5,446,300	(458,851)	11,492
3.0175/US SOFR/Dec-42 (Purchased)		Dec-32/3.0175	5,446,300	(458,851)	(68,732)
(3.115)/US SOFR/Mar-43 (Written)		Mar-33/3.115	3,483,400	293,999	31,664
3.115/US SOFR/Mar-43 (Written)		Mar-33/3.115	3,483,400	293,999	2,543
(3.1525)/US SOFR/Mar-40 (Written)		Mar-30/3.1525	2,132,200	168,977	19,275
3.1525/US SOFR/Mar-40 (Written)		Mar-30/3.1525	2,132,200	168,977	4,733
(2.317)/US SOFR/Apr-42 (Written)		Apr-32/2.317	1,715,600	145,311	56,563
2.317/US SOFR/Apr-42 (Written)		Apr-32/2.317	1,715,600	145,311	(45,378)

FORWARD PREMIUM SWAP OPTION CONTRACTS OUTSTANDING at 6/30/23 (Unaudited) cont.

Counterparty Fixed right or obligation % to receive or (pay)/ Floating rate index/Maturity date	Expiration date/strike		Notional/ contract amount	Premium receivable/ (payable)	Unrealized appreciation/ (depreciation)
JPMorgan Chase Bank N.A. cont.					
(1.81)/US SOFR/Jan-37 (Written)	Jan-27/1.81		\$1,334,500	\$78,869	\$49,670
1.81/US SOFR/Jan-37 (Written)	Jan-27/1.81		1,334,500	78,869	(87,103)
(4.178)/6 month AUD-BBR-BBSW/Apr-40 (Purchased)	Apr-33/4.178	AUD	4,261,600	(152,738)	13,513
4.178/6 month AUD-BBR-BBSW/Apr-40 (Purchased)	Apr-33/4.178	AUD	4,261,600	(152,738)	(29,212)
(3.315)/6 month AUD-BBR-BBSW/May-52 (Purchased)	May-32/3.315	AUD	3,645,300	(306,536)	47,061
3.315/6 month AUD-BBR-BBSW/May-52 (Purchased)	May-32/3.315	AUD	3,645,300	(306,536)	(105,947)
(4.344)/6 month AUD-BBR-BBSW/Mar-33 (Purchased)	Mar-28/4.344	AUD	2,971,900	(74,171)	(1,623)
4.344/6 month AUD-BBR-BBSW/Mar-33 (Purchased)	Mar-28/4.344	AUD	2,971,900	(74,171)	(10,493)
(2.495)/6 month AUD-BBR-BBSW/Nov-46 (Purchased)	Nov-26/2.495	AUD	2,121,400	(131,925)	203,200
2.495/6 month AUD-BBR-BBSW/Nov-46 (Purchased)	Nov-26/2.495	AUD	2,121,400	(131,925)	(93,905)
(1.445)/6 month AUD-BBR-BBSW/Mar-40 (Purchased)	Mar-30/1.445	AUD	1,311,400	(49,158)	124,058
1.445/6 month AUD-BBR-BBSW/Mar-40 (Purchased)	Mar-30/1.445	AUD	1,311,400	(49,158)	(38,455)
(1.692)/6 month AUD-BBR-BBSW/Jan-35 (Purchased)	Jan-25/1.692	AUD	941,400	(29,371)	101,925
1.692/6 month AUD-BBR-BBSW/Jan-35 (Purchased)	Jan-25/1.692	AUD	941,400	(29,371)	(26,646)
(1.441)/6 month AUD-BBR-BBSW/Jul-45 (Purchased)	Jul-25/1.441	AUD	628,200	(37,153)	113,532
1.441/6 month AUD-BBR-BBSW/Jul-45 (Purchased)	Jul-25/1.441	AUD	628,200	(37,153)	(32,633)
(4.12)/6 month AUD-BBR-BBSW/Jan-43 (Purchased)	Jan-33/4.12	AUD	180,000	(9,391)	387
4.12/6 month AUD-BBR-BBSW/Jan-43 (Purchased)	Jan-33/4.12	AUD	180,000	(9,391)	(1,797)
Morgan Stanley & Co. International PLC					
(2.3825)/US SOFR/Jul-56 (Purchased)	Jul-26/2.3825		\$339,500	(43,032)	11,750
2.3825/US SOFR/Jul-56 (Purchased)	Jul-26/2.3825		339,500	(43,032)	(19,633)
Toronto-Dominion Bank					
2.118/US SOFR/Mar-41 (Purchased)	Mar-31/2.118		487,500	(16,234)	(219)
(2.118)/US SOFR/Mar-41 (Purchased)	Mar-31/2.118		487,500	(64,637)	(736)
UBS AG					
(2.00)/6 month AUD-BBR-BBSW/Sep-46 (Purchased)	Sep-36/2.00	AUD	1,703,900	(90,690)	70,226
2.00/6 month AUD-BBR-BBSW/Sep-46 (Purchased)	Sep-36/2.00	AUD	1,703,900	(90,690)	(35,913)
(2.70)/6 month AUD-BBR-BBSW/Apr-47 (Purchased)	Apr-37/2.70	AUD	800,600	(48,611)	15,104
2.70/6 month AUD-BBR-BBSW/Apr-47 (Purchased)	Apr-37/2.70	AUD	800,600	(48,611)	(14,954)
(0.44)/6 month EUR-EURIBOR/Feb-41 (Purchased)	Feb-31/0.44	EUR	1,688,700	(132,482)	217,735
0.44/6 month EUR-EURIBOR/Feb-41 (Purchased)	Feb-31/0.44	EUR	1,688,700	(132,482)	(72,142)
(1.325)/6 month EUR-EURIBOR/Apr-49 (Purchased)	Apr-29/1.325	EUR	1,143,800	(158,580)	96,092
1.325/6 month EUR-EURIBOR/Apr-49 (Purchased)	Apr-29/1.325	EUR	1,143,800	(158,580)	(82,438)
(0.296)/6 month EUR-EURIBOR/Jan-51 (Purchased)	Jan-31/0.296	EUR	562,900	(85,176)	107,676
0.296/6 month EUR-EURIBOR/Jan-51 (Purchased)	Jan-31/0.296	EUR	562,900	(85,176)	(48,070)
Unrealized appreciation					3,316,730
Unrealized (depreciation)					(3,087,174)
Total					\$229,556

**TBA SALE COMMITMENTS OUTSTANDING at 6/30/23
(proceeds receivable \$145,496,562) (Unaudited)**

Agency	Principal amount	Settlement date	Value
Uniform Mortgage-Backed Securities, 6.00%, 7/1/53	\$7,000,000	7/13/23	\$7,061,796
Uniform Mortgage-Backed Securities, 5.50%, 7/1/53	58,000,000	7/13/23	57,719,048
Uniform Mortgage-Backed Securities, 5.00%, 7/1/53	40,000,000	7/13/23	39,189,064
Uniform Mortgage-Backed Securities, 4.50%, 7/1/53	16,000,000	7/13/23	15,382,496
Uniform Mortgage-Backed Securities, 4.00%, 8/1/53	2,000,000	8/14/23	1,878,124
Uniform Mortgage-Backed Securities, 4.00%, 7/1/53	2,000,000	7/13/23	1,876,796
Uniform Mortgage-Backed Securities, 3.50%, 7/1/53	3,000,000	7/13/23	2,733,633
Uniform Mortgage-Backed Securities, 3.00%, 8/1/53	2,000,000	8/14/23	1,761,875
Uniform Mortgage-Backed Securities, 3.00%, 7/1/53	10,000,000	7/13/23	8,773,440
Uniform Mortgage-Backed Securities, 2.50%, 7/1/53	10,000,000	7/13/23	8,478,910
Total			\$144,855,182

CENTRALLY CLEARED INTEREST RATE SWAP CONTRACTS OUTSTANDING at 6/30/23 (Unaudited)

Notional amount	Value	Upfront premium received (paid)	Termination date	Payments made by fund	Payments received by fund	Unrealized appreciation/(depreciation)	
\$949,000	\$16,664	\$(8)	1/6/28	3.5615% — Annually	US SOFR — Annually	\$22,164	
595,000	16,083	(8)	3/15/33	3.234% — Annually	US SOFR — Annually	19,062	
382,000	8,358	(5)	3/24/33	US SOFR — Annually	3.2975% — Annually	(10,082)	
715,000	30,287	(9)	4/6/33	3.45% — Annually	US SOFR — Annually	33,572	
686,000	15,771	(9)	4/20/33	US SOFR — Annually	3.283% — Annually	(18,124)	
571,000	14,503	(8)	5/3/33	3.253% — Annually	US SOFR — Annually	16,173	
623,000	18,217	(5)	5/17/28	US SOFR — Annually	3.261% — Annually	(19,629)	
727,000	13,050	(8)	5/23/30	US SOFR — Annually	3.4095% — Annually	(14,363)	
75,430,000	485,015 ^E	(1,164,956)	9/20/28	US SOFR — Annually	3.95% — Annually	(679,941)	
13,600,000	51,272 ^E	(176,520)	9/20/33	US SOFR — Annually	3.55% — Annually	(125,248)	
2,266,000	2,583 ^E	(10,977)	9/20/25	US SOFR — Annually	4.541% — Annually	(13,560)	
765,000	1,522 ^E	(2,221)	9/20/33	US SOFR — Annually	3.48% — Annually	(3,743)	
60,191,000	227,522 ^E	(92,054)	9/20/25	4.40% — Annually	US SOFR — Annually	135,468	
9,823,000	85,067 ^E	136,996	9/20/28	4.00% — Annually	US SOFR — Annually	51,929	
19,176,000	151,299 ^E	262,053	9/20/33	3.60% — Annually	US SOFR — Annually	110,754	
1,332,000	11,695 ^E	(13,998)	9/20/53	US SOFR — Annually	3.20% — Annually	(2,303)	
4,202,000	14,539	(1,290)	6/23/25	US SOFR — Annually	4.625% — Annually	(16,228)	
10,945,000	77,710	5,803	6/23/28	3.753% — Annually	US SOFR — Annually	86,673	
3,344,000	23,107	(5,640)	6/23/33	US SOFR — Annually	3.475% — Annually	(29,919)	
4,650,000	12,276	(20,919)	6/23/53	US SOFR — Annually	3.17% — Annually	(35,140)	
3,624,000	2,754 ^E	(14)	8/3/25	US SOFR — Annually	4.683% — Annually	(2,768)	
2,554,000	2,580	(24)	7/5/28	3.9255% — Annually	US SOFR — Annually	(2,604)	
AUD	53,800	7,350 ^E	(1)	1/30/35	1.692% — Semiannually	6 month AUD-BBR-BBSW — Semiannually	7,349
AUD	181,000	26,689 ^E	(2)	3/5/35	1.47% — Semiannually	6 month AUD-BBR-BBSW — Semiannually	26,687
AUD	67,200	10,127 ^E	(1)	3/25/35	1.4025% — Semiannually	6 month AUD-BBR-BBSW — Semiannually	10,127
AUD	104,900	13,585 ^E	(1)	3/28/40	1.445% — Semiannually	6 month AUD-BBR-BBSW — Semiannually	13,583
AUD	391,500	55,151 ^E	(5)	4/1/40	1.1685% — Semiannually	6 month AUD-BBR-BBSW — Semiannually	55,146
AUD	25,100	6,011 ^E	(1)	7/2/45	1.441% — Semiannually	6 month AUD-BBR-BBSW — Semiannually	6,011
AUD	1,200,000	129,476	(13)	4/6/31	6 month AUD-BBR-BBSW — Semiannually	1.87% — Semiannually	(133,039)
AUD	1,315,300	222,920	228,856	11/24/42	6 month AUD-BBR-BBSW — Semiannually	2.50% — Semiannually	5,025
AUD	1,322,000	1,524 ^E	680	9/20/25	4.365% — Quarterly	3 month AUD-BBR-BBSW — Quarterly	2,204
AUD	2,078,000	3,585 ^E	(1,310)	9/20/23	6 month AUD-BBR-BBSW — Semiannually	4.4300% — Semiannually	2,276
CAD	1,264,000	12,442 ^E	3,984	9/20/33	3.56% — Semiannually	Canadian Overnight Repo Rate Average — Semiannually	(8,458)
CAD	1,264,000	1,565 ^E	(2,767)	9/20/25	Canadian Overnight Repo Rate Average — Semiannually	4.685% — Semiannually	(1,202)
CHF	400,000	8,147 ^E	231	9/20/33	Swiss Average Rate Overnight — Annually	1.977% — Annually	8,378
EUR	347,600	49,662 ^E	(13)	11/29/58	1.484% — Annually	6 month EUR-EURIBOR — Semiannually	49,649
EUR	472,900	121,571	(18)	2/19/50	6 month EUR-EURIBOR — Semiannually	1.354% — Annually	(124,965)
EUR	522,000	143,592	(20)	3/11/50	1.267% — Annually	6 month EUR-EURIBOR — Semiannually	147,396
EUR	528,600	151,406	(20)	3/12/50	1.2115% — Annually	6 month EUR-EURIBOR — Semiannually	155,354

CENTRALLY CLEARED INTEREST RATE SWAP CONTRACTS OUTSTANDING at 6/30/23 (Unaudited) cont.

Notional amount	Value	Upfront premium received (paid)	Termination date	Payments made by fund	Payments received by fund	Unrealized appreciation/ (depreciation)	
EUR	653,200	\$199,925	3/26/50	1.113% — Annually	6 month EUR-EURIBOR — Semiannually	\$203,927	
EUR	636,800	108,630 ^E	(24)	11/29/58	6 month EUR-EURIBOR — Semiannually	1.343% — Annually	(108,654)
EUR	679,000	216,550	(26)	2/19/50	1.051% — Annually	6 month EUR-EURIBOR — Semiannually	222,181
EUR	503,000	151,665 ^E	(19)	6/7/54	1.054% — Annually	6 month EUR-EURIBOR — Semiannually	151,645
EUR	458,800	160,136	(18)	2/19/50	0.9035% — Annually	6 month EUR-EURIBOR — Semiannually	164,206
EUR	307,000	113,642	(12)	2/21/50	0.80% — Annually	6 month EUR-EURIBOR — Semiannually	116,500
EUR	1,018,300	426,700 ^E	(39)	8/8/54	0.49% — Annually	6 month EUR-EURIBOR — Semiannually	426,661
EUR	614,700	298,703 ^E	(23)	6/6/54	6 month EUR-EURIBOR — Semiannually	0.207% — Annually	(298,726)
EUR	864,500	420,042	(33)	2/19/50	0.233% — Annually	6 month EUR-EURIBOR — Semiannually	429,995
EUR	3,365,700	1,386,646	(127)	2/19/50	6 month EUR-EURIBOR — Semiannually	0.595% — Annually	(1,420,853)
EUR	401,600	205,046 ^E	(15)	3/4/54	0.134% — Annually	6 month EUR-EURIBOR — Semiannually	205,031
EUR	189,700	111,695 ^E	(7)	3/13/54	—	0.2275% plus 6 month EUR-EURIBOR — Semiannually	111,688
EUR	1,164,500	222,513 ^E	(25)	5/13/40	6 month EUR-EURIBOR — Semiannually	0.276% — Annually	(222,537)
EUR	550,400	103,038 ^E	(12)	6/24/40	0.315% — Annually	6 month EUR-EURIBOR — Semiannually	103,026
EUR	766,600	145,871 ^E	(18)	1/16/40	0.315% — Annually	6 month EUR-EURIBOR — Semiannually	145,854
EUR	262,300	49,511 ^E	(6)	3/28/40	0.3175% — Annually	6 month EUR-EURIBOR — Semiannually	49,505
EUR	746,600	325,281	(30)	5/21/51	6 month EUR-EURIBOR — Semiannually	0.516% — Annually	(328,153)
EUR	730,000	159,825	(13)	6/14/31	0.171% — Annually	6 month EUR-EURIBOR — Semiannually	161,163
EUR	683,800	156,448	(12)	7/15/31	0.0675% — Annually	6 month EUR-EURIBOR — Semiannually	165,719
EUR	255,600	121,242	(10)	9/14/52	6 month EUR-EURIBOR — Semiannually	0.374% — Annually	(123,358)
EUR	2,046,000	408,185	(33)	3/7/32	6 month EUR-EURIBOR — Semiannually	0.60% — Annually	(428,075)
EUR	1,588,700	15,880 ^E	(25)	2/2/36	2.875% — Annually	6 month EUR-EURIBOR — Semiannually	(15,905)
EUR	2,726,900	94,207	(41)	9/8/32	2.615% — Annually	6 month EUR-EURIBOR — Semiannually	64,632
EUR	8,644,100	386,636	(33)	6/28/25	1.718% — Annually	6 month EUR-EURIBOR — Semiannually	388,345
EUR	872,000	173,130	(30)	8/29/52	6 month EUR-EURIBOR — Semiannually	1.636% — Annually	(170,881)
EUR	2,733,500	157,014 ^E	(31)	9/12/29	1.71% — Annually	6 month EUR-EURIBOR — Semiannually	156,983
EUR	10,052,000	832,857	(96)	9/2/27	6 month EUR-EURIBOR — Semiannually	1.372% — Annually	(830,989)
EUR	319,800	30,273 ^E	(11)	6/6/54	2.005% — Annually	6 month EUR-EURIBOR — Semiannually	30,262
EUR	473,000	38,571 ^E	(16)	6/7/54	2.065% — Annually	6 month EUR-EURIBOR — Semiannually	38,555
EUR	1,250,300	57,138 ^E	(18)	2/18/36	6 month EUR-EURIBOR — Semiannually	3.285% — Annually	57,120

CENTRALLY CLEARED INTEREST RATE SWAP CONTRACTS OUTSTANDING at 6/30/23 (Unaudited) cont.

Notional amount	Value	Upfront premium received (paid)	Termination date	Payments made by fund	Payments received by fund	Unrealized appreciation/ (depreciation)	
EUR	319,800	\$9,771 ^E	\$(6)	8/22/39	6 month EUR-EURIBOR — Semiannually	3.14% — Annually	\$9,765
EUR	7,679,100	83,459 ^E	(52)	6/26/28	6 month EUR-EURIBOR — Semiannually	3.26% — Annually	83,407
EUR	584,700	15,887 ^E	(11)	3/28/40	6 month EUR-EURIBOR — Semiannually	3.09% — Annually	15,876
EUR	2,225,000	8,376	(19)	2/24/28	3.206% — Annually	6 month EUR-EURIBOR — Semiannually	8,527
EUR	1,516,000	12,225	(21)	2/24/33	6 month EUR-EURIBOR — Semiannually	3.095% — Annually	11,445
EUR	1,030,000	8,396	(14)	2/24/33	3.096% — Annually	6 month EUR-EURIBOR — Semiannually	(7,899)
EUR	2,917,000	18,844	(25)	3/2/28	3.4215% — Annually	6 month EUR-EURIBOR — Semiannually	(20,176)
EUR	1,777,000	43,726	(25)	3/2/33	6 month EUR-EURIBOR — Semiannually	3.2755% — Annually	43,568
EUR	187,000	8,715	(7)	3/2/53	2.7465% — Annually	6 month EUR-EURIBOR — Semiannually	(8,353)
EUR	1,789,000	9,605	(15)	3/2/28	3.398% — Annually	6 month EUR-EURIBOR — Semiannually	(10,271)
EUR	317,000	4,891	(4)	3/10/33	3.176% — Annually	6 month EUR-EURIBOR — Semiannually	(4,574)
EUR	6,811,400	44,596	(68)	4/13/28	6 month EUR-EURIBOR — Semiannually	3.395% — Annually	44,750
EUR	1,120,300	21,161	(17)	4/13/33	3.203% — Annually	6 month EUR-EURIBOR — Semiannually	(20,707)
EUR	2,918,000	9,298	(25)	3/14/28	6 month EUR-EURIBOR — Semiannually	3.214% — Annually	(12,257)
EUR	1,112,000	4,781	(16)	3/14/33	3.0525% — Annually	6 month EUR-EURIBOR — Semiannually	(3,098)
EUR	91,000	482	(3)	3/14/53	2.5595% — Annually	6 month EUR-EURIBOR — Semiannually	(201)
EUR	1,964,000	20,895	(17)	3/17/28	6 month EUR-EURIBOR — Semiannually	3.075% — Annually	(21,255)
EUR	1,608,000	26,407	(14)	3/22/28	6 month EUR-EURIBOR — Semiannually	2.909% — Annually	(27,419)
EUR	1,399,000	15,388	(12)	3/23/28	3.021% — Annually	6 month EUR-EURIBOR — Semiannually	15,943
EUR	1,192,000	6,881	(10)	3/24/28	3.14% — Annually	6 month EUR-EURIBOR — Semiannually	6,849
EUR	335,000	768	(5)	3/24/33	6 month EUR-EURIBOR — Semiannually	3.0215% — Annually	653
EUR	564,000	5,834	(5)	3/27/28	6 month EUR-EURIBOR — Semiannually	3.045% — Annually	(6,219)
EUR	3,675,000	76,153	(32)	3/28/28	6 month EUR-EURIBOR — Semiannually	2.8235% — Annually	(81,733)
EUR	398,000	18,918	(15)	3/28/53	2.3165% — Annually	6 month EUR-EURIBOR — Semiannually	20,072
EUR	2,065,700	29,303	(32)	6/13/33	2.85% — Annually	6 month EUR-EURIBOR — Semiannually	30,293
EUR	7,574,400	142,740	(77)	6/13/28	2.87% — Annually	6 month EUR-EURIBOR — Semiannually	146,326
EUR	953,000	12,105	(8)	3/29/28	2.989% — Annually	6 month EUR-EURIBOR — Semiannually	13,059
EUR	560,000	3,294	(8)	3/29/33	6 month EUR-EURIBOR — Semiannually	2.9295% — Annually	(3,960)
EUR	190,000	2,979	(7)	3/29/53	6 month EUR-EURIBOR — Semiannually	2.459% — Annually	(3,458)
EUR	1,074,000	1,359	(15)	3/31/33	6 month EUR-EURIBOR — Semiannually	2.9825% — Annually	(2,423)

CENTRALLY CLEARED INTEREST RATE SWAP CONTRACTS OUTSTANDING at 6/30/23 (Unaudited) cont.

Notional amount	Value	Upfront premium received (paid)	Termination date	Payments made by fund	Payments received by fund	Unrealized appreciation/ (depreciation)	
EUR	521,000	\$1,467	4/3/33	6 month EUR-EURIBOR — Semiannually	3.0285% — Annually	\$1,046	
EUR	166,000	384	4/3/53	6 month EUR-EURIBOR — Semiannually	2.542% — Annually	31	
EUR	217,000	4,191	4/5/53	2.444% — Annually	6 month EUR-EURIBOR — Semiannually	4,711	
EUR	410,000	4,657	4/11/33	2.872% — Annually	6 month EUR-EURIBOR — Semiannually	5,155	
EUR	303,000	506	4/14/33	6 month EUR-EURIBOR — Semiannually	3.0165% — Annually	232	
EUR	138,000	1,793	4/14/53	6 month EUR-EURIBOR — Semiannually	2.59% — Annually	1,528	
EUR	344,000	8,386	4/20/53	6 month EUR-EURIBOR — Semiannually	2.6425% — Annually	7,646	
EUR	516,437	6,808 ^E	3/13/34	6 month EUR-EURIBOR — Semiannually	3.062% — Annually	6,800	
EUR	895,000	4,580 ^E	2,206	9/20/33	3.04% — Annually	6 month EUR-EURIBOR — Semiannually	(2,375)
GBP	477,400	147,664	(9)	5/19/31	Sterling Overnight Index Average — Annually	0.754% — Annually	(149,943)
GBP	34,143,500	397,198	28,282	9/15/23	Sterling Overnight Index Average — Annually	0.84% — Annually	(1,248,637)
GBP	34,143,500	411,074	42,471	9/15/23	Sterling Overnight Index Average — Annually	0.68% — Annually	(1,267,578)
GBP	34,143,500	424,950	(66,309)	9/15/23	0.52% — Annually	Sterling Overnight Index Average — Annually	1,342,818
GBP	13,657,400	151,074	(70)	9/15/23	1.065% — Annually	Sterling Overnight Index Average — Annually	454,443
GBP	5,950,000	498,200	(90)	9/21/32	3.522% — Annually	Sterling Overnight Index Average — Annually	498,550
GBP	509,000	8,669 ^E	(11)	1/14/40	3.306% — Annually	Sterling Overnight Index Average — Annually	8,658
GBP	262,000	4,638 ^E	(6)	8/20/39	3.299% — Annually	Sterling Overnight Index Average — Annually	4,633
GBP	19,875,000	190,824	(83)	11/7/24	5.495% — Annually	Sterling Overnight Index Average — Annually	(83,552)
GBP	7,917,000	47,458	(124)	11/9/32	Sterling Overnight Index Average — Annually	4.35% — Annually	(7,027)
GBP	375,100	7,722 ^E	(8)	2/26/39	Sterling Overnight Index Average — Annually	3.778% — Annually	7,714
GBP	584,000	45 ^E	2,523	9/20/33	4.32% — Annually	Sterling Overnight Index Average — Annually	2,479
NOK	4,705,000	5,821 ^E	(687)	9/20/33	6 month NOK-NIBOR-NIBR — Semiannually	3.68% — Annually	(6,508)
NZD	1,002,000	5,848 ^E	4,236	9/20/33	3 month NZD-BBR-FRA — Quarterly	4.35% — Semiannually	(1,612)
SEK	21,506,000	3,769 ^E	10,977	9/20/33	3.05% — Annually	3 month SEK-STIBOR-SIDE — Quarterly	7,208
Total			\$(832,415)				\$(1,028,519)

^E Extended effective date.

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/23 (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)
Morgan Stanley & Co. International PLC						
\$878,944	\$766,837	\$—	9/29/25	(0.165%) — Annually	Ephesus Funding DAC, 3.80%, Series 2020-01, 9/22/25 — Annually	\$(91,676)
854,414	803,399	—	7/17/24	3.825% (3 month USD-LIBOR-ICE minus 0.12%) — Quarterly	Pera Funding DAC, 3.825%, Series 2019-01, 7/10/24 — Quarterly	(50,647)
Upfront premium received		—	Unrealized appreciation		—	
Upfront premium (paid)		—	Unrealized (depreciation)		(142,323)	
Total		\$—	Total		\$(142,323)	

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION SOLD at 6/30/23 (Unaudited)

Swap counterparty/ Referenced debt*	Rating***	Upfront premium received (paid)**	Notional amount	Value	Termi- nation date	Payments received by fund	Unrealized appreciation/ (depreciation)
Bank of America N.A.							
CMBX NA BBB-.6 Index	BB+/P	\$904	\$8,550	\$1,851	5/11/63	300 bp — Monthly	\$(943)
CMBX NA BBB-.6 Index	BB+/P	5,468	45,600	9,872	5/11/63	300 bp — Monthly	(4,381)
Citigroup Global Markets, Inc.							
CMBX NAA.6 Index	A/P	4,583	14,821	2,116	5/11/63	200 bp — Monthly	2,471
CMBX NAA.6 Index	A/P	5,899	14,821	2,116	5/11/63	200 bp — Monthly	3,787
CMBX NAA.6 Index	A/P	5,202	15,581	2,225	5/11/63	200 bp — Monthly	2,982
CMBX NAA.6 Index	A/P	6,484	15,961	2,279	5/11/63	200 bp — Monthly	4,210
CMBX NAA.6 Index	A/P	14,740	33,442	4,776	5/11/63	200 bp — Monthly	9,976
CMBX NAA.6 Index	A/P	26,268	60,044	8,574	5/11/63	200 bp — Monthly	17,713
CMBX NAA.6 Index	A/P	38,559	82,846	11,830	5/11/63	200 bp — Monthly	26,756
CMBX NA BB.11 Index	BB-/P	57,630	102,000	41,096	11/18/54	500 bp — Monthly	16,619
CMBX NA BB.13 Index	BB-/P	7,267	77,000	33,618	12/16/72	500 bp — Monthly	(26,287)
CMBX NA BB.13 Index	BB-/P	10,661	117,000	51,082	12/16/72	500 bp — Monthly	(40,324)
CMBX NA BB.13 Index	BB-/P	47,351	183,000	79,898	12/16/27	500 bp — Monthly	(32,394)
CMBX NA BB.13 Index	BB-/P	32,549	357,000	155,866	12/16/72	500 bp — Monthly	(123,020)
CMBX NA BB.6 Index	B/P	86,542	145,556	58,484	5/11/63	500 bp — Monthly	28,178
CMBX NA BB.6 Index	B/P	149,906	704,195	282,946	5/11/63	500 bp — Monthly	(132,452)
CMBX NA BB.7 Index	B-/P	46,032	902,000	374,420	1/17/47	500 bp — Monthly	(327,636)
CMBX NA BB.9 Index	B/P	2,240	11,000	4,587	9/17/58	500 bp — Monthly	(2,338)
CMBX NA BB.9 Index	B/P	15,521	76,000	31,692	9/17/58	500 bp — Monthly	(16,108)
CMBX NA BBB-.10 Index	BB+/P	7,693	62,000	18,829	11/17/59	300 bp — Monthly	(11,105)
CMBX NA BBB-.10 Index	BB+/P	12,109	111,000	33,711	11/17/59	300 bp — Monthly	(21,546)
CMBX NA BBB-.11 Index	BBB-/P	689	11,000	2,668	11/18/54	300 bp — Monthly	(1,973)
CMBX NA BBB-.14 Index	BBB-/P	423	13,000	3,766	12/16/72	300 bp — Monthly	(3,337)
CMBX NA BBB-.15 Index	BBB-/P	9,081	34,000	9,840	11/18/64	300 bp — Monthly	(741)
CMBX NA BBB-.16 Index	BBB-/P	29,551	130,000	37,453	4/17/65	300 bp — Monthly	(7,837)
Credit Suisse International							
CMBX NA BB.7 Index	B-/P	22,204	166,000	68,907	1/17/47	500 bp — Monthly	(46,564)
CMBX NA BBB-.7 Index	BB-/P	13,231	179,000	35,782	1/17/47	300 bp — Monthly	(22,462)
CMBX NA BBB-.7 Index	BB-/P	34,676	528,000	105,547	1/17/47	300 bp — Monthly	(70,607)
Goldman Sachs International							
CMBX NA BB.9 Index	B/P	21,836	54,000	22,518	9/17/58	500 bp — Monthly	(637)
CMBX NA BBB-.11 Index	BBB-/P	64	1,000	243	11/18/54	300 bp — Monthly	(178)
CMBX NA BBB-.13 Index	BBB-/P	138	3,000	925	12/16/72	300 bp — Monthly	(786)
CMBX NA BBB-.13 Index	BBB-/P	677	4,000	1,234	12/16/72	300 bp — Monthly	(554)
CMBX NA BBB-.13 Index	BBB-/P	314	5,000	1,542	12/16/72	300 bp — Monthly	(1,225)
CMBX NA BBB-.13 Index	BBB-/P	1,425	9,000	2,776	12/16/72	300 bp — Monthly	(1,346)
CMBX NA BBB-.13 Index	BBB-/P	1,315	18,000	5,551	12/16/72	300 bp — Monthly	(4,227)
CMBX NA BBB-.13 Index	BBB-/P	4,545	29,000	8,944	12/16/72	300 bp — Monthly	(4,385)
CMBX NA BBB-.13 Index	BBB-/P	2,780	47,000	14,495	12/16/72	300 bp — Monthly	(11,691)

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION SOLD at 6/30/23 (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-.13 Index	BBB-/P	\$4,435	\$69,000	\$21,280	12/16/72	300 bp — Monthly	\$(16,810)
CMBX NA BBB-.14 Index	BBB-/P	5,014	33,000	9,560	12/16/72	300 bp — Monthly	(4,530)
CMBX NA BBB-.15 Index	BBB-/P	1,864	30,000	8,682	11/18/64	300 bp — Monthly	(6,803)
CMBX NA BBB-.15 Index	BBB-/P	5,699	64,000	18,522	11/18/64	300 bp — Monthly	(12,791)
CMBX NA BBB-.15 Index	BBB-/P	5,916	64,000	18,522	11/18/64	300 bp — Monthly	(12,574)
CMBX NA BBB-.16 Index	BBB-/P	20,457	85,000	24,489	4/17/65	300 bp — Monthly	(3,989)
CMBX NA BBB-.16 Index	BBB-/P	22,620	87,000	25,065	4/17/65	300 bp — Monthly	(2,401)
CMBX NA BBB-.7 Index	BB-/P	151,525	2,050,000	409,795	1/17/47	300 bp — Monthly	(257,245)
JPMorgan Securities LLC							
CMBX NA BB.10 Index	B/P	8,906	111,000	50,705	5/11/63	500 bp — Monthly	(41,706)
CMBX NA BB.6 Index	B/P	289,832	379,389	152,439	5/11/63	500 bp — Monthly	137,709
CMBX NA BBB-.11 Index	BBB-/P	2,864	26,000	6,305	11/18/54	300 bp — Monthly	(3,428)
CMBX NA BBB-.13 Index	BBB-/P	5,155	39,000	12,028	12/16/72	300 bp — Monthly	(6,853)
CMBX NA BBB-.8 Index	BB-/P	9,980	64,000	12,806	10/17/57	300 bp — Monthly	(2,794)
Merrill Lynch International							
CMBX NAA.13 Index	A-/P	17,571	132,000	16,091	12/16/72	200 bp — Monthly	1,524
CMBX NAA.13 Index	A-/P	17,205	132,000	16,091	12/16/72	200 bp — Monthly	1,158
CMBX NA BB.6 Index	B/P	5,703	34,367	13,809	5/11/63	500 bp — Monthly	(8,077)
Morgan Stanley & Co. International PLC							
CMBX NA BB.13 Index	BB-/P	837	9,000	3,929	12/16/72	500 bp — Monthly	(3,085)
CMBX NA BB.13 Index	BB-/P	820	9,000	3,929	12/16/72	500 bp — Monthly	(3,102)
CMBX NA BB.13 Index	BB-/P	6,096	66,000	28,816	12/16/72	500 bp — Monthly	(22,664)
CMBX NA BB.13 Index	BB-/P	15,517	169,000	73,785	12/16/72	500 bp — Monthly	(58,128)
CMBX NA BB.6 Index	B/P	7,658	42,454	17,058	5/11/63	500 bp — Monthly	(9,364)
CMBX NA BB.6 Index	B/P	48,757	97,037	38,990	5/11/63	500 bp — Monthly	9,849
CMBX NA BB.6 Index	B/P	76,812	121,971	49,008	5/11/63	500 bp — Monthly	27,906
CMBX NA BB.6 Index	B/P	84,420	135,448	54,423	5/11/63	500 bp — Monthly	30,110
CMBX NA BB.9 Index	B/P	1,602	4,000	1,668	9/17/58	500 bp — Monthly	(62)
CMBX NA BBB-.13 Index	BBB-/P	328	5,000	1,542	12/16/72	300 bp — Monthly	(1,212)
CMBX NA BBB-.13 Index	BBB-/P	769	13,000	4,009	12/16/72	300 bp — Monthly	(3,234)
CMBX NA BBB-.13 Index	BBB-/P	2,388	26,000	8,018	12/16/72	300 bp — Monthly	(5,617)
CMBX NA BBB-.14 Index	BBB-/P	6,252	38,000	11,009	12/16/72	300 bp — Monthly	(4,737)
CMBX NA BBB-.15 Index	BBB-/P	10,872	64,000	18,522	11/18/64	300 bp — Monthly	(7,618)
CMBX NA BBB-.15 Index	BBB-/P	12,928	82,000	23,731	11/18/64	300 bp — Monthly	(10,761)
CMBX NA BBB-.15 Index	BBB-/P	65,435	259,000	74,955	11/18/64	300 bp — Monthly	(9,390)
CMBX NA BBB-.16 Index	BBB-/P	21,595	95,000	27,370	4/17/65	300 bp — Monthly	(5,727)
CMBX NA BBB-.9 Index	BB+/P	774	8,000	1,910	9/17/58	300 bp — Monthly	(1,133)
Upfront premium received		1,665,163					Unrealized appreciation
Upfront premium (paid)		—					Unrealized (depreciation)
Total		\$1,665,163					Total
							\$(1,121,971)

* 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, 2023. 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 6/30/23 (Unaudited)

Swap counterparty/ Referenced debt*	Upfront premium received (paid)**	Notional amount	Value	Termi- nation date	Payments (paid) by fund	Unrealized appreciation/ (depreciation)
Citigroup Global Markets, Inc.						
CMBX NA BB.10 Index	\$(67,991)	\$282,000	\$128,818	11/17/59	(500 bp) — Monthly	\$60,592
CMBX NA BB.10 Index	(39,270)	154,000	70,347	11/17/59	(500 bp) — Monthly	30,949
CMBX NA BB.10 Index	(10,541)	101,000	46,137	11/17/59	(500 bp) — Monthly	35,512
CMBX NA BB.10 Index	(9,210)	84,000	38,371	11/17/59	(500 bp) — Monthly	29,091
CMBX NA BB.11 Index	(5,960)	46,000	18,533	11/18/54	(500 bp) — Monthly	12,535
CMBX NA BB.11 Index	(2,075)	40,000	16,116	11/18/54	(500 bp) — Monthly	14,008
CMBX NA BB.11 Index	(1,508)	16,000	6,446	11/18/54	(500 bp) — Monthly	4,925
CMBX NA BB.8 Index	(25,152)	70,545	32,599	10/17/57	(500 bp) — Monthly	7,388
CMBX NA BB.8 Index	(4,594)	35,756	16,523	10/17/57	(500 bp) — Monthly	11,899
CMBX NA BB.9 Index	(1,854)	46,000	19,182	9/17/58	(500 bp) — Monthly	17,289
CMBX NA BB.9 Index	(2,271)	22,000	9,174	9/17/58	(500 bp) — Monthly	6,885
CMBX NA BB.9 Index	(774)	12,000	5,004	9/17/58	(500 bp) — Monthly	4,220
CMBX NA BB.9 Index	(353)	9,000	3,753	9/17/58	(500 bp) — Monthly	3,392
CMBX NA BB.9 Index	(109)	3,000	1,251	9/17/58	(500 bp) — Monthly	1,140
CMBX NA BBB-.10 Index	(40,233)	234,000	71,066	11/17/59	(300 bp) — Monthly	30,716
CMBX NA BBB-.10 Index	(28,552)	123,000	37,355	11/17/59	(300 bp) — Monthly	8,742
CMBX NA BBB-.10 Index	(12,443)	57,000	17,311	11/17/59	(300 bp) — Monthly	4,840
CMBX NA BBB-.10 Index	(11,535)	53,000	16,096	11/17/59	(300 bp) — Monthly	4,535
CMBX NA BBB-.10 Index	(5,991)	47,000	14,274	11/17/59	(300 bp) — Monthly	8,259
CMBX NA BBB-.10 Index	(7,396)	31,000	9,415	11/17/59	(300 bp) — Monthly	2,003
CMBX NA BBB-.10 Index	(3,569)	28,000	8,504	11/17/59	(300 bp) — Monthly	4,920
CMBX NA BBB-.10 Index	(3,428)	27,000	8,200	11/17/59	(300 bp) — Monthly	4,758
CMBX NA BBB-.10 Index	(1,835)	15,000	4,556	11/17/59	(300 bp) — Monthly	2,713
CMBX NA BBB-.11 Index	(320)	1,000	243	11/18/54	(300 bp) — Monthly	(78)
CMBX NA BBB-.12 Index	(44,441)	133,000	42,480	8/17/61	(300 bp) — Monthly	(2,028)
CMBX NA BBB-.12 Index	(29,175)	83,000	26,510	8/17/61	(300 bp) — Monthly	(2,706)
CMBX NA BBB-.12 Index	(4,819)	70,000	22,358	8/17/61	(300 bp) — Monthly	17,504
CMBX NA BBB-.12 Index	(334)	1,000	319	8/17/61	(300 bp) — Monthly	(15)
CMBX NA BBB-.13 Index	(2,924)	50,000	15,420	12/16/72	(300 bp) — Monthly	12,471
CMBX NA BBB-.13 Index	(1,261)	25,000	7,710	12/16/72	(300 bp) — Monthly	6,437
CMBX NA BBB-.13 Index	(1,273)	25,000	7,710	12/16/72	(300 bp) — Monthly	6,424
CMBX NA BBB-.13 Index	(1,516)	20,000	6,168	12/16/72	(300 bp) — Monthly	4,642
CMBX NA BBB-.13 Index	(986)	18,000	5,551	12/16/72	(300 bp) — Monthly	4,557
CMBX NA BBB-.6 Index	(17,795)	54,150	11,723	5/11/63	(300 bp) — Monthly	(6,099)
CMBX NA BBB-.8 Index	(9,600)	64,000	12,806	10/17/57	(300 bp) — Monthly	3,174
CMBX NA BBB-.9 Index	(4,259)	18,000	4,297	9/17/58	(300 bp) — Monthly	29
Credit Suisse International						
CMBX NA BB.10 Index	(28,019)	210,000	95,928	11/17/59	(500 bp) — Monthly	67,734
CMBX NA BB.10 Index	(24,973)	210,000	95,928	11/17/59	(500 bp) — Monthly	70,780
CMBX NA BB.10 Index	(13,797)	111,000	50,705	11/17/59	(500 bp) — Monthly	36,815
CMBX NA BB.7 Index	(9,602)	366,586	147,294	5/11/63	(500 bp) — Monthly	137,387
CMBX NA BB.7 Index	(46,385)	282,000	117,058	1/17/47	(500 bp) — Monthly	70,438
CMBX NA BB.7 Index	(25,825)	140,000	58,114	1/17/47	(500 bp) — Monthly	32,172
CMBX NA BB.9 Index	(1,804)	18,000	7,506	9/17/58	(500 bp) — Monthly	5,687
Goldman Sachs International						
CMBX NAA.6 Index	(6,956)	39,903	5,698	5/11/63	(200 bp) — Monthly	(1,271)
CMBX NAA.6 Index	(9,028)	34,963	4,993	5/11/63	(200 bp) — Monthly	(4,047)
CMBX NAA.6 Index	(5,363)	20,902	2,985	5/11/63	(200 bp) — Monthly	(2,385)
CMBX NAA.6 Index	(5,004)	19,381	2,768	5/11/63	(200 bp) — Monthly	(2,243)
CMBX NAA.6 Index	(4,570)	17,101	2,442	5/11/63	(200 bp) — Monthly	(2,134)
CMBX NAA.6 Index	(3,197)	12,541	1,791	5/11/63	(200 bp) — Monthly	(1,410)
CMBX NAA.6 Index	(2,906)	11,401	1,628	5/11/63	(200 bp) — Monthly	(1,282)
CMBX NAA.6 Index	(2,906)	11,401	1,628	5/11/63	(200 bp) — Monthly	(1,282)

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION PURCHASED at 6/30/23 (Unaudited) cont.

Swap counterparty/ Referenced debt*	Upfront premium received (paid)**	Notional amount	Value	Termi- nation date	Payments (paid) by fund	Unrealized appreciation/ (depreciation)
Goldman Sachs International cont.						
CMBX NAA.6 Index	\$(2,864)	\$11,021	\$1,574	5/11/63	(200 bp) — Monthly	\$(1,294)
CMBX NAA.6 Index	(1,467)	5,700	814	5/11/63	(200 bp) — Monthly	(655)
CMBX NAA.6 Index	(1,272)	4,940	705	5/11/63	(200 bp) — Monthly	(568)
CMBX NAA.6 Index	(81)	380	54	5/11/63	(200 bp) — Monthly	(27)
CMBX NAA.6 Index	(87)	380	54	5/11/63	(200 bp) — Monthly	(33)
CMBX NAA.6 Index	(86)	380	54	5/11/63	(200 bp) — Monthly	(32)
CMBX NA BB.10 Index	(9,276)	41,000	18,729	11/17/59	(500 bp) — Monthly	9,418
CMBX NA BB.6 Index	(23,816)	109,841	44,134	5/11/63	(500 bp) — Monthly	20,227
CMBX NA BB.7 Index	(35,390)	216,000	89,662	1/17/47	(500 bp) — Monthly	54,091
CMBX NA BB.7 Index	(11,198)	74,000	30,717	1/17/47	(500 bp) — Monthly	19,457
CMBX NA BB.7 Index	(12,183)	60,000	24,906	1/17/47	(500 bp) — Monthly	12,673
CMBX NA BB.7 Index	(8,623)	51,000	21,170	1/17/47	(500 bp) — Monthly	12,505
CMBX NA BB.7 Index	(6,572)	36,000	14,944	1/17/47	(500 bp) — Monthly	8,342
CMBX NA BB.9 Index	(39)	1,000	417	9/17/58	(500 bp) — Monthly	377
CMBX NA BBB-.12 Index	(11,482)	34,000	10,860	8/17/61	(300 bp) — Monthly	(640)
CMBX NA BBB-.12 Index	(2,339)	12,000	3,833	8/17/61	(300 bp) — Monthly	1,487
JPMorgan Securities LLC						
CMBX NAA.6 Index	(4,454)	21,662	3,093	5/11/63	(200 bp) — Monthly	(1,368)
CMBX NA BB.7 Index	(78,835)	161,000	66,831	1/17/47	(500 bp) — Monthly	(12,138)
CMBX NA BB.9 Index	(14,826)	30,000	12,510	9/17/58	(500 bp) — Monthly	(2,341)
CMBX NA BBB-.12 Index	(1,802)	15,000	4,791	8/17/61	(300 bp) — Monthly	2,981
CMBX NA BBB-.7 Index	(499,810)	2,129,000	425,587	1/17/47	(300 bp) — Monthly	(75,287)
Merrill Lynch International						
CMBX NA BB.10 Index	(11,494)	202,000	92,274	11/17/59	(500 bp) — Monthly	80,612
CMBX NA BBB-.7 Index	(20,241)	247,000	49,375	1/17/47	(300 bp) — Monthly	29,011
Morgan Stanley & Co. International PLC						
CMBX NAA.6 Index	(5,070)	19,761	2,822	5/11/63	(200 bp) — Monthly	(2,255)
CMBX NAA.6 Index	(778)	3,040	434	5/11/63	(200 bp) — Monthly	(344)
CMBX NAA.6 Index	(291)	1,140	163	5/11/63	(200 bp) — Monthly	(128)
CMBX NAA.6 Index	(98)	380	54	5/11/63	(200 bp) — Monthly	(43)
CMBX NAA.6 Index	(96)	380	54	5/11/63	(200 bp) — Monthly	(41)
CMBX NAA.6 Index	(97)	380	54	5/11/63	(200 bp) — Monthly	(42)
CMBX NAA.6 Index	(86)	380	54	5/11/63	(200 bp) — Monthly	(31)
CMBX NA BB.10 Index	(31,705)	135,000	61,668	11/17/59	(500 bp) — Monthly	29,851
CMBX NA BB.10 Index	(29,160)	96,000	43,853	11/17/59	(500 bp) — Monthly	14,613
CMBX NA BB.10 Index	(6,397)	61,000	27,865	11/17/59	(500 bp) — Monthly	21,416
CMBX NA BB.7 Index	(15,485)	77,000	31,963	1/17/47	(500 bp) — Monthly	16,413
CMBX NA BB.7 Index	(13,305)	69,000	28,642	1/17/47	(500 bp) — Monthly	15,279
CMBX NA BB.7 Index	(404)	2,000	830	1/17/47	(500 bp) — Monthly	425
CMBX NA BB.9 Index	(156)	4,000	1,668	9/17/58	(500 bp) — Monthly	1,508
CMBX NA BBB-.10 Index	(10,652)	123,000	37,355	11/17/59	(300 bp) — Monthly	26,642
CMBX NA BBB-.10 Index	(11,105)	90,000	27,333	11/17/59	(300 bp) — Monthly	16,183
CMBX NA BBB-.10 Index	(11,288)	89,000	27,029	11/17/59	(300 bp) — Monthly	15,697
CMBX NA BBB-.10 Index	(5,991)	50,000	15,185	11/17/59	(300 bp) — Monthly	9,169
CMBX NA BBB-.10 Index	(2,182)	17,000	5,163	11/17/59	(300 bp) — Monthly	2,972
CMBX NA BBB-.10 Index	(3,252)	15,000	4,556	11/17/59	(300 bp) — Monthly	1,296
CMBX NA BBB-.11 Index	(14,559)	46,000	11,155	11/18/54	(300 bp) — Monthly	(3,427)
CMBX NA BBB-.11 Index	(11,860)	38,000	9,215	11/18/54	(300 bp) — Monthly	(2,664)
CMBX NA BBB-.13 Index	(3,390)	55,000	16,962	12/16/72	(300 bp) — Monthly	13,545
CMBX NA BBB-.7 Index	(5,016)	79,000	15,792	1/17/47	(300 bp) — Monthly	10,233
CMBX NA BBB-.7 Index	(5,501)	54,000	10,795	1/17/47	(300 bp) — Monthly	5,264
Upfront premium received	—					Unrealized appreciation
Upfront premium (paid)	(1,541,843)					Unrealized (depreciation)
Total	\$(1,541,843)		Total			\$1,108,911

* 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*:			
Utilities and power	\$—	\$11,925	\$—
Total common stocks	—	11,925	—
Asset-backed securities	—	923,696	—
Convertible bonds and notes	—	6,560,007	—
Corporate bonds and notes	—	17,655,388	—
Foreign government and agency bonds and notes	—	9,141,607	—
Mortgage-backed securities	—	39,161,157	—
Senior loans	—	1,954,556	—
U.S. government and agency mortgage obligations	—	195,531,391	—
U.S. treasury obligations	—	224,299	—
Short-term investments	910,000	34,549,551	—
Totals by level	\$910,000	\$305,713,577	\$—

Other financial instruments:	Valuation inputs		
	Level 1	Level 2	Level 3
Forward currency contracts	\$—	\$(168,471)	\$—
Futures contracts	437,410	—	—
Forward premium swap option contracts	—	229,556	—
TBA sale commitments	—	(144,855,182)	—
Interest rate swap contracts	—	(196,104)	—
Total return swap contracts	—	(142,323)	—
Credit default contracts	—	(136,380)	—
Totals by level	\$437,410	\$(145,268,904)	\$—

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

Statement of assets and liabilities

6/30/23 (Unaudited)

Assets	
Investment in securities, at value (Notes 1 and 9):	
Unaffiliated issuers (identified cost \$289,083,446)	\$279,307,644
Affiliated issuers (identified cost \$27,315,933) (Note 5)	27,315,933
Cash	70,754
Foreign currency (cost \$5) (Note 1)	6
Interest and other receivables	1,114,511
Receivable for shares of the fund sold	41,091
Receivable for investments sold	694,373
Receivable for sales of TBA securities (Note 1)	86,816,431
Receivable for variation margin on futures contracts (Note 1)	5,017
Receivable for variation margin on centrally cleared swap contracts (Note 1)	257,272
Unrealized appreciation on forward premium swap option contracts (Note 1)	3,316,730
Unrealized appreciation on forward currency contracts (Note 1)	74,552
Unrealized appreciation on OTC swap contracts (Note 1)	1,560,197
Premium paid on OTC swap contracts (Note 1)	1,541,843
Receivable from broker (Note 1)	79,195
Deposits with broker (Note 1)	1,585,273
Total assets	403,780,822

Liabilities	
Payable for investments purchased	871,682
Payable for purchases of TBA securities (Note 1)	137,543,872
Payable for shares of the fund repurchased	118,876
Payable for compensation of Manager (Note 2)	24,116
Payable for custodian fees (Note 2)	35,140
Payable for investor servicing fees (Note 2)	13,218
Payable for Trustee compensation and expenses (Note 2)	86,728
Payable for administrative services (Note 2)	447
Payable for distribution fees (Note 2)	14,277
Payable for variation margin on futures contracts (Note 1)	3,266
Payable for variation margin on centrally cleared swap contracts (Note 1)	216,988
Unrealized depreciation on OTC swap contracts (Note 1)	1,715,580
Premium received on OTC swap contracts (Note 1)	1,665,163
Unrealized depreciation on forward currency contracts (Note 1)	243,023
Unrealized depreciation on forward premium swap option contracts (Note 1)	3,087,174
TBA sale commitments, at value (proceeds receivable \$145,496,562) (Note 1)	144,855,182
Collateral on certain derivative contracts, at value (Notes 1 and 9)	1,134,299
Other accrued expenses	110,334
Total liabilities	291,739,365
Net assets	\$112,041,457

Represented by

Paid-in capital (Unlimited shares authorized) (Notes 1 and 4)	\$208,266,380
Total distributable earnings (Note 1)	(96,224,923)
Total — Representing net assets applicable to capital shares outstanding	\$112,041,457

Computation of net asset value Class IA

Net assets	\$42,860,662
Number of shares outstanding	9,739,589
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$4.40

Computation of net asset value Class IB

Net assets	\$69,180,795
Number of shares outstanding	15,616,963
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$4.43

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

Statement of operations

Six months ended 6/30/23 (Unaudited)

Investment income

Interest (including interest income of \$661,211 from investments in affiliated issuers) (Note 5)	\$3,792,197
Total investment income	3,792,197

Expenses

Compensation of Manager (Note 2)	309,346
Investor servicing fees (Note 2)	40,351
Custodian fees (Note 2)	36,523
Trustee compensation and expenses (Note 2)	2,543
Distribution fees (Note 2)	88,278
Administrative services (Note 2)	1,381
Auditing and tax fees	88,152
Other	25,245
Fees waived and reimbursed by Manager (Note 2)	(38,962)
Total expenses	552,857
Expense reduction (Note 2)	(2,492)
Net expenses	550,365
Net investment income	3,241,832

Realized and unrealized gain (loss)

Net realized gain (loss) on:

Securities from unaffiliated issuers (Notes 1 and 3)	(2,345,918)
Foreign currency transactions (Note 1)	(9,799)
Forward currency contracts (Note 1)	(195,294)
Futures contracts (Note 1)	168,829
Swap contracts (Note 1)	6,911,989
Written options (Note 1)	(382,934)
Total net realized gain	4,146,873

Change in net unrealized appreciation (depreciation) on:

Securities from unaffiliated issuers and TBA sale commitments	(1,376,112)
Assets and liabilities in foreign currencies	(26,352)
Forward currency contracts	13,433
Futures contracts	476,596
Swap contracts	(6,907,014)
Written options	356,700
Total change in net unrealized depreciation	(7,462,749)
Net loss on investments	(3,315,876)
Net decrease in net assets resulting from operations	\$(74,044)

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

Statement of changes in net assets

	Six months ended 6/30/23*	Year ended 12/31/22
Decrease in net assets		
Operations:		
Net investment income	\$3,241,832	\$4,415,737
Net realized gain (loss) on investments and foreign currency transactions	4,146,873	(24,197,961)
Change in net unrealized appreciation (depreciation) of investments and assets and liabilities in foreign currencies	(7,462,749)	15,858,770
Net decrease in net assets resulting from operations	(74,044)	(3,923,454)
Distributions to shareholders (Note 1):		
From ordinary income		
Net investment income		
Class IA	(2,802,496)	(3,337,580)
Class IB	(4,244,802)	(7,198,629)
Net realized short-term gain on investments		
Class IA	—	(560,938)
Class IB	—	(1,262,917)
From net realized long-term gain on investments		
Class IA	—	(448,750)
Class IB	—	(1,010,334)
Increase (decrease) from capital share transactions (Note 4)	2,045,040	(28,479,592)
Total decrease in net assets	(5,076,302)	(46,222,194)
Net assets:		
Beginning of period	117,117,759	163,339,953
End of period	\$112,041,457	\$117,117,759

* 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	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}	Ratio of net investment income (loss) to average net assets (%)	Portfolio turnover (%) ^e
Class IA													
6/30/23 †	\$4.70	.13	(.13)	— ^f	(.30)	—	(.30)	\$4.40	.01*	\$42,861	.40* ^g	2.90* ^g	922*
12/31/22	5.26	.15	(.24)	(.09)	(.36)	(.11)	(.47)	4.70	(2.06)	45,181	.81 ^g	3.17 ^g	1,417
12/31/21	5.69	.23	(.61)	(.38)	(.05)	—	(.05)	5.26	(6.73)	50,798	.77	4.07	1,115
12/31/20	6.26	.22	(.33) ^h	(.11)	(.46)	—	(.46)	5.69	(.76) ^h	58,536	.79	4.06	1,184
12/31/19	5.82	.27	.39	.66	(.22)	—	(.22)	6.26	11.56	66,012	.79	4.53	987
12/31/18	6.13	.32	(.36)	(.04)	(.27)	—	(.27)	5.82	(.74)	65,046	.80	5.28	790
Class IB													
6/30/23 †	\$4.72	.13	(.14)	(.01)	(.28)	—	(.28)	\$4.43	(.14)*	\$69,181	.53* ^g	2.76* ^g	922*
12/31/22	5.28	.14	(.25)	(.11)	(.34)	(.11)	(.45)	4.72	(2.35)	71,937	1.06 ^g	2.86 ^g	1,417
12/31/21	5.71	.21	(.60)	(.39)	(.04)	—	(.04)	5.28	(6.95)	112,542	1.02	3.81	1,115
12/31/20	6.27	.21	(.32) ^h	(.11)	(.45)	—	(.45)	5.71	(.90) ^h	124,933	1.04	3.80	1,184
12/31/19	5.83	.26	.38	.64	(.20)	—	(.20)	6.27	11.23	144,640	1.04	4.26	987
12/31/18	6.14	.30	(.35)	(.05)	(.26)	—	(.26)	5.83	(.98)	130,502	1.05	5.02	790

* 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/or brokerage/service arrangements, if any (Note 2). Also excludes acquired fund fees and expenses, if any.

^e Portfolio turnover includes TBA purchase and sale commitments.

^f Amount represents less than \$0.01 per share.

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

	Percentage of average net assets
6/30/23	0.03%
12/31/22	0.04

^h Reflects a non-recurring litigation payment received by the fund from an ISDA Fix Anti-Trust Settlement which amounted to the following amounts per share outstanding on May 4, 2020:

	Per share
Class IA	\$0.03
Class IB	0.03

This payment resulted in an increase to total returns of 0.52% for the period ended December 31, 2020.

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

Notes to financial statements 6/30/23 (Unaudited)

Unless otherwise noted, the “reporting period” represents the period from January 1, 2023 through June 30, 2023. The following table defines commonly used references within the Notes to financial statements:

References to	Represent
Putnam Management	Putnam Investment Management, LLC, the fund’s manager, an indirect wholly-owned subsidiary of Putnam Investments, LLC
State Street	State Street Bank and Trust Company
JPMorgan	JPMorgan Chase Bank, N.A.
the SEC	the Securities and Exchange Commission
OTC	over-the-counter
PIL	Putnam Investments Limited, an affiliate of Putnam Management

Putnam VT Diversified Income Fund (the fund) is a diversified series of Putnam Variable Trust (the Trust), a Massachusetts business trust registered under the Investment Company Act of 1940, as amended, as an open-end management investment company. The goal of the fund is to seek as high a level of current income as Putnam Management believes is consistent with preservation of capital. The fund invests mainly in bonds that are securitized debt instruments (such as mortgage-backed investments) and related derivative instruments, and other obligations of companies and governments worldwide, including bank loans, that are either investment-grade or below-investment-grade in quality (sometimes referred to as “junk bonds”) and have intermediate- to long-term maturities (three years or longer). The fund currently has significant investment exposure to residential and commercial mortgage-backed securities. Putnam Management may consider, among other factors, credit, interest rate and prepayment risks, as well as general market conditions, when deciding whether to buy or sell investments. The fund typically uses to a significant extent derivatives, including credit default swaps, interest rate swaps, total return swaps, to-be-announced (TBA) commitments, futures, options and swaptions on mortgage-backed securities and indices, and certain foreign currency transactions and credit default, total return and interest rate swap contracts for both hedging and non-hedging purposes, including to obtain or adjust exposure to mortgage-backed investments.

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, who has been designated as valuation designee pursuant to Rule 2a-5 under the Investment Company Act of 1940, 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 \$761,940 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, is recorded on the accrual basis. Amortization and accretion of premiums and discounts on debt securities, if any, is recorded on the accrual basis.

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

The fund may have earned certain fees in connection with its senior loan purchasing activities. These fees, if any, are treated as market discount and are amortized into income in the Statement of operations.

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 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 for hedging treasury term structure risk and for yield curve positioning.

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 for hedging currency exposures 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, for hedging term structure risk, for yield curve positioning and for gaining exposure to rates in various countries.

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.

At close of the reporting period, the fund has deposited cash valued at \$1,585,273 in a segregated account to cover margin requirements on open centrally cleared interest rate swap contracts.

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, for gaining exposure to specific sectors, for hedging inflation and for gaining exposure to inflation.

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, for gaining liquid exposure to individual names, to hedge market risk and for gaining exposure to specific sectors.

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 \$1,376,218 on open derivative contracts subject to the Master Agreements. Collateral pledged by the fund at period end for these agreements totaled \$1,402,473 and may include amounts related to unsettled agreements.

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 \$320 million syndicated unsecured committed line of credit, provided by State Street (\$160 million) and JPMorgan (\$160 million), and a \$235.5 million unsecured uncommitted line of credit, provided by State Street. Prior to May 2, 2023, the fund participated, along with other Putnam funds, in a \$100 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 and a \$75,000 fee has been paid by the participating funds to State Street as agent of the syndicated committed line of credit. In addition, a commitment fee of 0.21% per annum on any unutilized portion of the committed line of credit is allocated to the participating funds based on their relative net assets and paid quarterly. During the reporting period, the fund had no borrowings against these arrangements.

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

The fund is subject to the provisions of Accounting Standards Codification 740 *Income Taxes* (ASC 740). ASC 740 sets forth a minimum threshold for financial statement recognition of the benefit of a tax position taken or expected to be taken in a tax return. The fund did not have a liability to record for any unrecognized tax benefits in the accompanying financial statements. No provision has been made

for federal taxes on income, capital gains or unrealized appreciation on securities held nor for excise tax on income and capital gains. Each of the fund's federal tax returns for the prior three fiscal years remains subject to examination by the Internal Revenue Service.

The fund may also be subject to taxes imposed by governments of countries in which it invests. Such taxes are generally based on either income or gains earned or repatriated. The fund accrues and applies such taxes to net investment income, net realized gains and net unrealized gains as income and/or capital gains are earned. In some cases, the fund may be entitled to reclaim all or a portion of such taxes, and such reclaim amounts, if any, are reflected as an asset on the fund's books. In many cases, however, the fund may not receive such amounts for an extended period of time, depending on the country of investment.

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, 2022, 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
\$39,807,975	\$34,333,831	\$74,141,806

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 \$190,845,503, resulting in gross unrealized appreciation and depreciation of \$15,520,542 and \$44,573,962, respectively, or net unrealized depreciation of \$29,053,420.

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 52.5% 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:

0.700%	of the first \$5 billion,
0.650%	of the next \$5 billion,
0.600%	of the next \$10 billion,
0.550%	of the next \$10 billion,
0.500%	of the next \$50 billion,
0.480%	of the next \$50 billion,
0.470%	of the next \$100 billion and
0.465%	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 0.268% of the fund's average net assets.

Putnam Management has contractually agreed, through April 30, 2025, 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 plan, 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 \$38,962 as a result of this limit.

PIL 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 0.20% of the average net assets of the portion of the fund managed by PIL.

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	\$15,429
Class IB	24,922
Total	\$40,351

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 \$2,492 under the expense offset arrangements.

Each Independent Trustee of the fund receives an annual Trustee fee, of which \$101, 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)	\$1,434,131,609	\$1,434,592,380
U.S. government securities (Long-term)	—	—
Total	\$1,434,131,609	\$1,434,592,380

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 6/30/23		Year ended 12/31/22		Six months ended 6/30/23		Year ended 12/31/22	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
Shares sold	188,511	\$867,208	412,415	\$1,947,799	521,886	\$2,408,425	2,286,108	\$11,188,924
Shares issued in connection with reinvestment of distributions	639,839	2,802,496	898,196	4,347,268	962,540	4,244,802	1,944,945	9,471,880
	828,350	3,669,704	1,310,611	6,295,067	1,484,426	6,653,227	4,231,053	20,660,804
Shares repurchased	(700,852)	(3,200,170)	(1,347,262)	(6,542,606)	(1,114,100)	(5,077,721)	(10,296,581)	(48,892,857)
Net increase (decrease)	127,498	\$469,534	(36,651)	\$(247,539)	370,326	\$1,575,506	(6,065,528)	\$(28,232,053)

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 12/31/22	Purchase cost	Sale proceeds	Investment income	Shares outstanding and fair value as of 6/30/23
Short-term investments					
Putnam Short Term Investment Fund**	\$28,953,866	\$20,214,721	\$21,852,654	\$661,211	\$27,315,933
Total Short-term investments	\$28,953,866	\$20,214,721	\$21,852,654	\$661,211	\$27,315,933

**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.

Note 7 — Senior loan commitments

Senior loans are purchased or sold on a when-issued or delayed delivery basis and may be settled a month or more after the trade date, which from time to time can delay the actual investment of available cash balances; interest income is accrued based on the terms of the securities. Senior loans can be acquired through an agent, by assignment from another holder of the loan, or as a participation interest in another holder's portion of the loan. When the fund invests in a loan or participation, the fund is subject to the risk that an intermediate participant between the fund and the borrower will fail to meet its obligations to the fund, in addition to the risk that the borrower under the loan may default on its obligations.

Note 8 — 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 swap option contracts (contract amount)	\$359,400,000
Written swap option contracts (contract amount)	\$241,700,000
Futures contracts (number of contracts)	200
Forward currency contracts (contract amount)	\$18,800,000
Centrally cleared interest rate swap contracts (notional)	\$971,100,000
OTC total return swap contracts (notional)	\$1,700,000
OTC credit default contracts (notional)	\$17,400,000
Centrally cleared credit default contracts (notional)	\$350,000

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	\$2,650,754	Payables	\$2,929,457
Foreign exchange contracts	Receivables	74,552	Payables	243,023
Interest rate contracts	Investments, Receivables, Net assets — Unrealized appreciation	11,442,520*	Payables, Net assets — Unrealized depreciation	10,971,658*
Total		\$14,167,826		\$14,144,138

*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	Options	Futures	Forward currency contracts	Swaps	Total
Credit contracts	\$—	\$—	\$—	\$80,662	\$80,662
Foreign exchange contracts	—	—	(195,294)	—	\$(195,294)
Interest rate contracts	807,928	168,829	—	6,831,327	\$7,808,084
Total	\$807,928	\$168,829	\$(195,294)	\$6,911,989	\$7,693,452

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	Options	Futures	Forward currency contracts	Swaps	Total
Credit contracts	\$—	\$—	\$—	\$133,445	\$133,445
Foreign exchange contracts	—	—	13,433	—	\$13,433
Interest rate contracts	(2,951,842)	476,596	—	(7,040,459)	\$(9,515,705)
Total	\$(2,951,842)	\$476,596	\$13,433	\$(6,907,014)	\$(9,368,827)

Note 9 — 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)	Citibank, N.A.	Citigroup Global Markets, Inc.	Credit Suisse International	Deutsche Bank AG	Goldman Sachs International
Assets:								
Centrally cleared interest rate swap contracts [§]	\$—	\$—	\$257,272	\$—	\$—	\$—	\$—	\$—
OTC Total return swap contracts*#	—	—	—	—	—	—	—	—
OTC Credit default contracts — protection sold*#	—	—	—	—	—	—	—	—
OTC Credit default contracts — protection purchased*#	—	—	—	—	760,970	571,418	—	285,979
Futures contracts [§]	—	—	—	—	—	—	—	—
Forward currency contracts [#]	1,421	455	—	249	—	—	—	6,458
Forward premium swap option contracts [#]	727,755	—	—	871,868	—	—	36,072	219,935
Repurchase agreements**	—	—	—	—	747,000	—	—	—
Total Assets	\$729,176	\$455	\$257,272	\$872,117	\$1,507,970	\$571,418	\$36,072	\$512,372
Liabilities:								
Centrally cleared interest rate swap contracts [§]	\$—	\$—	\$216,988	\$—	\$—	\$—	\$—	\$—
OTC Total return swap contracts*#	—	—	—	—	—	—	—	—
OTC Credit default contracts — protection sold*#	11,696	—	—	—	1,251,386	209,744	—	592,796
OTC Credit default contracts — protection purchased*#	—	—	—	—	—	—	—	—
Futures contracts [§]	—	—	—	—	—	—	—	—
Forward currency contracts [#]	2,000	854	—	7,558	—	—	—	101
Forward premium swap option contracts [#]	594,142	11,798	—	817,316	—	—	8,700	309,516
Total Liabilities	\$607,838	\$12,652	\$216,988	\$824,874	\$1,251,386	\$209,744	\$8,700	\$902,413
Total Financial and Derivative Net Assets	\$121,338	\$(12,197)	\$40,284	\$47,243	\$256,584	\$361,674	\$27,372	\$(390,041)
Total collateral received (pledged)†##	\$115,007	\$—	\$—	\$(102,107)	\$256,584	\$290,000	\$—	\$(361,707)
Net amount	\$6,331	\$(12,197)	\$40,284	\$149,350	\$—	\$71,674	\$27,372	\$(28,334)
<i>Controlled collateral received (including TBA commitments)**</i>	\$115,007	\$—	\$—	\$—	\$—	\$290,000	\$—	\$—
<i>Uncontrolled collateral received</i>	\$—	\$—	\$—	\$—	\$761,940	\$—	\$—	\$—
<i>Collateral (pledged) (including TBA commitments)**</i>	\$—	\$—	\$—	\$(102,107)	\$(475,724)	\$—	\$—	\$(361,707)

*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 \$254,571 and \$1,585,273, respectively.

HSBC Bank USA, National Association	JPMorgan Chase Bank N.A.	JPMorgan Securities LLC	Merrill Lynch International	Morgan Stanley & Co. International PLC	NatWest Markets PLC	State Street Bank and Trust Co.	Toronto-Dominion Bank	UBSAG	WestPac Banking Corp.	Total
\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$257,272
—	—	—	—	—	—	—	—	—	—	—
—	—	—	—	—	—	—	—	—	—	—
—	—	511,574	141,358	379,455	—	—	—	—	—	2,650,754
—	—	5,017	—	—	—	—	—	—	—	5,017
3,453	344	—	—	23,842	19	26,904	1,795	6,966	2,646	74,552
—	942,517	—	—	11,750	—	—	—	506,833	—	3,316,730
—	—	—	—	—	—	—	—	—	—	747,000
\$3,453	\$942,861	\$516,591	\$141,358	\$415,047	\$19	\$26,904	\$1,795	\$513,799	\$2,646	\$7,051,325
\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$216,988
—	—	—	—	142,323	—	—	—	—	—	142,323
—	—	233,809	45,874	441,829	—	—	—	—	—	2,787,134
—	—	—	—	—	—	—	—	—	—	—
—	—	3,266	—	—	—	—	—	—	—	3,266
37,829	1,819	—	—	69,014	16,211	45,705	26,728	34,640	564	243,023
—	1,071,597	—	—	19,633	—	—	955	253,517	—	3,087,174
\$37,829	\$1,073,416	\$237,075	\$45,874	\$672,799	\$16,211	\$45,705	\$27,683	\$288,157	\$564	\$6,479,908
\$(34,376)	\$(130,555)	\$279,516	\$95,484	\$(257,752)	\$(16,192)	\$(18,801)	\$(25,888)	\$225,642	\$2,082	\$571,417
\$—	\$(121,869)	\$279,516	\$95,484	\$(257,752)	\$—	\$—	\$—	\$225,642	\$—	
\$(34,376)	\$(8,686)	\$—	\$—	\$—	\$(16,192)	\$(18,801)	\$(25,888)	\$—	\$2,082	
\$—	\$—	\$340,000	\$109,292	\$—	\$—	\$—	\$—	\$280,000	\$—	\$1,134,299
\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$761,940
\$—	\$(121,869)	\$—	\$—	\$(341,066)	\$—	\$—	\$—	\$—	\$—	\$(1,402,473)

Note 10 — Of special note

On May 31, 2023, Franklin Resources, Inc. (“Franklin Resources”) and Great-West Lifeco Inc., the parent company of Putnam U.S. Holdings I, LLC (“Putnam Holdings”), announced that they have entered into a definitive agreement for a subsidiary of Franklin Resources to acquire Putnam Holdings in a stock and cash transaction.

As part of this transaction, Putnam Management, a wholly-owned subsidiary of Putnam Holdings and investment manager to the Putnam family of funds (the “Putnam Funds”), would become an indirect wholly-owned subsidiary of Franklin Resources.

The transaction is subject to customary closing conditions, including receipt of applicable regulatory approvals. Subject to such approvals and the satisfaction of these conditions, the transaction is currently expected to be consummated in the fourth quarter of 2023.

Under the Investment Company Act of 1940, as amended, consummation of the transaction will result in the automatic termination of the investment management contract between each Putnam Fund and Putnam Management and any related sub-management and sub-advisory contracts, where applicable. In anticipation of this automatic termination, on June 23, 2023, the Board of Trustees of the Putnam Funds approved a new investment management contract between each Putnam Fund and Putnam Management (and new sub-management and sub-advisory contracts, if applicable), which will be presented to the shareholders of each Putnam Fund for their approval at shareholder meetings currently expected to occur in October 2023. Proxy solicitation materials related to these meetings have been made available to shareholders that held shares of the fund at the close of business on July 24, 2023.

Trustee approval of management contract

Consideration of your fund's new and interim management and sub-management contracts

At their meeting on June 23, 2023, the Board of Trustees of your fund, including all of the 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 mutual funds, closed-end funds, and exchange-traded funds (collectively, the “funds”) (the “Independent Trustees”) approved, subject to approval by your fund's shareholders, a new management contract with Putnam Investment Management (“Putnam Management”) and a new sub-management contract between Putnam Management and its affiliate, Putnam Investments Limited (“PIL”) (collectively, the “New Management Contracts”). The Trustees considered the proposed New Management Contracts in connection with the planned acquisition of Putnam U.S. Holdings I, LLC (“Putnam Holdings”) by a subsidiary of Franklin Resources, Inc. (“Franklin Templeton”). The Trustees considered that, on May 31, 2023, Franklin Templeton and Great-West Lifeco Inc., the parent company of Putnam Holdings, announced that they had entered into a definitive agreement for a subsidiary of Franklin Templeton to acquire Putnam Holdings in a stock and cash transaction (the “Transaction”). The Trustees noted that Putnam Holdings was the parent company of Putnam Management and PIL. The Trustees were advised that the Transaction would result in a “change of control” of Putnam Management and PIL and would cause your fund's current Management Contract with Putnam Management and Sub-Management Contract with PIL (collectively, the “Current Management Contracts”) to terminate in accordance with the 1940 Act. The Trustees considered that the New Management Contracts would take effect upon the closing of the Transaction, which was expected to occur in the fourth quarter of 2023.

In addition to the New Management Contracts, the Trustees also approved interim management and sub-management contracts with Putnam Management and PIL, respectively (the “Interim Management Contracts”), which would take effect in the event that for any reason shareholder approval of a New Management Contract was not received by the time of the Transaction closing. The Trustees considered that each Interim Management Contract that became effective would remain in effect until shareholders approved the proposed New Management Contract, or until 150 days elapse after the closing of the Transaction, whichever occurred first. The considerations and conclusions discussed in connection with the Trustees' consideration of the New Management Contracts and the continuance of your fund's Current Management Contracts also apply to the Trustees' consideration of the Interim Management Contracts, supplemented by consideration of the terms, nature and reason for any Interim Management Contract.

The Independent Trustees met with their independent legal counsel, as defined in Rule 0-1(a)(6) under the 1940 Act (their “independent legal counsel”), and representatives of Putnam Management and its parent company, Power Corporation of Canada, to discuss the potential Transaction, including the timing and structure of the Transaction and its implications for Putnam Management and the funds, during their regular meeting on November 18, 2022, and the full Board of Trustees further discussed these matters with representatives of Putnam Management at its regular meeting on December 15, 2022. At a special meeting on December 20, 2022, the full Board of Trustees met with representatives of Putnam Management, Power Corporation of Canada and Franklin Templeton to further discuss the potential Transaction, including Franklin

Templeton's strategic plans for Putnam Management's asset management business and the funds, potential sources of synergy between Franklin Templeton and Putnam Management, potential areas of partnership between Power Corporation of Canada and Franklin Templeton, Franklin Templeton's distribution capabilities, Franklin Templeton's existing service provider relationships and Franklin Templeton's recent acquisitions of other asset management firms.

In order to assist the Independent Trustees in their consideration of the New Management Contracts and other anticipated impacts of the Transaction on the funds and their shareholders, independent legal counsel for the Independent Trustees furnished an initial information request to Franklin Templeton (the “Initial Franklin Request”). At a special meeting of the full Board of Trustees held on January 25, 2023, representatives of Franklin Templeton addressed the firm's responses to the Initial Franklin Request. At the meeting, representatives of Franklin Templeton discussed, among other things, the business and financial condition of Franklin Templeton and its affiliates, Franklin Templeton's U.S. registered fund operations, its recent acquisition history, Franklin Templeton's intentions regarding the operation of Putnam Management and the funds following the completion of the potential Transaction and expected benefits to the funds and Putnam Management that might result from the Transaction.

The Board of Trustees actively monitored developments with respect to the potential Transaction throughout the period leading up to the public announcement of a final sale agreement on May 31, 2023. The Independent Trustees met to discuss these matters at their regular meetings on January 27, April 20 and May 19, 2023. The full Board of Trustees also discussed developments at their regular meeting on February 23, 2023. Following the public announcement of the Transaction on May 31, 2023, independent legal counsel for the Independent Trustees furnished a supplemental information request (the “Supplemental Franklin Request”) to Franklin Templeton. At the Board of Trustees' regular in-person meeting held on June 22-23, 2023, representatives of Putnam Management and Power Corporation of Canada provided further information regarding, among other matters, the final terms of the Transaction and efforts undertaken to retain Putnam employees. The Contract Committee of the Board of Trustees also met on June 22, 2023 to discuss Franklin Templeton's responses to the Supplemental Franklin Request. Mr. Reynolds, the only Trustee affiliated with Putnam Management, participated in portions of these meetings to provide the perspective of the Putnam organization, but did not otherwise participate in the deliberations of the Independent Trustees or the Contract Committee regarding the potential Transaction.

After the presentations and after reviewing the written materials provided, the Independent Trustees met at their in-person meeting on June 23, 2023 to consider the New Management Contracts for each fund, proposed to become effective upon the closing of the Transaction, and the filing of a preliminary proxy statement. At this meeting and throughout the process, the Independent Trustees also received advice from their independent legal counsel regarding their responsibilities in evaluating the potential Transaction and the New Management Contracts. The Independent Trustees reviewed the terms of the proposed New Management Contracts and the differences between the New Management Contracts and the Current Management Contracts. They noted that the terms of the proposed New Management Contracts were substantially identical to the Current Management Contracts, except for

certain changes designed largely to address differences among various of the existing contracts, which had been developed and implemented at different times in the past.

In considering the approval of the proposed New Management Contracts, the Board of Trustees took into account a number of factors, including:¹

- (i) Franklin Templeton's and Putnam Management's belief that the Transaction would not adversely affect the funds or their shareholders and their belief that the Transaction was likely to result in certain benefits (described below) for the funds and their shareholders;
- (ii) That Franklin Templeton did not intend to make any material change in Putnam Management's senior investment professionals (other than certain changes related to reporting structure and organization of personnel discussed below), including the portfolio managers of the funds, or to the firm's operating locations as a result of the Transaction;
- (iii) That Franklin Templeton intended for Putnam Management's equity investment professionals to continue to operate largely independently from Franklin Templeton, reporting to Franklin Templeton's Head of Public Markets following the Transaction;
- (iv) That, while Putnam Management's organizational structure was not expected to change immediately following the Transaction, Franklin Templeton intended to revise Putnam Management's reporting structure in order to include Putnam Management's fixed income investment professionals in Franklin Templeton's fixed income group and to include Putnam Management's Global Asset Allocation ("GAA") investment professionals in Franklin Templeton's investment solutions group, with both Franklin Templeton groups reporting to Franklin Templeton's Head of Public Markets;
- (v) Franklin Templeton's expectation that there would not be any changes in the investment objectives, strategies or portfolio holdings of the funds as a result of the Transaction;
- (vi) That neither Franklin Templeton nor Putnam Management had any current plans to propose changes to the funds' existing management fees or expense limitations, or current plans to make changes to the funds' existing distribution arrangements;
- (vii) Franklin Templeton's and Putnam Management's representations that, following the Transaction, there was not expected to be any diminution in the nature, quality and extent of services provided to the funds and their shareholders by Putnam Management and PIL, including compliance and other non-advisory services;
- (viii) That Franklin Templeton did not currently plan to change the branding of the funds or to change the lineup of funds in connection with the Transaction but would continue to evaluate how best to position the funds in the market;
- (ix) The possible benefits accruing to the funds and their shareholders as a result of the Transaction, including:
 - a. That the scale of Franklin Templeton's investment operations platform would increase the investment and operational resources available to the funds;
 - b. That the Putnam open-end funds would benefit from Franklin Templeton's large retail and institutional global distribution capabilities and significant network of intermediary

relationships, which may provide additional opportunities for the funds to increase assets and reduce expenses by spreading expenses over a larger asset base; and

- c. Potential benefits to shareholders of the Putnam open-end funds that could result from the alignment of certain fund features and shareholder benefits with those of other funds sponsored by Franklin Templeton and its affiliates and access to a broader array of investment opportunities;
- (x) The financial strength, reputation, experience and resources of Franklin Templeton and its investment advisory subsidiaries;
- (xi) Franklin Templeton's expectation that the Transaction would not impact the capabilities or responsibilities of Putnam Management's Investment Division (other than any impact related to reporting structure changes for Putnam Management's equity, fixed income and GAA investment groups and to including Putnam Management's fixed income and GAA investment professionals in existing Franklin Templeton investment groups, as discussed above) and that any changes to the Investment Division over the longer term would be made in order to achieve perceived operational efficiencies or improvements to the portfolio management process;
- (xii) Franklin Templeton's commitment to maintaining competitive compensation arrangements to allow Putnam Management to continue to attract and retain highly qualified personnel and Putnam Management's and Franklin Templeton's efforts to retain personnel, including efforts implemented since the Transaction was announced;
- (xiii) That the current senior management teams at Putnam Management and Power Corporation of Canada had indicated their strong support of the Transaction and that Putnam Management had recommended that the Board of Trustees approve the New Management Contracts; and
- (xiv) Putnam Management's and Great-West Lifeco Inc.'s commitment to bear all expenses incurred by the funds in connection with the Transaction, including all costs associated with the proxy solicitation in connection with seeking shareholder approval of the New Management Contracts.

Finally, in considering the proposed New Management Contracts, the Board of Trustees also took into account their concurrent deliberations and conclusions, as described below, in connection with their annual review of the funds' Current Management Contracts and the approval of their continuance, effective July 1, 2023, and the extensive materials that they had reviewed in connection with that review process.

Based upon the foregoing considerations, on June 23, 2023, the Board of Trustees, including all of the Independent Trustees, unanimously approved the proposed New Management Contracts and determined to recommend their approval to the shareholders of the funds.

General conclusions — Current Management Contracts

The Board of Trustees 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 Management and the sub-management contract with respect to your fund between Putnam Management and PIL. (Because PIL is an affiliate of Putnam

¹All subsequent references to Putnam Management describing the Board of Trustees' considerations should be deemed to include references to PIL as necessary or appropriate in the context.

Management and Putnam Management remains fully responsible for all services provided by PIL, the Trustees have not attempted to evaluate PIL as a separate entity.) The Board of Trustees, 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 Independent Trustees.

At the outset of the review process, members of the Board of Trustees' 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 2023, 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 of Trustees' independent staff and by independent legal counsel for the funds and the Independent Trustees.

At the Board of Trustees' June 2023 meeting, the Contract Committee met in executive session to discuss and consider its recommendations with respect to the continuance of the contracts. At that meeting, the Contract Committee also 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 recommended, and the Independent Trustees approved, the continuance of your fund's Current Management Contracts, effective July 1, 2023, and the approval of your fund's New Management Contracts and Interim Management Contracts, as discussed above.

The Independent Trustees' approvals were 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 mutual funds and closed-end 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 funds (including the exchange-traded funds) 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. The Trustees also took into account their concurrent deliberations and conclusions, and the materials that they had reviewed, in connection with their approval on June 23, 2023 of the Interim Management Contracts and the New Management Contracts, which had been proposed in light of the Transaction (which would cause the fund's Current Management Contracts to terminate in accordance with applicable law or the terms of each contract).

Management fee schedules and total expenses

The Trustees reviewed the management fee schedules in effect for all 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 mutual funds and each of the exchange-traded funds have implemented so-called "all-in" or unitary management fees covering substantially all routine fund operating costs.)

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 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, 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 2022. These expense limitations were: (i) a contractual expense limitation applicable to specified mutual funds, including your fund, of 25 basis points on investor servicing fees and expenses and (ii) a contractual expense limitation applicable to specified mutual 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 2022. However, in the case of your fund, the second expense limitation applied during its fiscal year ending in 2022. Putnam Management and PSERV have agreed to maintain these expense limitations until at least April 30, 2025. Putnam Management and PSERV's commitment to these expense limitation arrangements, which were intended to support an effort to have the mutual fund expenses meet competitive standards, was an important factor in the Trustees' decision to approve your fund's New Management Contracts and Interim

Management Contracts and the continuance of your fund's Current Management 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 first 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 fifth quintile in total expenses (excluding any applicable 12b-1 fees) as of December 31, 2022. 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, 2022 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, as applicable. 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 (as applicable) the funds' management, distribution and investor servicing contracts. For each fund, the analysis presented information about revenues, expenses and profitability in 2022 for each of the applicable 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 each of the 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 funds at that time.

The information examined by the Trustees in connection with their annual contract review for the 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 manager-traded separately managed account programs. 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 funds, as well as an assessment of the differences in the services provided to these clients as compared to the services provided to the funds. The Trustees observed that the differences in fee rates between these clients and the 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 1940 Act-registered funds than for other clients, and the Trustees also considered the differences between the services that Putnam Management provides to the 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, peer-relative and benchmark-relative Putnam fund performance was generally encouraging in 2022 against a backdrop of volatile equity and fixed income markets, driven by factors such as Russia's invasion of Ukraine, increased tensions with China, disruptions in energy markets and broader supply chains, rising inflation and the significant tightening of monetary policy by the Board of Governors of the Federal Reserve in an effort to combat inflation. The Trustees further noted that, in the face of these numerous economic headwinds, corporate earnings and employment data had been generally robust throughout 2022. For the one-year period ended December 31, 2022, the Trustees noted that the Putnam funds, on an asset-weighted basis, ranked in the 41st percentile of their peers as determined by Lipper Inc. ("Lipper") and, on an asset-weighted-basis, outperformed their benchmarks by 1.3% gross of fees over the one-year period. The Committee also noted that the funds' aggregate performance over longer-term periods continued to be strong, with the funds, on an asset-weighted basis, ranking in the 34th, 27th and 22nd percentiles of their Lipper peers over the three-year, five-year and ten-year periods ended December 31, 2022, respectively. The Trustees further noted that the funds, in the aggregate, outperformed their benchmarks on a gross basis for each of the three-year, five-year and ten-year periods. The Trustees also considered the Morningstar Inc. ratings assigned to the funds and that 40 funds were rated four or five stars at the end of 2022, which represented an increase of 15 funds year-over-year. The Trustees also considered that seven funds were five-star rated at the end of 2022, which was a year-over-year decrease of two funds, and that 83% of the funds' aggregate assets were in four- or five-star rated funds at year end.

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, as reported in the Barron's/Lipper Fund Families survey (the "Survey"). The Trustees noted that the Survey ranks mutual fund companies based on their performance across a variety of asset types, and that The Putnam Fund complex had performed exceptionally well in 2022. In this regard, the Trustees considered that the funds had ranked 9th out of 49 fund companies, 3rd out of 49 fund companies and 2nd out of 47 fund companies for the one-year, five-year and ten-year periods, respectively. The Trustees also noted that The Putnam Fund complex had been the only fund family to rank in the top ten in all three time periods. They also noted, however,

the disappointing investment performance of some Putnam funds for periods ended December 31, 2022 and considered information provided by Putnam Management regarding the factors contributing to the under-performance and, where relevant, actions being taken to improve the performance of these particular funds. The Trustees indicated their intention to continue to monitor the performance of those funds.

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 that its class IA share cumulative total return performance at net asset value was in the following quartiles of its Lipper peer group (Lipper VP (Underlying Funds) — General Bond Funds) for the one-year, three-year and five-year periods ended December 31, 2022 (the first quartile representing the best-performing funds and the fourth quartile the worst-performing funds):

One-year period	Three-year period	Five-year period
1st	3rd	2nd

For the one-year period ended December 31, 2022, your fund's performance was in the top decile of its Lipper peer group. Over the one-year, three-year and five-year periods ended December 31, 2022, there were 25, 21 and 21 funds, respectively, in your fund's Lipper peer group. (When considering performance information, shareholders should be mindful that past performance is not a guarantee of future results.)

The Trustees also 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.

Brokerage and soft-dollar allocations; distribution and 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 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 made to Putnam Management's affiliates by the mutual funds for distribution services and for investor services. In conjunction with the review of your fund's management and sub-management 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 mutual funds to PSERV and PRM for such services were 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 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 mutual funds, and that they were of a quality at least equal to those provided by other providers.

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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.

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 May 2023. 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 2022 through December 2022. The report included a description of the annual liquidity assessment of the fund that Putnam performed in November 2022. 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. Putnam concluded that the program has been operating effectively and adequately to ensure compliance with Rule 22e-4.

Fund information

Investment Manager

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

Investment Sub-Advisor

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

Marketing Services

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

Investor Servicing Agent

Putnam Investments
Mailing address:
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1-800-225-1581

Custodian

State Street Bank and Trust Company

Legal Counsel

Ropes & Gray LLP

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Kenneth R. Leibler, *Chair*
Barbara M. Baumann, *Vice Chair*
Liaquat Ahamed
Katinka Domotorffy
Catharine Bond Hill
Jennifer Williams Murphy
Marie Pillai
George Putnam III
Robert L. Reynolds
Manoj P. Singh
Mona K. Sutphen

The fund's Statement of Additional Information contains additional information about the fund's Trustees and is available without charge upon request by calling 1-800-225-1581.

