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Putnam Variable Trust

Putnam VT 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: Funds that invest in government securities are not guaranteed. Mortgage-backed investments, unlike traditional debt investments, are also subject to prepayment risk, which means that they may increase in value less than other bonds when interest rates decline and decline in value more than other bonds when interest rates rise. The fund may have to invest the proceeds from prepaid investments in other investments with less attractive terms and yields.

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 exposure to 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. 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

High current income consistent with what Putnam Investment Management, LLC believes to be prudent risk

Net asset value June 30, 2023

Class IA: \$8.09	Class IB: \$8.00
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Annualized total return at net asset value (as of 6/30/23)

	Class IA shares (2/1/88)	Class IB shares (4/30/98)	Bloomberg U.S. Aggregate Bond Index
6 months	1.08%	1.03%	2.09%
1 year	-2.58	-2.79	-0.94
5 years	-0.08	-0.33	0.77
10 years	1.59	1.33	1.52
Life of fund	5.37	5.15	5.31

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

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

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

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	32.5%
Investment-grade corporate bonds	30.4%
Commercial mortgage-backed securities	14.9%
Non-agency residential mortgage-backed securities	9.6%
Agency collateralized mortgage obligations	7.1%
Collateralized loan obligations	3.5%
High-yield corporate bonds	0.9%
Asset-backed securities	0.6%
Cash and net other assets	24.6%

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	23.3%
AA	4.8%
A	14.3%
BBB	19.6%
BB	3.6%
B	1.8%
CCC and below	2.8%
Not rated	5.1%
Cash and net other assets	24.6%

Credit qualities are shown as a percentage of the fund's net assets. A bond rated BBB or higher (A-3 or higher, for short-term debt) 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. 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
Total annual operating expenses for the fiscal year ended 12/31/22*	0.61%	0.86%
Annualized expense ratio for the six-month period ended 6/30/23	0.62%	0.87%

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.

*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*†	\$3.09	\$4.34	\$3.11	\$4.36
Ending value (after expenses)	\$1,010.80	\$1,010.30	\$1,021.72	\$1,020.48

*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.



Portfolio Manager **Brett S. Kozlowski, CFA**, is Co-Head of Structured Credit. He joined Putnam in 2008 and has been in the investment industry since 1997.



Portfolio Manager **Andrew C. Benson** has been in the investment industry since he joined Putnam in 2008.

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 (94.2%)*	Principal amount	Value
U.S. Government Guaranteed Mortgage Obligations (6.3%)		
Government National Mortgage Association		
Pass-Through Certificates		
5.00%, with due dates from 5/20/48 to 3/20/50	\$326,067	\$325,657
4.70%, with due dates from 5/20/67 to 8/20/67	120,731	118,002
4.639%, 6/20/67	51,508	50,075
4.552%, 3/20/67	60,597	58,731
4.50%, TBA, 7/1/53	4,000,000	3,859,458
4.50%, 5/20/48	111,078	108,354
4.00%, TBA, 7/1/53	2,000,000	1,891,056
4.00%, with due dates from 2/20/48 to 5/20/48	687,678	657,504
3.50%, with due dates from 11/15/47 to 11/20/49	1,688,579	1,574,614
3.00%, TBA, 7/1/53	1,000,000	893,354
		9,536,805
U.S. Government Agency Mortgage Obligations (87.9%)		
Federal Home Loan Mortgage Corporation		
Pass-Through Certificates		
4.50%, with due dates from 7/1/44 to 3/1/45	289,991	287,371
4.00%, 9/1/45	359,913	346,737
3.50%, with due dates from 8/1/43 to 2/1/47	1,303,324	1,215,758
3.00%, with due dates from 3/1/43 to 6/1/46	625,935	564,937
Federal National Mortgage Association		
Pass-Through Certificates		
5.00%, 3/1/38	3,650	3,657
4.50%, with due dates from 7/1/44 to 5/1/45	550,532	543,189
4.00%, with due dates from 9/1/45 to 6/1/46	537,021	516,053
3.50%, with due dates from 6/1/56 to 9/1/57	2,157,899	1,973,638
3.50%, with due dates from 7/1/43 to 1/1/47	567,595	526,581
3.00%, with due dates from 9/1/42 to 3/1/47	2,372,398	2,143,010
Uniform Mortgage-Backed Securities		
6.00%, TBA, 8/1/53	5,000,000	5,042,577
6.00%, TBA, 7/13/53	5,000,000	5,044,140
5.50%, TBA, 8/1/53	10,000,000	9,952,336
5.50%, TBA, 7/13/53	20,000,000	19,903,120
5.00%, TBA, 8/1/53	5,000,000	4,900,391
5.00%, TBA, 7/13/53	19,000,000	18,614,805
4.50%, TBA, 7/13/53	9,000,000	8,652,654
4.00%, TBA, 8/1/53	1,000,000	939,062
4.00%, TBA, 7/13/53	2,000,000	1,876,796
3.50%, TBA, 8/1/53	1,000,000	911,875
3.50%, TBA, 7/13/53	14,000,000	12,756,954
3.00%, TBA, 7/13/53	8,000,000	7,018,752
2.50%, TBA, 8/1/53	8,000,000	6,789,374
2.50%, TBA, 7/13/53	11,000,000	9,326,801
2.00%, TBA, 8/1/53	8,000,000	6,529,091
2.00%, TBA, 7/13/53	8,000,000	6,523,440
		132,903,099
Total U.S. government and agency mortgage obligations (cost \$144,228,049)		\$142,439,904
U.S. TREASURY OBLIGATIONS (0.1%)*		
U.S. Treasury Notes		
2.375%, 5/15/27 ⁱ	\$113,000	\$105,552
Total U.S. treasury obligations (cost \$105,552)		\$105,552

MORTGAGE-BACKED SECURITIES (32.3%)*	Principal amount	Value
Agency collateralized mortgage obligations (7.0%)		
Federal Home Loan Mortgage Corporation		
REMICs IFB Ser. 3408, Class EK, ((-4.024 x ICE LIBOR USD 1 Month) + 25.79%), 4.896%, 4/15/37	\$78,992	\$91,939
REMICs Ser. 4132, Class IP, IO, 4.50%, 11/15/42	192,256	21,302
REMICs Ser. 4018, Class DI, IO, 4.50%, 7/15/41	69,981	4,175
REMICs IFB Ser. 3065, Class DC, ((-3 x ICE LIBOR USD 1 Month) + 19.86%), 4.28%, 3/15/35	103,617	103,866
REMICs Ser. 4546, Class TI, IO, 4.00%, 12/15/45	461,429	83,542
REMICs Ser. 5050, Class IM, IO, 3.50%, 10/25/50	4,224,909	755,679
REMICs Ser. 4165, Class AI, IO, 3.50%, 2/15/43	409,075	60,846
REMICs Ser. 4141, Class PI, IO, 3.00%, 12/15/42	457,204	54,452
REMICs Ser. 4176, Class DI, IO, 3.00%, 12/15/42	891,381	60,147
REMICs IFB Ser. 4738, Class QS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.20%), 1.007%, 12/15/47	770,471	85,268
REMICs IFB Ser. 4945, Class SL, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.90%, 1/25/50	4,082,098	366,514
REMICs IFB Ser. 4839, Class AS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.857%, 6/15/42	2,883,446	117,143
REMICs IFB Ser. 4994, Class SD, IO, ((-1 x ICE LIBOR USD 1 Month) + 5.60%), 0.45%, 2/25/49	1,750,051	107,541
REMICs Ser. 3369, Class BO, PO, zero %, 9/15/37	1,961	1,553
REMICs Ser. 3391, PO, zero %, 4/15/37	12,948	10,659
REMICs Ser. 3210, PO, zero %, 5/15/36	1,288	1,253
REMICs FRB Ser. 3117, Class AF, (ICE LIBOR USD 1 Month + 0.00%), zero %, 2/15/36	4,036	3,074
Federal National Mortgage Association		
REMICs Ser. 15-33, Class AI, IO, 5.00%, 6/25/45	844,804	135,813
REMICs Ser. 15-3, Class BI, IO, 4.00%, 3/25/44	9,883	8
REMICs Ser. 13-18, Class IN, IO, 3.50%, 3/25/43	223,212	34,529
REMICs Ser. 13-55, Class IK, IO, 3.00%, 4/25/43	274,365	34,165
REMICs Ser. 12-144, Class KI, IO, 3.00%, 11/25/42	697,602	51,622
REMICs Ser. 13-55, Class PI, IO, 3.00%, 5/25/42	180,822	6,535
REMICs Ser. 13-67, Class IP, IO, 3.00%, 2/25/42	144,601	2,837
REMICs Ser. 13-30, Class IP, IO, 3.00%, 10/25/41	3,021	—
REMICs Ser. 13-23, Class LI, IO, 3.00%, 6/25/41	12,323	11
REMICs Ser. 21-12, Class NI, IO, 2.50%, 3/25/51	3,814,412	613,891
REMICs IFB Ser. 10-35, Class SG, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.40%), 1.25%, 4/25/40	268,022	27,122
REMICs IFB Ser. 19-3, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.95%, 2/25/49	2,318,179	156,848
REMICs IFB Ser. 18-94, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.95%, 1/25/49	544,556	34,813
REMICs IFB Ser. 14-83, Class SX, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.95%, 12/25/44	7,929,005	793,995
REMICs IFB Ser. 20-12, Class SK, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.90%, 3/25/50	1,005,782	104,823
REMICs IFB Ser. 16-8, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.90%, 3/25/46	1,983,585	191,086
Interest Strip Ser. 372, Class I, PO, zero %, 8/25/36	7,963	6,394
Government National Mortgage Association		
Ser. 09-79, Class IC, IO, 6.00%, 8/20/39	323,443	42,617
Ser. 14-180, IO, 5.00%, 12/20/44	884,191	170,410
Ser. 14-76, IO, 5.00%, 5/20/44	256,828	50,600
Ser. 10-35, Class UI, IO, 5.00%, 3/20/40	134,692	27,408
Ser. 10-9, Class UI, IO, 5.00%, 1/20/40	1,088,129	220,346
Ser. 09-121, Class UI, IO, 5.00%, 12/20/39	570,932	112,422
Ser. 10-35, Class QI, IO, 4.50%, 3/20/40	198,524	34,292

MORTGAGE-BACKED SECURITIES (32.3%)* cont.	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Government National Mortgage Association		
Ser. 20-46, Class MI, IO, 4.00%, 4/20/50	\$794,004	\$134,872
Ser. 15-149, Class KI, IO, 4.00%, 10/20/45	552,729	85,761
Ser. 15-53, Class MI, IO, 4.00%, 4/16/45	727,032	132,829
Ser. 14-2, Class IL, IO, 4.00%, 1/16/44	715,806	117,369
Ser. 12-56, Class IB, IO, 4.00%, 4/20/42	431,132	72,746
Ser. 12-38, Class MI, IO, 4.00%, 3/20/42	1,566,498	258,598
Ser. 19-158, Class PI, IO, 3.50%, 12/20/49	1,269,943	211,827
Ser. 12-136, IO, 3.50%, 11/20/42	663,758	89,107
Ser. 12-113, Class ID, IO, 3.50%, 9/20/42	471,863	75,278
Ser. 15-52, Class KI, IO, 3.50%, 11/20/40	250,779	18,733
Ser. 14-100, Class JI, IO, 3.50%, 7/16/29	457,553	22,552
Ser. 20-186, Class DI, IO, 3.00%, 12/20/50	4,945,654	688,506
IFB Ser. 23-66, Class PS, ((-2.5 x US 30 Day Average SOFR) + 15.38%), 2.709%, 5/20/53	483,206	476,634
Ser. 16-H11, Class HI, IO, 2.084%, 1/20/66 W	1,779,606	57,900
Ser. 15-H12, Class AI, IO, 1.836%, 5/20/65 W	1,730,870	61,100
Ser. 15-H12, Class GI, IO, 1.808%, 5/20/65 W	1,909,536	79,628
Ser. 15-H20, Class AI, IO, 1.807%, 8/20/65 W	925,248	35,067
Ser. 15-H10, Class CI, IO, 1.79%, 4/20/65 W	1,108,418	44,891
Ser. 15-H12, Class EI, IO, 1.677%, 4/20/65 W	2,289,296	81,041
Ser. 16-H14, IO, 1.653%, 6/20/66 W	2,110,028	61,471
Ser. 15-H25, Class AI, IO, 1.581%, 9/20/65 W	1,848,545	56,750
Ser. 15-H01, Class CI, IO, 1.535%, 12/20/64 W	777,783	14,859
Ser. 15-H17, Class CI, IO, 1.532%, 6/20/65 W	814,233	13,064
Ser. 14-H11, Class GI, IO, 1.493%, 6/20/64 W	3,629,964	115,901
Ser. 10-H19, Class GI, IO, 1.426%, 8/20/60 W	1,352,740	42,904
Ser. 17-H18, Class CI, IO, 1.211%, 9/20/67 W	1,535,161	110,238
IFB Ser. 20-112, Class MS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.30%), 1.143%, 8/20/50	4,251,257	522,644
IFB Ser. 12-149, Class GS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.20%), 1.054%, 12/20/42	1,139,834	94,709
IFB Ser. 14-131, Class BS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.20%), 1.042%, 9/16/44	675,363	87,162
IFB Ser. 19-123, Class SL, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.15%), 0.993%, 10/20/49	1,158,707	92,846
IFB Ser. 18-168, Class KS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.15%), 0.993%, 12/20/48	1,159,559	114,005
IFB Ser. 18-155, Class SE, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.954%, 11/20/48	624,166	58,023
IFB Ser. 20-32, Class GS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.943%, 3/20/50	922,362	93,861
IFB Ser. 20-11, Class SY, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.943%, 1/20/50	768,464	65,412
IFB Ser. 19-83, Class JS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.943%, 7/20/49	921,140	78,297
IFB Ser. 19-83, Class SW, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.943%, 7/20/49	940,291	87,052
IFB Ser. 19-20, Class SB, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.10%), 0.943%, 2/20/49	1,007,618	98,445
IFB Ser. 20-55, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.904%, 4/20/50	1,786,421	150,595
IFB Ser. 19-44, Class SA, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.893%, 4/20/49	812,877	53,157
IFB Ser. 19-119, Class KS, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.05%), 0.892%, 9/16/49	1,380,912	191,886
IFB Ser. 19-121, Class SD, IO, ((-1 x ICE LIBOR USD 1 Month) + 6.00%), 0.843%, 10/20/49	137,285	18,826
Ser. 17-H12, Class QI, IO, 0.147%, 5/20/67 W	1,583,232	51,707
FRB Ser. 15-H16, Class XI, IO, 0.11%, 7/20/65 W	957,450	45,479
Ser. 16-H24, Class JI, IO, 0.081%, 11/20/66 W	814,795	38,551

MORTGAGE-BACKED SECURITIES (32.3%)* cont.	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Government National Mortgage Association		
Ser. 15-H13, Class AI, IO, 0.079%, 6/20/65 W	\$2,092,509	\$81,531
Ser. 15-H25, Class CI, IO, 0.042%, 10/20/65 W	1,260,237	43,730
Ser. 16-H23, Class MI, IO, 0.04%, 10/20/66 W	6,260,079	194,154
Ser. 16-H23, Class NI, IO, 0.026%, 10/20/66 W	3,695,789	140,440
Ser. 15-H04, Class AI, IO, 0.023%, 12/20/64 W	1,750,305	47,958
Ser. 17-H10, Class MI, IO, 0.021%, 4/20/67 W	2,063,331	60,456
Ser. 17-H08, Class NI, IO, 0.019%, 3/20/67 W	2,026,695	65,462
Ser. 19-H02, Class DI, IO, zero %, 11/20/68 W	2,399,555	109,987
		10,627,541
Commercial mortgage-backed securities (15.7%)		
ACRES Commercial Realty, Ltd. 144A FRB		
Ser. 21-FL1, Class A, (CME Term SOFR 1 Month + 1.31%), 6.416%, 6/15/36	344,320	334,011
Arbor Realty Commercial Real Estate CLO, Ltd. 144A FRN Ser. 21-FL2, Class A, (ICE LIBOR USD 1 Month + 1.10%), 6.293%, 5/15/36 (Cayman Islands)		
	115,000	112,922
Banc of America Commercial Mortgage Trust		
FRB Ser. 15-UBS7, Class B, 4.483%, 9/15/48 W	483,000	429,718
FRB Ser. 07-1, Class XW, IO, 0.508%, 1/15/49 W	54,337	37
BANK FRB Ser. 18-BN13, Class XA, IO, 0.583%, 8/15/61 W		
	7,172,594	138,661
Barclays Commercial Mortgage Trust 144A FRB		
Ser. 19-C5, Class F, 2.729%, 11/15/52 W	234,000	121,089
BDS Ltd. 144A FRB Ser. 21-FL8, Class A, 6.077%, 1/18/36 (Cayman Islands)		
	239,062	234,520
BDS, Ltd. 144A		
FRB Ser. 21-FL10, Class A, (ICE LIBOR USD 1 Month + 1.35%), 6.507%, 12/16/36 (Cayman Islands)	316,000	308,100
FRB Ser. 21-FL9, Class A, (ICE LIBOR USD 1 Month + 1.07%), 6.227%, 11/16/38 (Cayman Islands)	141,000	136,528
Benchmark Mortgage Trust 144A Ser. 19-B13, Class D, 2.50%, 8/15/57		
	185,000	103,162
CFCRE Commercial Mortgage Trust 144A		
FRB Ser. 11-C2, Class D, 5.249%, 12/15/47 W	72,758	64,988
FRB Ser. 11-C2, Class E, 5.249%, 12/15/47 W	597,000	480,479
Citigroup Commercial Mortgage Trust		
FRB Ser. 15-P1, Class C, 4.514%, 9/15/48 W	585,000	498,414
FRB Ser. 14-GC19, Class XA, IO, 1.259%, 3/11/47 W	8,455,224	21,662
FRB Ser. 13-GC17, Class XA, IO, 1.13%, 11/10/46 W	2,453,001	547
FRB Ser. 14-GC23, Class XA, IO, 1.049%, 7/10/47 W	15,753,750	107,626
COMM Mortgage Trust		
FRB Ser. 14-CR17, Class C, 4.942%, 5/10/47 W	492,000	429,908
Ser. 12-LC4, Class B, 4.934%, 12/10/44 W	160,843	148,177
FRB Ser. 14-UBS4, Class C, 4.806%, 8/10/47 W	283,000	228,811
FRB Ser. 18-COR3, Class C, 4.711%, 5/10/51 W	630,000	503,706
FRB Ser. 14-UBS6, Class C, 4.582%, 12/10/47 W	83,000	67,978
FRB Ser. 15-CR23, Class C, 4.443%, 5/10/48 W	293,000	245,862
Ser. 13-CR12, Class AM, 4.30%, 10/10/46	191,000	167,230
FRB Ser. 14-LC15, Class XA, IO, 1.207%, 4/10/47 W	5,499,054	19,247
FRB Ser. 14-CR19, Class XA, IO, 1.083%, 8/10/47 W	4,155,694	27,641
FRB Ser. 15-CR23, Class XA, IO, 1.00%, 5/10/48 W	4,243,775	46,855

MORTGAGE-BACKED SECURITIES (32.3%)* cont.	Principal amount	Value
Commercial mortgage-backed securities cont.		
COMM Mortgage Trust		
FRB Ser. 14-UBS6, Class XA, IO, 0.98%, 12/10/47 W	\$7,013,961	\$55,445
FRB Ser. 13-CR11, Class XA, IO, 0.939%, 8/10/50 W	1,454,558	218
COMM Mortgage Trust 144A		
FRB Ser. 12-CR1, Class D, 5.487%, 5/15/45 W	115,000	83,855
FRB Ser. 13-CR13, Class D, 5.032%, 11/10/46 W	389,000	324,558
FRB Ser. 13-CR13, Class E, 5.032%, 11/10/46 W	123,000	72,665
FRB Ser. 14-CR17, Class D, 5.006%, 5/10/47 W	198,000	171,484
FRB Ser. 14-CR19, Class D, 4.853%, 8/10/47 W	178,000	153,210
FRB Ser. 13-CR6, Class D, 3.988%, 3/10/46 W	205,000	147,600
Ser. 13-LC6, Class E, 3.50%, 1/10/46	161,000	127,190
Ser. 17-COR2, Class D, 3.00%, 9/10/50	389,000	264,520
Credit Suisse Commercial Mortgage Trust 144A		
FRB Ser. 07-C2, Class AX, IO, 0.047%, 1/15/49 W	3,118,488	1
CSAIL Commercial Mortgage Trust		
FRB Ser. 15-C1, Class C, 4.393%, 4/15/50 W	276,000	225,624
FRB Ser. 15-C3, Class XA, IO, 0.815%, 8/15/48 W	13,881,972	143,083
CSAIL Commercial Mortgage Trust 144A FRB		
Ser. 15-C1, Class D, 3.893%, 4/15/50 W	502,000	294,420
CSMC Trust FRB Ser. 16-NXSR, Class XA, IO, 0.829%, 12/15/49 W		
	5,796,829	101,566
DBUBS Mortgage Trust 144A FRB Ser. 11-LC3A, Class D, 5.538%, 8/10/44 W		
	283,898	246,222
Federal Home Loan Mortgage Corporation 144A Multifamily Structured Credit Risk FRB		
Ser. 21-MN3, Class M2, 9.067%, 11/25/51	337,000	305,702
GS Mortgage Securities Corp., II 144A		
Ser. 13-GC10, Class C, 4.285%, 2/10/46 W	230,664	220,992
GS Mortgage Securities Trust		
FRB Ser. 14-GC18, Class C, 5.223%, 1/10/47 W	584,000	321,200
FRB Ser. 14-GC18, Class XA, IO, 1.185%, 1/10/47 W	4,302,645	8,175
FRB Ser. 14-GC22, Class XA, IO, 1.089%, 6/10/47 W	13,248,364	59,145
FRB Ser. 15-GS1, Class XA, IO, 0.903%, 11/10/48 W	19,230,706	284,764
FRB Ser. 13-GC13, Class XA, IO, 0.024%, 7/10/46 W	40,660,223	24
GS Mortgage Securities Trust 144A		
FRB Ser. 10-C1, Class D, 6.569%, 8/10/43 W	414,000	326,090
FRB Ser. 14-GC24, Class D, 4.657%, 9/10/47 W	510,000	217,440
FRB Ser. 11-GC5, Class XA, IO, 0.088%, 8/10/44 W	735,075	7
JPMBB Commercial Mortgage Securities Trust		
FRB Ser. 13-C15, Class C, 5.33%, 11/15/45 W	246,000	234,051
FRB Ser. 14-C22, Class C, 4.698%, 9/15/47 W	287,000	239,657
FRB Ser. 13-C12, Class C, 4.165%, 7/15/45 W	256,000	223,991
FRB Ser. 14-C25, Class XA, IO, 0.952%, 11/15/47 W	2,755,041	20,867
FRB Ser. 14-C22, Class XA, IO, 0.946%, 9/15/47 W	14,355,776	77,244
FRB Ser. 13-C17, Class XA, IO, 0.829%, 1/15/47 W	2,029,542	1,994
JPMBB Commercial Mortgage Securities Trust 144A		
FRB Ser. 13-C14, Class E, 4.43%, 8/15/46 W	441,000	98,564
FRB Ser. C14, Class D, 4.43%, 8/15/46 W	715,000	375,647
Ser. 14-C25, Class E, 3.332%, 11/15/47 W	517,000	310,872
JPMDB Commercial Mortgage Securities Trust		
FRB Ser. 18-C8, Class C, 4.971%, 6/15/51 W	106,000	85,637

MORTGAGE-BACKED SECURITIES (32.3%)* cont.	Principal amount	Value
Commercial mortgage-backed securities cont.		
JPMorgan Chase Commercial Mortgage Securities Trust		
Ser. 06-LDP9, Class AMS, 5.337%, 5/15/47	\$230,974	\$215,814
Ser. 13-LC11, Class B, 3.499%, 4/15/46	289,000	252,046
FRB Ser. 13-LC11, Class XA, IO, 1.091%, 4/15/46 W	275,735	6
FRB Ser. 13-C16, Class XA, IO, 0.987%, 12/15/46 W	3,247,599	360
JPMorgan Chase Commercial Mortgage Securities Trust 144A		
FRB Ser. 11-C3, Class D, 5.71%, 2/15/46 W	148,000	104,336
FRB Ser. 11-C3, Class F, 5.71%, 2/15/46 W	635,000	159,259
FRB Ser. 12-C6, Class E, 5.129%, 5/15/45 W	288,000	230,273
FRB Ser. 11-C3, Class B, 5.013%, 2/15/46 W	300,863	291,264
FRB Ser. 12-LC9, Class D, 3.91%, 12/15/47 W	127,000	110,341
FRB Ser. 13-LC11, Class E, 3.25%, 4/15/46 W	498,000	222,876
FRB Ser. 21-1MEM, Class D, 2.742%, 10/9/42 W	650,000	397,985
FRB Ser. 21-1MEM, Class E, 2.742%, 10/9/42 W	250,000	144,179
Ladder Capital Commercial Mortgage Trust 144A		
FRB Ser. 17-LC26, Class XA, IO, 1.684%, 7/12/50 W	6,052,171	267,127
MF1 Multifamily Housing Mortgage Loan Trust 144A FRB Ser. 21-FL5, Class A, 6.111%, 7/15/36		
	299,667	293,774
MF1 Multifamily Housing Mortgage Loan, Ltd. 144A FRB Ser. 21-FL7, Class C, IO, (ICE LIBOR USD 1 Month + 2.05%), 7.207%, 10/16/36 (Cayman Islands)		
	112,000	104,962
MF1 Multifamily Housing Mortgage, Ltd. 144A FRB Ser. 21-FL6, Class A, (CME Term SOFR 1 Month + 1.21%), 6.316%, 7/16/36 (Cayman Islands)		
	313,000	307,047
Morgan Stanley Bank of America Merrill Lynch Trust		
FRB Ser. 15-C27, Class C, 4.644%, 12/15/47 W	587,000	503,107
FRB Ser. 14-C16, Class B, 4.439%, 6/15/47 W	376,000	344,134
FRB Ser. 15-C23, Class B, 4.277%, 7/15/50 W	339,000	302,897
FRB Ser. 14-C17, Class XA, IO, 1.182%, 8/15/47 W	2,538,960	11,070
FRB Ser. 15-C25, Class XA, IO, 1.18%, 10/15/48 W	4,679,566	71,531
FRB Ser. 15-C26, Class XA, IO, 1.11%, 10/15/48 W	3,978,719	49,844
FRB Ser. 13-C12, Class XA, IO, 0.79%, 10/15/46 W	5,077,592	61
Morgan Stanley Bank of America Merrill Lynch Trust 144A		
FRB Ser. 14-C14, Class D, 5.227%, 2/15/47 W	235,000	210,742
FRB Ser. 12-C6, Class E, 4.673%, 11/15/45 W	138,000	97,152
FRB Ser. 13-C11, Class D, 4.484%, 8/15/46 W	319,000	17,883
FRB Ser. 15-C23, Class D, 4.277%, 7/15/50 W	531,000	437,035
FRB Ser. 13-C10, Class E, 4.20%, 7/15/46 W	683,000	176,202
FRB Ser. 13-C10, Class F, 4.20%, 7/15/46 W	273,000	13,720
Ser. 14-C17, Class E, 3.50%, 8/15/47	290,000	216,576
Ser. 14-C19, Class D, 3.25%, 12/15/47	261,000	208,045
FRB Ser. 13-C13, Class XB, IO, 0.152%, 11/15/46 W	55,988,000	5,599
Morgan Stanley Capital I Trust		
FRB Ser. 18-L1, Class C, 4.951%, 10/15/51 W	244,000	195,005
Ser. 15-UBS8, Class B, 4.315%, 12/15/48 W	412,000	354,235
FRB Ser. 16-BNK2, Class XA, IO, 1.09%, 11/15/49 W	3,320,494	80,290
FRB Ser. 16-UB12, Class XA, IO, 0.788%, 12/15/49 W	8,642,032	156,053
Morgan Stanley Capital I Trust 144A FRB		
Ser. 11-C3, Class E, 5.251%, 7/15/49 W	93,456	82,644

MORTGAGE-BACKED SECURITIES (32.3%)* cont.	Principal amount	Value
Commercial mortgage-backed securities cont.		
Multifamily Connecticut Avenue Securities Trust 144A		
FRB Ser. 20-01, Class M10, 8.90%, 3/25/50	\$403,000	\$385,993
FRB Ser. 19-01, Class M10, 8.40%, 10/25/49	778,711	751,456
PPF, Ltd. 144A FRB Ser. 21-8, Class C, 6.958%, 8/9/37 (Cayman Islands)	129,000	120,722
Ready Capital Mortgage Financing, LLC 144A		
FRB Ser. 22-FL10, Class AS, 8.154%, 10/25/39	243,000	240,528
FRB Ser. 22-FL8, Class AS, 7.167%, 1/25/37	379,000	373,691
FRB Ser. 22-FL8, Class A, 6.717%, 1/25/37	115,509	113,783
FRB Ser. 21-FL7, Class A, 6.35%, 11/25/36	252,768	246,546
RIAL Issuer, Ltd. 144A FRB Ser. 22-FL8, Class B, 8.341%, 1/19/37	345,000	332,925
TIAA Real Estate CDO, Ltd. 144A Ser. 03-1A, Class E, 8.00%, 12/28/38 (In default) †	859,373	9
UBS Commercial Mortgage Trust		
FRB Ser. 19-C17, Class XA, IO, 1.605%, 10/15/52 W	4,255,467	280,227
FRB Ser. 17-C7, Class XA, IO, 1.156%, 12/15/50 W	4,525,548	150,261
FRB Ser. 18-C12, Class XA, IO, 0.94%, 8/15/51 W	4,782,169	174,482
UBS-Barclays Commercial Mortgage Trust 144A		
Ser. 12-C2, Class F, 5.00%, 5/10/63 W	629,000	6
FRB Ser. 12-C2, Class E, 4.842%, 5/10/63 W	816,000	8,158
Ser. 13-C6, Class E, 3.50%, 4/10/46	150,000	75,000
FRB Ser. 12-C2, Class XA, IO, 0.663%, 5/10/63 W	1,483,222	20
Wachovia Bank Commercial Mortgage Trust FRB Ser. 06-C29, IO, 0.452%, 11/15/48 W	156,976	95
Wells Fargo Commercial Mortgage Trust		
Ser. 19-C49, Class B, 4.546%, 3/15/52	148,000	126,331
FRB Ser. 20-C57, Class C, 4.157%, 8/15/53 W	153,000	119,153
Ser. 15-LC20, Class C, 4.056%, 4/15/50 W	162,000	146,449
FRB Ser. 19-C50, Class XA, IO, 1.578%, 5/15/52 W	4,438,385	249,182
FRB Ser. 17-C41, Class XA, IO, 1.302%, 11/15/50 W	3,206,531	123,913
FRB Ser. 14-LC16, Class XA, IO, 1.212%, 8/15/50 W	5,532,906	28,162
FRB Ser. 18-C43, Class XA, IO, 0.739%, 3/15/51 W	13,823,943	309,915
FRB Ser. 15-LC20, Class XB, IO, 0.627%, 4/15/50 W	13,766,000	103,658
Wells Fargo Commercial Mortgage Trust 144A		
Ser. 14-LC16, Class D, 3.938%, 8/15/50	247,000	17,427
Ser. 16-C33, Class D, 3.123%, 3/15/59	288,000	224,074
Ser. 19-C53, Class D, 2.50%, 10/15/52	218,000	121,826
WF-RBS Commercial Mortgage Trust		
Ser. 13-C11, Class B, 3.714%, 3/15/45 W	151,208	131,943
FRB Ser. 14-C24, Class XA, IO, 0.983%, 11/15/47 W	5,888,677	45,383
FRB Ser. 14-C22, Class XA, IO, 0.927%, 9/15/57 W	13,160,286	78,448
FRB Ser. 13-C14, Class XA, IO, 0.559%, 6/15/46 W	701,809	7
WF-RBS Commercial Mortgage Trust 144A		
Ser. 11-C4, Class F, 5.00%, 6/15/44 W	402,000	255,866
Ser. 11-C4, Class E, 4.992%, 6/15/44 W	55,000	40,459
FRB Ser. 11-C4, Class C, 4.992%, 6/15/44 W	248,733	235,422
FRB Ser. 13-C15, Class D, 4.584%, 8/15/46 W	919,000	230,399
FRB Ser. 12-C10, Class D, 4.538%, 12/15/45 W	768,000	425,888
	23,704,884	

MORTGAGE-BACKED SECURITIES (32.3%)* cont.	Principal amount	Value
Residential mortgage-backed securities (non-agency) (9.6%)		
Angel Oak Mortgage Trust 144A Ser. 23-3, Class A1, 4.80%, 9/26/67	\$109,000	\$102,848
Arroyo Mortgage Trust 144A Ser. 19-3, Class M1, 4.204%, 10/25/48 W	330,000	278,660
Bellemeade Re, Ltd. 144A FRB Ser. 20-2A, Class B1, (ICE LIBOR USD 1 Month + 8.50%), 13.65%, 8/26/30 (Bermuda)	151,000	154,818
BRAVO Residential Funding Trust 144A Ser. 20-RPL1, Class M1, 3.25%, 5/26/59 W	353,000	313,871
Bunker Hill Loan Depository Trust 144A FRB Ser. 20-1, Class A3, 3.253%, 2/25/55 W	332,000	283,975
Chevy Chase Funding, LLC Mortgage-Backed Certificates 144A FRB Ser. 04-3A, Class A2, (ICE LIBOR USD 1 Month + 0.30%), 5.45%, 8/25/35	53,574	48,067
Citigroup Mortgage Loan Trust 144A Ser. 22-A, Class A1, 6.17%, 9/25/62	145,919	141,487
COLT Mortgage Loan Trust 144A Ser. 20-2, Class A2, 3.094%, 3/25/65 W	224,000	209,619
Credit Suisse Mortgage Trust 144A FRB Ser. 20-RPL3, Class A1, 2.691%, 3/25/60 W	159,198	154,356
Deephaven Residential Mortgage Trust 144A Ser. 20-2, Class A2, 2.594%, 5/25/65	51,559	50,686
Eagle Re, Ltd. 144A		
FRB Ser. 19-1, Class M2, (ICE LIBOR USD 1 Month + 3.30%), 8.45%, 4/25/29 (Bermuda)	809,000	841,451
FRB Ser. 18-1, Class M1, (ICE LIBOR USD 1 Month + 1.70%), 6.85%, 11/25/28 (Bermuda)	216,801	217,713
Ellington Financial Mortgage Trust 144A FRB Ser. 20-1, Class A2, 3.149%, 5/25/65 W	179,000	163,055
Federal Home Loan Mortgage Corporation		
Structured Agency Credit Risk Debt FRN Ser. 16-DNA3, Class M3, (ICE LIBOR USD 1 Month + 5.00%), 10.15%, 12/25/28	270,588	289,149
Seasoned Credit Risk Transfer Trust Ser. 19-3, Class M, 4.75%, 10/25/58 W	370,000	326,873
Federal Home Loan Mortgage Corporation 144A		
Structured Agency Credit Risk Trust REMICs FRB Ser. 22-HQA1, Class M2, (US 30 Day Average SOFR + 5.25%), 10.317%, 3/25/42	911,000	942,885
Structured Agency Credit Risk Trust REMICs FRB Ser. 20-DNA5, Class B1, (US 30 Day Average SOFR + 4.80%), 9.867%, 10/25/50	405,000	433,856
Structured Agency Credit Risk Trust FRB Ser. 19-DNA1, Class B1, (ICE LIBOR USD 1 Month + 4.65%), 9.80%, 1/25/49	761,000	824,737
Structured Agency Credit Risk Trust FRB Ser. 19-DNA2, Class B1, (ICE LIBOR USD 1 Month + 4.35%), 9.50%, 3/25/49	90,000	95,996
Structured Agency Credit Risk Trust FRB Ser. 19-HQA2, Class HQA2, (ICE LIBOR USD 1 Month + 4.10%), 9.25%, 4/25/49	463,000	483,156
Structured Agency Credit Risk Trust FRB Ser. 18-DNA3, Class B1, (ICE LIBOR USD 1 Month + 3.90%), 9.05%, 9/25/48	70,000	73,470
Structured Agency Credit Risk Trust REMICs FRB Ser. 20-HQA2, Class M2, (ICE LIBOR USD 1 Month + 3.10%), 8.25%, 3/25/50	154,202	158,132
Structured Agency Credit Risk Trust FRB Ser. 19-FTR2, Class M2, (ICE LIBOR USD 1 Month + 2.15%), 7.30%, 11/25/48	686,000	679,998

MORTGAGE-BACKED SECURITIES (32.3%)* cont.	Principal amount	Value
Residential mortgage-backed securities (non-agency) cont.		
Federal Home Loan Mortgage Corporation 144A Structured Agency Credit Risk Trust REMICS FRB Ser. 20-HQA1, Class M2, (ICE LIBOR USD 1 Month + 1.90%), 7.05%, 1/25/50	\$159,872	\$160,318
Seasoned Credit Risk Transfer Trust Ser. 19-2, Class M, 4.75%, 8/25/58 W	235,000	204,524
Federal National Mortgage Association Connecticut Avenue Securities FRB Ser. 17-C02, Class 2B1, (ICE LIBOR USD 1 Month + 5.50%), 10.65%, 9/25/29	200,000	221,526
Connecticut Avenue Securities FRB Ser. 16-C03, Class 1M2, (ICE LIBOR USD 1 Month + 5.30%), 10.45%, 10/25/28	174,093	185,098
Connecticut Avenue Securities FRB Ser. 18-C04, Class 2B1, (ICE LIBOR USD 1 Month + 4.50%), 9.65%, 12/25/30	297,000	323,066
Connecticut Avenue Securities FRB Ser. 17-C07, Class 1B1, (ICE LIBOR USD 1 Month + 4.00%), 9.15%, 5/25/30	250,000	267,424
Connecticut Avenue Securities FRB Ser. 17-C01, Class 1EB1, (ICE LIBOR USD 1 Month + 1.25%), 6.40%, 7/25/29	31,949	31,955
Connecticut Avenue Securities FRB Ser. 17-C07, Class 1EB2, (ICE LIBOR USD 1 Month + 1.00%), 6.15%, 5/25/30	174,537	174,281
Federal National Mortgage Association 144A Connecticut Avenue Securities Trust FRB Ser. 19-R02, Class 1B1, (ICE LIBOR USD 1 Month + 4.15%), 9.30%, 8/25/31	59,000	61,781
Connecticut Avenue Securities Trust FRB Ser. 22-R02, Class 2M2, (US 30 Day Average SOFR + 3.00%), 8.067%, 1/25/42	1,084,000	1,074,177
Connecticut Avenue Securities Trust FRB Ser. 19-R01, Class 2M2, (ICE LIBOR USD 1 Month + 2.45%), 7.60%, 7/25/31	10,937	10,982
Connecticut Avenue Securities Trust FRB Ser. 19-HRP1, Class M2, (ICE LIBOR USD 1 Month + 2.15%), 7.30%, 11/25/39	102,850	103,246
Connecticut Avenue Securities Trust FRB Ser. 20-R01, Class 1M2, (ICE LIBOR USD 1 Month + 2.05%), 7.20%, 1/25/40	133,674	134,355
Connecticut Avenue Securities Trust FRB Ser. 20-R02, Class 2M2, (ICE LIBOR USD 1 Month + 2.00%), 7.15%, 1/25/40	116,032	116,224
Finance of America HECM Buyout 144A Ser. 22-HB2, Class A1A, 4.00%, 8/1/32 W	268,903	258,179
FIRSTPLUS Home Loan Owner Trust Ser. 97-3, Class B1, 7.79%, 11/10/23 (In default) †	77,731	8
GCAT Trust 144A Ser. 20-NQM2, Class A3, 2.935%, 4/25/65	44,483	40,602
Morgan Stanley Resecuritization Trust 144A Ser. 15-R4, Class CB1, 4.159%, 8/26/47 W	105,623	101,040
New Residential Mortgage Loan Trust 144A FRB Ser. 20-NQM2, Class A2, 2.891%, 5/24/60 W	212,000	183,495
NYMT Loan Trust 144A Ser. 22-SP1, Class A1, 5.25%, 7/25/62	157,883	148,021
Oaktown Re II, Ltd. 144A FRB Ser. 18-1A, Class M2, (ICE LIBOR USD 1 Month + 2.85%), 8.00%, 7/25/28 (Bermuda)	380,000	382,786
Onslow Bay Financial, LLC Trust 144A Ser. 22-NQM7, Class A1, 5.35%, 8/25/62	283,253	275,197
PRKCM Trust 144A Ser. 23-AFC2, Class A1, 6.482%, 6/25/58	771,000	771,000

MORTGAGE-BACKED SECURITIES (32.3%)* cont.	Principal amount	Value
Residential mortgage-backed securities (non-agency) cont.		
Residential Mortgage Loan Trust 144A Ser. 20-2, Class A3, 2.911%, 5/25/60 W	\$464,000	\$408,145
RMF Proprietary Issuance Trust 144A Ser. 22-3, Class A, 4.00%, 8/25/62 W	116,000	86,107
Towd Point Mortgage Trust 144A Ser. 18-5, Class M1, 3.25%, 7/25/58 W	153,000	121,664
Verus Securitization Trust 144A Ser. 20-INV1, Class A3, 3.889%, 3/25/60 W	100,000	94,879
Visio Trust 144A Ser. 22-1, Class A2, 5.85%, 8/25/57	140,517	137,615
WaMu Mortgage Pass-Through Certificates Trust FRB Ser. 05-AR13, Class A1C4, (ICE LIBOR USD 1 Month + 0.86%), 6.01%, 10/25/45	703,582	646,773
FRB Ser. 05-AR17, Class A1B2, (ICE LIBOR USD 1 Month + 0.82%), 5.97%, 12/25/45	531,804	463,461
		14,456,787
Total mortgage-backed securities (cost \$57,271,644)		\$48,789,212

CORPORATE BONDS AND NOTES (30.9%)*	Principal amount	Value
Basic materials (1.5%)		
Cabot Corp. sr. unsec. bonds 5.00%, 6/30/32	\$75,000	\$71,791
Celanese US Holdings, LLC company guaranty sr. unsec. bonds 6.379%, 7/15/32 (Germany)	90,000	90,781
Celanese US Holdings, LLC company guaranty sr. unsec. notes 6.165%, 7/15/27 (Germany)	500,000	497,413
Celanese US Holdings, LLC company guaranty sr. unsec. notes 3.50%, 5/8/24 (Germany)	13,000	12,723
Celanese US Holdings, LLC company guaranty sr. unsec. notes 1.40%, 8/5/26 (Germany)	65,000	56,326
CF Industries, Inc. company guaranty sr. unsec. bonds 4.95%, 6/1/43	227,000	196,504
FMC Corp. sr. unsec. unsub. notes 5.65%, 5/18/33	135,000	132,029
Freeport-McMoRan, Inc. company guaranty sr. unsec. notes 5.25%, 9/1/29 (Indonesia)	120,000	117,895
Glencore Funding, LLC 144A company guaranty sr. unsec. notes 4.125%, 3/12/24	50,000	49,396
Glencore Funding, LLC 144A company guaranty sr. unsec. notes 4.00%, 3/27/27	124,000	118,184
Huntsman International, LLC sr. unsec. notes 4.50%, 5/1/29	150,000	137,183
International Flavors & Fragrances, Inc. sr. unsec. notes 4.45%, 9/26/28	75,000	70,306
International Flavors & Fragrances, Inc. 144A company guaranty sr. unsec. bonds 3.468%, 12/1/50	20,000	13,360
International Flavors & Fragrances, Inc. 144A sr. unsec. notes 2.30%, 11/1/30	35,000	27,735
Nutrien, Ltd. sr. unsec. bonds 5.25%, 1/15/45 (Canada)	44,000	40,720
Nutrien, Ltd. sr. unsec. notes 2.95%, 5/13/30 (Canada)	25,000	21,702
Nutrien, Ltd. sr. unsec. sub. bonds 4.20%, 4/1/29 (Canada)	95,000	89,692
Sherwin-Williams Co. (The) sr. unsec. unsub. bonds 3.45%, 6/1/27	135,000	127,245
Sherwin-Williams Co. (The) sr. unsec. unsub. bonds 3.30%, 5/15/50	50,000	35,496
Westlake Corp. sr. unsec. unsub. notes 3.60%, 8/15/26	198,000	185,809
WestRock MWV, LLC company guaranty sr. unsec. unsub. notes 8.20%, 1/15/30	105,000	120,396

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Basic materials cont.		
WestRock MWV, LLC company guaranty sr. unsec. unsub. notes 7.95%, 2/15/31	\$39,000	\$44,171
Weyerhaeuser Co. sr. unsec. unsub. notes 7.375%, 3/15/32 R	32,000	35,710
		2,292,567
Capital goods (1.3%)		
Berry Global Escrow Corp. 144A sr. notes 4.875%, 7/15/26	6,000	5,768
Berry Global, Inc. 144A company guaranty sr. notes 1.65%, 1/15/27	168,000	144,917
Berry Global, Inc. 144A company guaranty sr. notes 1.57%, 1/15/26	104,000	93,780
Boeing Co. (The) sr. unsec. notes 2.196%, 2/4/26	357,000	327,658
Boeing Co. (The) sr. unsec. unsub. bonds 3.375%, 6/15/46	95,000	66,580
Johnson Controls International PLC sr. unsec. notes 3.90%, 2/14/26	138,000	132,698
L3Harris Technologies, Inc. sr. unsec. notes 3.85%, 12/15/26	132,000	125,775
L3Harris Technologies, Inc. sr. unsec. sub. notes 4.40%, 6/15/28	73,000	70,163
Northrop Grumman Corp. sr. unsec. bonds 5.25%, 5/1/50	45,000	45,733
Northrop Grumman Corp. sr. unsec. unsub. notes 3.25%, 1/15/28	240,000	223,819
Oshkosh Corp. sr. unsec. sub. notes 4.60%, 5/15/28	125,000	120,338
Oshkosh Corp. sr. unsec. unsub. notes 3.10%, 3/1/30	15,000	13,069
Raytheon Technologies Corp. sr. unsec. notes 5.15%, 2/27/33	30,000	30,410
Raytheon Technologies Corp. sr. unsec. unsub. notes 4.125%, 11/16/28	370,000	356,360
Waste Connections, Inc. sr. unsec. bonds 4.20%, 1/15/33	25,000	23,496
Waste Connections, Inc. sr. unsec. bonds 3.20%, 6/1/32	22,000	19,174
Waste Connections, Inc. sr. unsec. sub. bonds 3.50%, 5/1/29	110,000	101,174
		1,900,912
Communication services (2.4%)		
American Tower Corp. sr. unsec. bonds 5.55%, 7/15/33 R	250,000	251,612
American Tower Corp. sr. unsec. notes 2.90%, 1/15/30 R	48,000	41,400
American Tower Corp. sr. unsec. unsub. notes 3.55%, 7/15/27 R	118,000	109,321
AT&T, Inc. company guaranty sr. unsec. unsub. notes 2.30%, 6/1/27	194,000	174,476
AT&T, Inc. sr. unsec. unsub. bonds 2.55%, 12/1/33	162,000	127,247
AT&T, Inc. sr. unsec. unsub. notes 4.75%, 5/15/46	335,000	295,700
AT&T, Inc. sr. unsec. unsub. notes 4.25%, 3/1/27	231,000	224,567
Charter Communications Operating, LLC/Charter Communications Operating Capital Corp. company guaranty sr. notes 2.25%, 1/15/29	83,000	69,112
Charter Communications Operating, LLC/Charter Communications Operating Capital Corp. company guaranty sr. sub. notes 4.908%, 7/23/25	245,000	240,258
Comcast Corp. company guaranty sr. unsec. notes 3.45%, 2/1/50	135,000	102,744

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Communication services cont.		
Comcast Corp. company guaranty sr. unsec. unsub. bonds 2.35%, 1/15/27	\$172,000	\$157,925
Cox Communications, Inc. 144A sr. unsec. bonds 4.50%, 6/30/43	90,000	73,633
Crown Castle, Inc. sr. unsec. bonds 3.65%, 9/1/27 R	130,000	121,506
Crown Castle, Inc. sr. unsec. notes 4.75%, 5/15/47 R	25,000	21,470
Crown Castle, Inc. sr. unsec. sub. bonds 3.30%, 7/1/30 R	195,000	172,239
Equinix, Inc. sr. unsec. sub. notes 3.20%, 11/18/29 R	193,000	169,439
Equinix, Inc. sr. unsec. sub. notes 2.50%, 5/15/31 R	70,000	56,994
Sprint Capital Corp. company guaranty sr. unsec. unsub. notes 6.875%, 11/15/28	118,000	125,079
T-Mobile USA, Inc. company guaranty sr. bonds 4.50%, 4/15/50	261,000	223,950
T-Mobile USA, Inc. company guaranty sr. notes 3.875%, 4/15/30	7,000	6,449
T-Mobile USA, Inc. company guaranty sr. unsec. bonds 5.75%, 1/15/54	115,000	118,765
T-Mobile USA, Inc. company guaranty sr. unsec. bonds 5.05%, 7/15/33	255,000	250,416
Telefonica Emisiones SA company guaranty sr. unsec. bonds 4.895%, 3/6/48 (Spain)	13,000	10,850
Verizon Communications, Inc. sr. unsec. unsub. bonds 4.272%, 1/15/36	150,000	135,246
Verizon Communications, Inc. sr. unsec. unsub. notes 4.40%, 11/1/34	85,000	78,453
Verizon Communications, Inc. sr. unsec. unsub. notes 4.329%, 9/21/28	117,000	112,788
Verizon Communications, Inc. sr. unsec. unsub. notes 2.10%, 3/22/28	250,000	219,618
		3,691,257
Conglomerates (0.1%)		
General Electric Co. jr. unsec. sub. FRN (ICE LIBOR USD 3 Month + 3.33%), 8.882%, perpetual maturity	153,000	153,000
		153,000
Consumer cyclicals (2.3%)		
Alimentation Couche-Tard, Inc. 144A company guaranty sr. unsec. notes 3.55%, 7/26/27 (Canada)	260,000	240,500
Alimentation Couche-Tard, Inc. 144A sr. unsec. notes 2.95%, 1/25/30 (Canada)	134,000	115,099
Amazon.com, Inc. sr. unsec. notes 3.15%, 8/22/27	165,000	155,242
Amazon.com, Inc. sr. unsec. unsub. bonds 2.70%, 6/3/60	453,000	291,215
Amazon.com, Inc. sr. unsec. unsub. notes 2.10%, 5/12/31	101,000	84,942
Autonation, Inc. company guaranty sr. unsec. notes 4.50%, 10/1/25	16,000	15,370
Autonation, Inc. sr. unsec. bonds 2.40%, 8/1/31	39,000	29,588
Block, Inc. sr. unsec. notes 3.50%, 6/1/31	90,000	74,540
BMW US Capital, LLC 144A company guaranty sr. unsec. notes 3.95%, 8/14/28	140,000	133,236
Booking Holdings, Inc. sr. unsec. sub. notes 4.625%, 4/13/30	120,000	116,923
Discovery Communications, LLC company guaranty sr. unsec. unsub. notes 3.625%, 5/15/30	18,000	15,789

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Consumer cyclicals cont.		
Gartner, Inc. 144A company guaranty sr. unsec. bonds 3.75%, 10/1/30	\$49,000	\$42,675
Gartner, Inc. 144A company guaranty sr. unsec. notes 3.625%, 6/15/29	80,000	70,426
Global Payments, Inc. sr. unsec. notes 2.15%, 1/15/27	60,000	53,331
Hyatt Hotels Corp. sr. unsec. notes 5.75%, 4/23/30	140,000	140,069
Hyatt Hotels Corp. sr. unsec. notes 5.75%, 1/30/27	22,000	21,944
Interpublic Group of Cos., Inc. (The) sr. unsec. sub. bonds 4.65%, 10/1/28	150,000	144,299
Lennar Corp. company guaranty sr. unsec. unsec. notes 4.75%, 11/29/27	176,000	170,765
Moody's Corp. sr. unsec. bonds 5.25%, 7/15/44	108,000	106,057
Moody's Corp. sr. unsec. notes 3.25%, 1/15/28	66,000	61,460
Netflix, Inc. sr. unsec. unsec. notes 4.375%, 11/15/26	100,000	97,642
Netflix, Inc. 144A sr. unsec. bonds 5.375%, 11/15/29	75,000	75,278
Paramount Global sr. unsec. unsec. notes 4.20%, 6/1/29	50,000	44,570
Paramount Global sr. unsec. unsec. notes 2.90%, 1/15/27	58,000	52,245
PulteGroup, Inc. company guaranty sr. unsec. unsec. notes 6.375%, 5/15/33	95,000	98,320
S&P Global, Inc. company guaranty sr. unsec. bonds 2.50%, 12/1/29	70,000	61,003
S&P Global, Inc. company guaranty sr. unsec. notes 4.75%, 8/1/28	65,000	64,606
S&P Global, Inc. company guaranty sr. unsec. notes 1.25%, 8/15/30	41,000	32,288
Stellantis Finance US, Inc. 144A company guaranty sr. unsec. notes 1.711%, 1/29/27	200,000	175,205
Volkswagen Group of America Finance, LLC 144A company guaranty sr. unsec. notes 4.35%, 6/8/27	200,000	192,535
Warnermedia Holdings, Inc. company guaranty sr. unsec. notes 4.279%, 3/15/32	548,000	486,008
		3,463,170
Consumer staples (1.6%)		
Anheuser-Busch Cos., LLC/Anheuser-Busch InBev Worldwide, Inc. company guaranty sr. unsec. unsec. bonds 4.90%, 2/1/46	190,000	181,600
Anheuser-Busch InBev Worldwide, Inc. company guaranty sr. unsec. unsec. notes 4.00%, 4/13/28	340,000	328,780
Ashtead Capital, Inc. 144A notes 4.375%, 8/15/27	335,000	314,952
Coca-Cola Co. (The) sr. unsec. unsec. notes 1.65%, 6/1/30	290,000	241,597
Conagra Brands, Inc. sr. unsec. bonds 5.30%, 11/1/38	65,000	62,456
Constellation Brands, Inc. company guaranty sr. unsec. bonds 4.10%, 2/15/48	150,000	122,084
ERAC USA Finance, LLC 144A company guaranty sr. unsec. notes 7.00%, 10/15/37	83,000	94,849
ERAC USA Finance, LLC 144A company guaranty sr. unsec. notes 5.625%, 3/15/42	90,000	90,058
ERAC USA Finance, LLC 144A company guaranty sr. unsec. notes 3.85%, 11/15/24	5,000	4,870
ERAC USA Finance, LLC 144A company guaranty sr. unsec. unsec. notes 3.30%, 12/1/26	40,000	37,163

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Consumer staples cont.		
Kenvue, Inc. 144A company guaranty sr. unsec. notes 4.90%, 3/22/33	\$315,000	\$318,722
Kenvue, Inc. 144A company guaranty sr. unsec. unsec. bonds 5.05%, 3/22/53	24,000	24,495
Kenvue, Inc. 144A company guaranty sr. unsec. unsec. notes 5.05%, 3/22/28	21,000	21,167
Keurig Dr Pepper, Inc. company guaranty sr. unsec. bonds 3.35%, 3/15/51	70,000	49,962
Keurig Dr Pepper, Inc. company guaranty sr. unsec. bonds 3.20%, 5/1/30	38,000	34,074
Keurig Dr Pepper, Inc. company guaranty sr. unsec. unsec. notes 3.43%, 6/15/27	66,000	62,210
Kraft Heinz Foods Co. company guaranty sr. unsec. sub. notes 3.875%, 5/15/27	182,000	174,741
Molson Coors Beverage Co. company guaranty sr. unsec. unsec. bonds 4.20%, 7/15/46	120,000	99,366
Mondelez International, Inc. sr. unsec. notes 2.625%, 3/17/27	180,000	166,165
		2,429,311
Energy (1.7%)		
BP Capital Markets America, Inc. company guaranty sr. unsec. notes 3.119%, 5/4/26	370,000	352,187
Cheniere Corpus Christi Holdings, LLC company guaranty sr. notes 5.875%, 3/31/25	60,000	59,712
Cheniere Corpus Christi Holdings, LLC company guaranty sr. notes 5.125%, 6/30/27	152,000	149,425
Cheniere Energy Partners LP company guaranty sr. unsec. unsec. notes 3.25%, 1/31/32	89,000	73,216
DCP Midstream Operating LP company guaranty sr. unsec. notes 8.125%, 8/16/30	85,000	95,958
Diamondback Energy, Inc. company guaranty sr. unsec. notes 3.25%, 12/1/26	90,000	84,559
EQT Corp. sr. unsec. notes 5.00%, 1/15/29	210,000	197,713
Kinetik Holdings LP 144A company guaranty sr. unsec. notes 5.875%, 6/15/30	130,000	123,563
Occidental Petroleum Corp. sr. unsec. sub. notes 8.50%, 7/15/27	109,000	117,743
Occidental Petroleum Corp. sr. unsec. sub. notes 7.50%, 5/1/31	20,000	21,837
ONEOK, Inc. company guaranty sr. unsec. unsec. notes 6.10%, 11/15/32	205,000	208,557
Ovintiv, Inc. company guaranty sr. unsec. bonds 6.25%, 7/15/33	93,000	91,729
Ovintiv, Inc. company guaranty sr. unsec. notes 5.65%, 5/15/28	29,000	28,425
Ovintiv, Inc. company guaranty sr. unsec. notes 5.65%, 5/15/25	23,000	22,817
Sabine Pass Liquefaction, LLC sr. notes 5.00%, 3/15/27	103,000	101,382
Shell International Finance BV company guaranty sr. unsec. unsec. notes 2.875%, 5/10/26 (Netherlands)	230,000	219,050
Spectra Energy Partners LP sr. unsec. notes 3.375%, 10/15/26	145,000	136,134
Targa Resources Partners LP/Targa Resources Partners Finance Corp. company guaranty sr. unsec. unsec. notes 4.875%, 2/1/31	160,000	147,862
TotalEnergies Capital International SA company guaranty sr. unsec. unsec. notes 2.829%, 1/10/30 (France)	335,000	299,742
		2,531,611

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Financials (10.1%)		
ABN AMRO Bank NV 144A unsec. sub. notes 4.75%, 7/28/25 (Netherlands)	\$200,000	\$192,890
AerCap Ireland Capital DAC/AerCap Global Aviation Trust company guaranty sr. unsec. bonds 3.30%, 1/30/32 (Ireland)	245,000	200,434
AerCap Ireland Capital DAC/AerCap Global Aviation Trust company guaranty sr. unsec. notes 4.50%, 9/15/23 (Ireland)	150,000	149,437
Air Lease Corp. sr. unsec. sub. bonds 4.625%, 10/1/28	40,000	37,595
Air Lease Corp. sr. unsec. sub. notes 3.25%, 10/1/29	260,000	224,907
Ally Financial, Inc. company guaranty sr. unsec. notes 8.00%, 11/1/31	145,000	150,528
Ally Financial, Inc. sr. unsec. notes 4.75%, 6/9/27	20,000	18,567
American Express Co. sr. unsec. unsub. notes 3.375%, 5/3/24	210,000	205,902
Aon PLC company guaranty sr. unsec. unsub. notes 4.25%, 12/12/42	171,000	135,557
Ares Capital Corp. sr. unsec. sub. notes 3.875%, 1/15/26	223,000	206,747
Australia and New Zealand Banking Group, Ltd. 144A unsec. sub. FRB 2.57%, 11/25/35 (Australia)	245,000	186,106
Australia and New Zealand Banking Group, Ltd./ United Kingdom 144A jr. unsec. sub. FRB 6.75%, perpetual maturity (United Kingdom)	200,000	195,574
Banco Santander SA sr. unsec. unsub. notes 4.379%, 4/12/28 (Spain)	200,000	188,578
Bank of America Corp. jr. unsec. sub. FRN Ser. AA, 6.10%, perpetual maturity	245,000	242,918
Bank of America Corp. jr. unsec. sub. FRN Ser. Z, 6.50%, perpetual maturity	40,000	39,889
Bank of America Corp. sr. unsec. FRN Ser. MTN, 2.496%, 2/13/31	195,000	163,260
Bank of America Corp. unsec. sub. FRB 3.846%, 3/8/37	510,000	436,113
Bank of America Corp. unsec. sub. FRN (ICE LIBOR USD 3 Month + 0.76%), 6.312%, 9/15/26	100,000	98,407
Bank of America Corp. unsec. sub. notes 6.11%, 1/29/37	300,000	316,385
Berkshire Hathaway Finance Corp. company guaranty sr. unsec. notes 4.30%, 5/15/43	210,000	191,517
BNP Paribas SA 144A jr. unsec. sub. FRN 4.625%, perpetual maturity (France)	200,000	142,750
BPCE SA 144A sr. unsec. unsub. FRN 5.975%, 1/18/27 (France)	250,000	247,620
BPCE SA 144A unsec. sub. notes 4.50%, 3/15/25 (France)	317,000	304,194
Capital One Financial Corp. unsec. sub. FRB 2.359%, 7/29/32	225,000	158,898
Citigroup, Inc. jr. unsec. sub. FRN 3.875%, perpetual maturity	90,000	75,375
Citigroup, Inc. sr. unsec. FRN 5.61%, 9/29/26	105,000	104,857
Citigroup, Inc. sr. unsec. FRN 3.106%, 4/8/26	21,000	20,049
Citigroup, Inc. sr. unsec. unsub. FRB 3.887%, 1/10/28	64,000	60,647
Citigroup, Inc. sub. unsec. bonds 6.174%, 5/25/34	76,000	76,662
Citigroup, Inc. unsec. sub. bonds 4.45%, 9/29/27	500,000	477,414
Citizens Bank NA sr. unsec. unsub. FRN 5.284%, 1/26/26	250,000	232,022
CNO Financial Group, Inc. sr. unsec. unsub. notes 5.25%, 5/30/25	70,000	68,756

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Financials cont.		
Corebridge Financial, Inc. sr. unsec. notes 3.85%, 4/5/29	\$100,000	\$89,932
Credit Agricole SA 144A unsec. sub. FRN 4.00%, 1/10/33 (France)	400,000	356,096
Credit Suisse Group AG 144A sr. unsec. FRB 9.016%, 11/15/33 (Switzerland)	370,000	443,496
Credit Suisse Group AG 144A sr. unsec. FRN 2.193%, 6/5/26 (Switzerland)	250,000	229,242
Danske Bank A/S 144A sr. unsec. FRN 6.466%, 1/9/26 (Denmark)	200,000	199,611
Deutsche Bank AG unsec. sub. notes 4.50%, 4/1/25 (Germany)	200,000	189,912
Deutsche Bank AG/New York, NY sr. unsec. unsub. FRN 2.311%, 11/16/27 (Germany)	150,000	128,901
Deutsche Bank AG/New York, NY sr. unsec. unsub. FRN 2.222%, 9/18/24 (Germany)	150,000	148,101
Fairfax Financial Holdings, Ltd. sr. unsec. notes 4.85%, 4/17/28 (Canada)	220,000	211,730
Fairfax US, Inc. 144A company guaranty sr. unsec. notes 4.875%, 8/13/24	25,000	24,508
Fidelity National Financial, Inc. sr. unsec. bonds 3.20%, 9/17/51	89,000	51,904
First-Citizens Bank & Trust Co. unsec. sub. notes 6.125%, 3/9/28	107,000	105,554
Five Corners Funding Trust 144A sr. unsec. bonds 4.419%, 11/15/23	235,000	232,414
GLP Capital LP/GLP Financing II, Inc. company guaranty sr. unsec. notes 3.35%, 9/1/24 R	92,000	88,805
GLP Capital LP/GLP Financing II, Inc. company guaranty sr. unsec. unsub. notes 5.375%, 4/15/26	88,000	86,144
Goldman Sachs Group, Inc. (The) jr. unsec. sub. FRN 3.65%, 7/28/51	27,000	20,871
Goldman Sachs Group, Inc. (The) sr. unsec. FRB 4.223%, 5/1/29	353,000	333,405
Goldman Sachs Group, Inc. (The) sr. unsec. unsub. notes 5.70%, 11/1/24	115,000	114,807
Goldman Sachs Group, Inc. (The) unsec. sub. notes 6.75%, 10/1/37	314,000	337,721
Intercontinental Exchange, Inc. sr. unsec. bonds 1.85%, 9/15/32	118,000	90,960
Intercontinental Exchange, Inc. sr. unsec. notes 4.35%, 6/15/29	49,000	47,924
Intercontinental Exchange, Inc. sr. unsec. notes 4.00%, 9/15/27	200,000	194,729
Intercontinental Exchange, Inc. sr. unsec. notes 3.65%, 5/23/25	20,000	19,588
Intesa Sanpaolo SpA 144A unsec. sub. bonds 4.198%, 6/1/32 (Italy)	210,000	156,511
JPMorgan Chase & Co. jr. unsec. bonds 6.10%, perpetual maturity	87,000	86,800
JPMorgan Chase & Co. jr. unsec. sub. FRB Ser. HH, 4.60%, perpetual maturity	429,000	400,043
JPMorgan Chase & Co. jr. unsec. sub. FRB Ser. W, (ICE LIBOR USD 3 Month + 1.00%), 6.321%, 5/15/47	63,000	52,819
JPMorgan Chase & Co. jr. unsec. sub. FRN 3.65%, perpetual maturity	87,000	76,573
JPMorgan Chase & Co. sr. unsec. unsub. FRB 3.964%, 11/15/48	735,000	604,249
JPMorgan Chase & Co. unsec. sub. notes 4.125%, 12/15/26	46,000	44,285

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Financials cont.		
KeyCorp sr. unsec. unsub. FRN Ser. MTN, 3.878%, 5/23/25	\$103,000	\$95,248
KKR Group Finance Co. VI, LLC 144A company guaranty sr. unsec. bonds 3.75%, 7/1/29	110,000	97,900
Liberty Mutual Group, Inc. 144A company guaranty sr. unsec. bonds 5.50%, 6/15/52	200,000	186,478
Lloyds Banking Group PLC unsec. sub. FRB 3.369%, 12/14/46 (United Kingdom)	305,000	201,536
Marsh & McLennan Cos., Inc. sr. unsec. sub. notes 4.375%, 3/15/29	194,000	188,444
Massachusetts Mutual Life Insurance Co. 144A unsec. sub. bonds 3.729%, 10/15/70	36,000	24,477
Morgan Stanley unsec. unsub. notes 3.95%, 4/23/27	760,000	719,593
Nasdaq, Inc. sr. unsec. bonds 5.95%, 8/15/53	24,000	24,573
Nasdaq, Inc. sr. unsec. sub. bonds 5.55%, 2/15/34	21,000	21,083
NatWest Group PLC sr. unsec. unsub. FRN 5.847%, 3/2/27 (United Kingdom)	200,000	197,792
Neuberger Berman Group, LLC/Neuberger Berman Finance Corp. 144A sr. unsec. notes 4.875%, 4/15/45	75,000	61,041
PNC Financial Services Group, Inc. (The) unsec. sub. FRB 4.626%, 6/6/33	350,000	321,959
Prologis LP sr. unsec. unsub. notes 2.25%, 4/15/30 ^R	54,000	45,768
Prudential Financial, Inc. sr. unsec. notes 6.625%, 6/21/40	1,000	1,082
Royal Bank of Canada unsec. sub. notes Ser. GMTN, 4.65%, 1/27/26 (Canada)	140,000	136,317
Societe Generale SA 144A jr. unsec. sub. notes 5.375%, perpetual maturity (France)	200,000	148,396
Teachers Insurance & Annuity Association of America 144A unsec. sub. notes 6.85%, 12/16/39	173,000	190,751
Toronto-Dominion Bank (The) unsec. sub. FRB 3.625%, 9/15/31 (Canada)	180,000	166,074
Truist Financial Corp. sr. unsec. unsub. FRN Ser. MTN, 4.26%, 7/28/26	105,000	100,917
UBS Group AG 144A jr. unsec. sub. FRN 4.375%, perpetual maturity (Switzerland)	200,000	140,888
UBS Group Funding Switzerland AG company guaranty jr. unsec. sub. FRN Ser. REGS, 6.875%, perpetual maturity (Switzerland)	247,000	225,709
US Bancorp unsec. sub. FRB 2.491%, 11/3/36	260,000	190,187
VICI Properties LP sr. unsec. unsub. notes 4.75%, 2/15/28 ^R	58,000	54,916
VICI Properties LP/VICI Note Co., Inc. 144A company guaranty sr. unsec. notes 4.50%, 9/1/26 ^R	145,000	136,984
VICI Properties LP/VICI Note Co., Inc. 144A company guaranty sr. unsec. notes 3.75%, 2/15/27 ^R	22,000	20,181
Wells Fargo & Co. jr. unsec. sub. FRN 3.90%, perpetual maturity	50,000	44,020
Wells Fargo Bank, NA unsec. sub. notes Ser. BKNT, 6.60%, 1/15/38	610,000	661,335
Westpac Banking Corp. unsec. sub. bonds 4.421%, 7/24/39 (Australia)	185,000	152,107
	15,273,946	

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Health care (3.5%)		
Amgen, Inc. sr. unsec. sub. notes 3.20%, 11/2/27	\$218,000	\$203,571
Amgen, Inc. sr. unsec. unsub. bonds 5.65%, 3/2/53	98,000	98,773
Amgen, Inc. sr. unsec. unsub. notes 5.25%, 3/2/30	273,000	273,855
Amgen, Inc. sr. unsec. unsub. notes 2.60%, 8/19/26	100,000	92,584
Becton, Dickinson and Co. sr. unsec. bonds 4.669%, 6/6/47	55,000	50,539
Becton, Dickinson and Co. sr. unsec. notes 3.70%, 6/6/27	146,000	138,813
Becton, Dickinson and Co. sr. unsec. sub. bonds 1.957%, 2/11/31	60,000	48,611
Biogen, Inc. sr. unsec. bonds 3.25%, 2/15/51	105,000	73,298
Biogen, Inc. sr. unsec. sub. notes 2.25%, 5/1/30	145,000	121,136
CVS Health Corp. sr. unsec. notes 3.25%, 8/15/29	125,000	112,253
CVS Health Corp. sr. unsec. notes 1.30%, 8/21/27	446,000	383,821
CVS Pass-Through Trust sr. notes 6.036%, 12/10/28	15,117	15,175
CVS Pass-Through Trust 144A sr. mtge. notes 4.704%, 1/10/36	93,512	86,308
DH Europe Finance II SARL company guaranty sr. unsec. notes 2.60%, 11/15/29 (Luxembourg)	335,000	294,611
Elevance Health, Inc. sr. unsec. unsub. bonds 5.125%, 2/15/53	65,000	63,032
Elevance Health, Inc. sr. unsec. unsub. notes 2.25%, 5/15/30	215,000	180,099
Eli Lilly and Co. sr. unsec. unsub. bonds 4.875%, 2/27/53	70,000	71,897
HCA, Inc. company guaranty sr. bonds 5.25%, 6/15/26	35,000	34,617
HCA, Inc. company guaranty sr. notes 4.50%, 2/15/27	66,000	63,668
HCA, Inc. company guaranty sr. notes 4.125%, 6/15/29	30,000	27,762
HCA, Inc. company guaranty sr. unsec. unsub. notes 5.375%, 2/1/25	95,000	94,167
HCA, Inc. 144A company guaranty sr. unsec. sub. notes 3.625%, 3/15/32	50,000	43,400
Humana, Inc. sr. unsec. unsub. bonds 5.50%, 3/15/53	75,000	74,604
Humana, Inc. sr. unsec. unsub. notes 5.75%, 3/1/28	165,000	167,886
Merck & Co., Inc. sr. unsec. unsub. notes 3.70%, 2/10/45	205,000	174,056
Novartis Capital Corp. company guaranty sr. unsec. unsub. bonds 4.00%, 11/20/45	265,000	239,072
Pfizer Investment Enterprises PTE, Ltd. company guaranty sr. unsec. notes 5.30%, 5/19/53 (Singapore)	120,000	124,762
Pfizer Investment Enterprises PTE, Ltd. company guaranty sr. unsec. notes 4.75%, 5/19/33 (Singapore)	240,000	239,096
Pfizer Investment Enterprises PTE, Ltd. company guaranty sr. unsec. notes 4.45%, 5/19/28 (Singapore)	57,000	56,025
Pfizer Investment Enterprises PTE, Ltd. company guaranty sr. unsec. notes 4.45%, 5/19/26 (Singapore)	120,000	118,548
Pfizer, Inc. sr. unsec. unsub. notes 3.00%, 12/15/26	125,000	118,018

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Health care cont.		
Service Corp. International sr. unsec. notes 4.625%, 12/15/27	\$25,000	\$23,688
Service Corp. International sr. unsec. notes 3.375%, 8/15/30	15,000	12,545
Thermo Fisher Scientific, Inc. sr. unsec. notes 4.80%, 11/21/27	170,000	170,760
Thermo Fisher Scientific, Inc. sr. unsec. notes 2.60%, 10/1/29	135,000	119,037
UnitedHealth Group, Inc. sr. unsec. unsub. bonds 4.75%, 7/15/45	50,000	47,846
UnitedHealth Group, Inc. sr. unsec. unsub. bonds 2.90%, 5/15/50	160,000	111,518
UnitedHealth Group, Inc. sr. unsec. unsub. notes 3.85%, 6/15/28	370,000	354,667
UnitedHealth Group, Inc. sr. unsec. unsub. notes 5.25%, 2/15/28	185,000	188,612
Viatrix, Inc. company guaranty sr. unsec. notes 2.30%, 6/22/27	110,000	96,102
Zoetis, Inc. sr. unsec. notes 3.90%, 8/20/28	285,000	273,446
		5,282,278
Technology (2.7%)		
Advanced Micro Devices, Inc. sr. unsec. notes 3.924%, 6/1/32	320,000	303,315
Alphabet, Inc. sr. unsec. bonds 2.25%, 8/15/60	115,000	69,954
Alphabet, Inc. sr. unsec. notes 1.998%, 8/15/26	120,000	111,069
Apple, Inc. sr. unsec. bonds 4.85%, 5/10/53	122,000	125,021
Apple, Inc. sr. unsec. notes 4.30%, 5/10/33	102,000	101,449
Apple, Inc. sr. unsec. unsub. notes 4.375%, 5/13/45	468,000	444,437
Broadcom Corp./Broadcom Cayman Finance, Ltd. company guaranty sr. unsec. unsub. notes 3.875%, 1/15/27	122,000	116,338
Broadcom, Inc. company guaranty sr. unsec. bonds 4.15%, 11/15/30	158,000	145,368
Broadcom, Inc. 144A sr. unsec. bonds 4.926%, 5/15/37	215,000	194,576
Dell International, LLC/EMC Corp. company guaranty sr. bonds 8.35%, 7/15/46	11,000	13,489
Meta Platforms, Inc. sr. unsec. bonds 5.60%, 5/15/53	43,000	44,162
Meta Platforms, Inc. sr. unsec. notes 4.95%, 5/15/33	273,000	272,789
Meta Platforms, Inc. sr. unsec. unsub. bonds 4.45%, 8/15/52	223,000	193,906
Meta Platforms, Inc. sr. unsec. unsub. notes 3.50%, 8/15/27	58,000	55,067
Microsoft Corp. sr. unsec. unsub. bonds 2.921%, 3/17/52	251,000	186,736
Microsoft Corp. sr. unsec. unsub. bonds 2.675%, 6/1/60	260,000	174,366
MSCI, Inc. 144A company guaranty sr. unsec. bonds 3.25%, 8/15/33	250,000	201,340
MSCI, Inc. 144A company guaranty sr. unsec. notes 3.625%, 9/1/30	44,000	37,945
Oracle Corp. sr. unsec. bonds 3.95%, 3/25/51	55,000	41,587
Oracle Corp. sr. unsec. bonds 3.65%, 3/25/41	475,000	365,954
Oracle Corp. sr. unsec. notes 2.95%, 4/1/30	45,000	39,279
Oracle Corp. sr. unsec. notes 1.65%, 3/25/26	130,000	117,982
Oracle Corp. sr. unsec. unsub. bonds 4.30%, 7/8/34	80,000	72,653
Oracle Corp. sr. unsec. unsub. bonds 4.00%, 11/15/47	110,000	84,687

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Technology cont.		
salesforce.com, Inc. sr. unsec. bonds 3.05%, 7/15/61	\$127,000	\$86,137
salesforce.com, Inc. sr. unsec. bonds 2.90%, 7/15/51	128,000	89,984
Sensata Technologies, Inc. 144A company guaranty sr. unsec. notes 3.75%, 2/15/31	294,000	251,514
ServiceNow, Inc. sr. unsec. notes 1.40%, 9/1/30	240,000	190,022
		4,131,126
Transportation (0.2%)		
Penske Truck Leasing Co. LP/PTL Finance Corp. 144A sr. unsec. bonds 3.40%, 11/15/26	133,000	122,584
Penske Truck Leasing Co. LP/PTL Finance Corp. 144A sr. unsec. notes 4.40%, 7/1/27	110,000	103,824
		226,408
Utilities and power (3.5%)		
AES Corp. (The) sr. unsec. notes 1.375%, 1/15/26	140,000	125,047
American Electric Power Co., Inc. sr. unsec. unsub. bonds 5.625%, 3/1/33	45,000	45,815
American Electric Power Co., Inc. sr. unsec. unsub. bonds 3.25%, 3/1/50	100,000	68,347
American Electric Power Co., Inc. sr. unsec. unsub. notes Ser. J, 4.30%, 12/1/28	210,000	200,248
American Transmission Systems, Inc. 144A sr. unsec. bonds 2.65%, 1/15/32	65,000	53,751
Berkshire Hathaway Energy Co. sr. unsec. bonds 6.50%, 9/15/37	3,000	3,192
Berkshire Hathaway Energy Co. sr. unsec. bonds 4.25%, 10/15/50	100,000	81,076
Boardwalk Pipelines LP company guaranty sr. unsec. notes 3.60%, 9/1/32	25,000	21,224
Commonwealth Edison Co. sr. mtge. bonds 5.875%, 2/1/33	2,000	2,061
Consolidated Edison Co. of New York, Inc. sr. unsec. unsub. notes 4.20%, 3/15/42	85,000	72,039
Dominion Energy, Inc. sr. unsec. unsub. bonds 4.90%, 8/1/41	135,000	121,153
Duke Energy Carolinas, LLC sr. notes 4.95%, 1/15/33	90,000	89,333
Duke Energy Corp. sr. unsec. bonds 4.20%, 6/15/49	65,000	52,723
Duke Energy Corp. sr. unsec. notes 3.15%, 8/15/27	180,000	166,188
Duke Energy Ohio, Inc. sr. bonds 5.25%, 4/1/33	65,000	65,462
Duke Energy Ohio, Inc. sr. bonds 3.65%, 2/1/29	195,000	181,115
Duke Energy Ohio, Inc. sr. notes 3.80%, 9/1/23	72,000	71,776
El Paso Natural Gas Co., LLC company guaranty sr. unsec. unsub. notes 8.375%, 6/15/32	207,000	236,961
Enbridge, Inc. company guaranty sr. unsec. unsub. bonds 4.50%, 6/10/44 (Canada)	90,000	74,916
Enbridge, Inc. sr. unsec. unsub. bonds 4.25%, 12/1/26 (Canada)	95,000	91,621
Energy Transfer LP company guaranty sr. unsec. notes 5.875%, 1/15/24	84,000	84,014
Energy Transfer LP company guaranty sr. unsec. notes 5.50%, 6/1/27	182,000	181,014
Energy Transfer LP company guaranty sr. unsec. notes 2.90%, 5/15/25	37,000	35,057
Energy Transfer LP jr. unsec. sub. FRN 6.625%, perpetual maturity	125,000	95,634
Energy Transfer LP sr. unsec. unsub. notes 6.50%, 2/1/42	20,000	20,255

CORPORATE BONDS AND NOTES (30.9%)* cont.	Principal amount	Value
Utilities and power cont.		
Enterprise Products Operating, LLC company guaranty sr. unsec. notes 2.80%, 1/31/30	\$84,000	\$73,540
Enterprise Products Operating, LLC company guaranty sr. unsec. unsub. bonds 4.25%, 2/15/48	315,000	266,829
Evergy Kansas Central, Inc. sr. bonds 5.70%, 3/15/53	60,000	61,778
Evergy Missouri West, Inc. 144A sr. notes 5.15%, 12/15/27	165,000	162,667
Eversource Energy sr. unsec. unsub. notes 5.45%, 3/1/28	165,000	166,107
Eversource Energy sr. unsec. unsub. notes 5.125%, 5/15/33	90,000	88,695
Florida Power & Light Co. sr. bonds 4.125%, 2/1/42	203,000	178,123
Georgia Power Co. sr. unsec. unsub. notes 4.95%, 5/17/33	270,000	266,516
IPALCO Enterprises, Inc. sr. notes 4.25%, 5/1/30	105,000	94,997
IPALCO Enterprises, Inc. sr. sub. notes 3.70%, 9/1/24	30,000	29,004
Kinder Morgan Energy Partners LP company guaranty sr. unsec. notes 5.40%, 9/1/44	86,000	76,245
NextEra Energy Capital Holdings, Inc. company guaranty sr. unsec. unsub. notes 6.051%, 3/1/25	70,000	70,263
NRG Energy, Inc. 144A company guaranty sr. notes 3.75%, 6/15/24	120,000	115,963
Oncor Electric Delivery Co., LLC sr. notes 5.75%, 3/15/29	161,000	167,107
Oncor Electric Delivery Co., LLC 144A sr. bonds 4.95%, 9/15/52	95,000	91,615
Pacific Gas and Electric Co. notes 2.10%, 8/1/27	100,000	85,418
Pacific Gas and Electric Co. sr. bonds 5.90%, 6/15/32	64,000	61,594
Pacific Gas and Electric Co. sr. bonds 4.95%, 7/1/50	145,000	113,884
Pacific Gas and Electric Co. sr. notes 6.10%, 1/15/29	45,000	44,276
Pacific Gas and Electric Co. sr. notes 3.30%, 12/1/27	190,000	166,571
PacifiCorp sr. bonds 2.70%, 9/15/30	133,000	110,752
Puget Sound Energy, Inc. sr. bonds 5.448%, 6/1/53	160,000	160,982
Sempra Energy sr. unsec. unsub. bonds 5.50%, 8/1/33	50,000	49,666
Vistra Operations Co., LLC 144A company guaranty sr. notes 4.30%, 7/15/29	82,000	72,666
Vistra Operations Co., LLC 144A company guaranty sr. notes 3.55%, 7/15/24	98,000	94,649
WEC Energy Group, Inc. jr. unsec. sub. FRN Ser. A, (ICE LIBOR USD 3 Month + 2.11%), 7.433%, 5/15/67	305,000	256,523
		5,366,452
Total corporate bonds and notes (cost \$50,976,759)		\$46,742,038
	Principal amount	Value
COLLATERALIZED LOAN OBLIGATIONS (3.5%)*		
AIG CLO, Ltd. 144A FRB Ser. 21-1A, Class A, (ICE LIBOR USD 3 Month + 1.10%), 6.373%, 4/22/34	\$250,000	\$245,524
Apex Credit CLO, Ltd. 144A FRB Ser. 21-2A, Class A1R, (ICE LIBOR USD 3 Month + 1.15%), 6.405%, 10/25/32 (Cayman Islands)	150,000	147,316
Barings CLO, Ltd. 144A FRB Ser. 23-1A, Class A, (CME Term SOFR 3 Month + 1.75%), 6.855%, 4/20/36 (Cayman Islands)	250,000	248,797

COLLATERALIZED LOAN OBLIGATIONS (3.5%)* cont.	Principal amount	Value
BlueMountain CLO XXXII, Ltd. 144A FRB Ser. 21-32A, Class A, (ICE LIBOR USD 3 Month + 1.17%), 6.43%, 10/15/34 (Cayman Islands)	\$250,000	\$245,859
Canyon Capital CLO, Ltd. 144A FRB Ser. 18-1A, Class A, (ICE LIBOR USD 3 Month + 1.07%), 6.33%, 7/15/31 (Cayman Islands)	250,000	247,009
CarVal CLO II, Ltd. 144A FRB Ser. 21-1A, Class ANR, (ICE LIBOR USD 3 Month + 1.11%), 6.36%, 4/20/32 (Cayman Islands)	285,000	281,305
Crown Point CLO 10, Ltd. 144A FRB Ser. 21-10A, Class A, (ICE LIBOR USD 3 Month + 1.17%), 6.42%, 7/20/34 (Cayman Islands)	250,000	246,057
Diameter Capital CLO 1, Ltd. 144A FRB Ser. 21-1A, Class A1A, (ICE LIBOR USD 3 Month + 1.24%), 6.50%, 7/15/36	250,000	245,354
Elmwood CLO 19, Ltd. 144A FRB Ser. 22-6A, Class A, (CME Term SOFR 3 Month + 2.20%), 7.186%, 10/17/34 (Cayman Islands)	250,000	250,137
GoldenTree Loan Management US CLO 1, Ltd. 144A FRB Ser. 21-9A, Class A, (ICE LIBOR USD 3 Month + 1.07%), 6.32%, 1/20/33 (Cayman Islands)	250,000	246,361
HalseyPoint CLO 4, Ltd. 144A FRB Ser. 21-4A, Class A, (ICE LIBOR USD 3 Month + 1.22%), 6.47%, 4/20/34 (Cayman Islands)	250,000	244,756
ICG US CLO, Ltd. 144A FRB Ser. 21-1A, Class ARR, (ICE LIBOR USD 3 Month + 1.17%), 6.443%, 7/28/34	250,000	242,469
LCM, Ltd. 144A FRB Ser. 30A, Class AR, (ICE LIBOR USD 3 Month + 1.08%), 6.33%, 4/20/31 (Cayman Islands)	250,000	245,799
Madison Park Funding XIV, Ltd. 144A FRB Ser. 18-14A, Class A2RR, (ICE LIBOR USD 3 Month + 1.40%), 6.673%, 10/22/30 (Cayman Islands)	250,000	243,494
Marathon CLO XIII, Ltd. 144A FRB Ser. 21-1A, Class AANR, (ICE LIBOR USD 3 Month + 1.32%), 6.58%, 4/15/32 (Cayman Islands)	100,000	98,705
OCP CLO, Ltd. 144A FRB Ser. 21-17A, Class A1R, (ICE LIBOR USD 3 Month + 1.04%), 6.29%, 7/20/32 (Cayman Islands)	250,000	246,287
OCP CLO, Ltd. 144A FRB Ser. 21-8RA, Class A1, (ICE LIBOR USD 3 Month + 1.22%), 6.48%, 1/17/32	250,000	247,298
Park Avenue Institutional Advisers CLO, Ltd. 144A FRB Ser. 19-1A, Class A2A, (ICE LIBOR USD 3 Month + 2.00%), 7.321%, 5/15/32 (Cayman Islands)	250,000	243,954
RR 14, Ltd. 144A FRB Ser. 21-14A, Class A1, (ICE LIBOR USD 3 Month + 1.12%), 6.38%, 4/15/36 (Cayman Islands)	250,000	245,485
Saranac CLO VI, Ltd. 144A FRB Ser. 21-6A, Class A1R, (ICE LIBOR USD 3 Month + 1.14%), 6.684%, 8/13/31 (Jersey)	200,000	197,236
Venture 37 CLO, Ltd. 144A FRB Ser. 21-37A, Class A1R, (ICE LIBOR USD 3 Month + 1.15%), 6.41%, 7/15/32 (Cayman Islands)	350,000	342,997
Zais CLO 17, Ltd. 144A FRB Ser. 21-17A, Class A1A, (ICE LIBOR USD 3 Month + 1.33%), 6.58%, 10/20/33	226,000	222,644
Total collateralized loan obligations (cost \$5,213,227)		\$5,224,843

ASSET-BACKED SECURITIES (0.6%)*	Principal amount	Value
Mello Warehouse Securitization Trust 144A FRB Ser. 21-3, Class D, (ICE LIBOR USD 1 Month + 2.00%), 7.15%, 10/22/24	\$347,000	\$336,852
NewRez Warehouse Securitization Trust 144A FRB Ser. 21-1, Class C, (ICE LIBOR USD 1 Month + 1.05%), 6.20%, 5/7/24	260,000	257,238
Station Place Securitization Trust 144A FRB Ser. 23-2, Class A1, (CME Term SOFR 1 Month + 0.95%), 6.103%, 6/29/24	325,000	324,571
Total asset-backed securities (cost \$910,175)		\$918,661

SHORT-TERM INVESTMENTS (24.5%)*	Principal amount/ shares	Value
Putnam Short Term Investment Fund Class P 5.23% ^L	Shares 34,370,940	\$34,370,940
State Street Institutional U.S. Government Money Market Fund, Premier Class 5.03% ^P	Shares 921,000	921,000
U.S. Treasury Bills 5.453%, 10/26/23 # Δ	\$1,300,000	1,278,406
U.S. Treasury Bills 5.000%, 11/2/23 #	309,000	303,551
U.S. Treasury Bills 5.296%, 11/9/23 Δ	200,000	196,283
Total short-term investments (cost \$37,069,944)		\$37,070,180

Total investments (cost \$295,775,350) \$281,290,390

Key to holding's abbreviations

BKNT	Bank Note
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.
GMTN	Global Medium Term Notes
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
MTN	Medium Term Notes
OTC	Over-the-counter
PO	Principal Only

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 \$151,257,667.

† 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 \$1,253,840 and is included in Investments in securities on the Statement of assets and liabilities (Notes 1 and 8).

Δ This security, in part or in entirety, was pledged and segregated with the custodian for collateral on certain derivative contracts at the close of the reporting period. Collateral at period end totaled \$144,267 and is included in Investments in securities on the Statement of assets and liabilities (Notes 1 and 8).

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.

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

See Note 1 to the financial statements regarding TBA commitments.

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

FUTURES CONTRACTS OUTSTANDING at 6/30/23 (Unaudited)	Number of contracts	Notional amount	Value	Expiration date	Unrealized appreciation/(depreciation)
U.S. Treasury Bond 30 yr (Long)	34	\$4,314,813	\$4,314,813	Sep-23	\$2,845
U.S. Treasury Bond Ultra 30 yr (Long)	72	9,807,750	9,807,750	Sep-23	118,588
U.S. Treasury Note 2 yr (Long)	13	2,643,469	2,643,469	Sep-23	(28,412)
U.S. Treasury Note 2 yr (Short)	180	36,601,875	36,601,875	Sep-23	475,759
U.S. Treasury Note 5 yr (Long)	144	15,421,500	15,421,500	Sep-23	(271,074)
U.S. Treasury Note 5 yr (Short)	39	4,176,656	4,176,656	Sep-23	74,631
U.S. Treasury Note 10 yr (Long)	97	10,889,766	10,889,766	Sep-23	(183,609)

FUTURES CONTRACTS OUTSTANDING at 6/30/23 (Unaudited) cont.	Number of contracts	Notional amount	Value	Expiration date	Unrealized appreciation/ (depreciation)
U.S. Treasury Note 10yr (Short)	4	\$449,063	\$449,063	Sep-23	\$7,554
U.S. Treasury Note Ultra 10yr (Long)	23	2,724,063	2,724,063	Sep-23	(25,114)
Unrealized appreciation					679,377
Unrealized (depreciation)					(508,209)
Total					\$171,168

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	\$16,923,300	\$20,897	\$15,739
1.8838/US SOFR/Apr-34 (Purchased)		Apr-24/1.8838	8,461,600	(61,889)	(38,162)
(3.63)/US SOFR/Mar-26 (Written)		Mar-24/3.63	7,536,600	93,831	45,596
3.63/US SOFR/Mar-26 (Written)		Mar-24/3.63	7,536,600	93,831	(19,369)
(3.073)/US SOFR/Jun-37 (Written)		Jun-27/3.073	6,226,000	452,942	90,152
3.073/US SOFR/Jun-37 (Written)		Jun-27/3.073	6,226,000	452,942	31,379
(1.0035)/US SOFR/Mar-34 (Written)		Mar-24/1.0035	4,230,800	6,409	5,119
(3.1625)/US SOFR/Mar-37 (Written)		Mar-27/3.1625	3,623,000	249,987	32,353
3.1625/US SOFR/Mar-37 (Written)		Mar-27/3.1625	3,623,000	249,987	22,970
2.0035/US SOFR/Mar-34 (Purchased)		Mar-24/2.0035	2,961,600	(23,001)	(15,193)
(3.17)/US SOFR/Dec-35 (Purchased)		Dec-25/3.17	2,912,600	(151,455)	2,359
2.67/US SOFR/Dec-35 (Purchased)		Dec-25/2.67	2,912,600	(148,543)	(51,291)
3.343/US SOFR/Dec-35 (Purchased)		Dec-25/3.343	2,510,900	(162,832)	(12,228)
(3.343)/US SOFR/Dec-35 (Purchased)		Dec-25/3.343	2,510,900	(162,832)	(40,928)
(3.101)/US SOFR/Jun-39 (Written)		Jun-29/3.101	2,465,500	192,556	28,846
3.101/US SOFR/Jun-39 (Written)		Jun-29/3.101	2,465,500	192,556	5,301
(3.03)/US SOFR/Feb-33 (Written)		Feb-28/3.03	2,267,900	86,180	3,334
3.03/US SOFR/Feb-33 (Written)		Feb-28/3.03	2,267,900	86,180	(5,715)
(0.9876)/US SOFR/Mar-50 (Purchased)		Mar-30/0.9876	2,259,800	(729,823)	(3,661)
0.9876/US SOFR/Mar-50 (Purchased)		Mar-30/0.9876	2,259,800	(49,087)	(5,921)
(3.03)/US SOFR/Mar-36 (Purchased)		Mar-26/3.03	1,655,000	(105,837)	(5,015)
3.03/US SOFR/Mar-36 (Purchased)		Mar-26/3.03	1,655,000	(105,837)	(25,239)
(1.6125)/US SOFR/Dec-41 (Written)		Dec-31/1.6125	1,474,600	109,489	56,359
1.6125/US SOFR/Dec-41 (Written)		Dec-31/1.6125	1,474,600	109,489	(97,972)
3.49/US SOFR/May-40 (Purchased)		May-30/3.49	1,176,500	(87,649)	9,141
(3.49)/US SOFR/May-40 (Purchased)		May-30/3.49	1,176,500	(87,649)	(9,047)
(3.095)/US SOFR/Mar-36 (Written)		Mar-26/3.095	950,000	62,890	14,022
3.095/US SOFR/Mar-36 (Written)		Mar-26/3.095	950,000	62,890	7,106
3.32/US SOFR/Oct-39 (Purchased)		Oct-29/3.32	851,000	(67,655)	(3,378)
(3.32)/US SOFR/Oct-39 (Purchased)		Oct-29/3.32	851,000	(67,655)	(7,633)
Barclays Bank PLC					
1.945/US SOFR/Jun-51 (Purchased)		Jun-31/1.945	1,797,000	(96,858)	(3,019)
(1.945)/US SOFR/Jun-51 (Purchased)		Jun-31/1.945	1,797,000	(380,964)	(8,087)
Citibank, N.A.					
(2.00)/US SOFR/Mar-51 (Purchased)		Mar-41/2.00	11,799,100	(1,373,415)	(9,085)
2.00/US SOFR/Mar-51 (Purchased)		Mar-41/2.00	11,799,100	(774,021)	(33,037)
(3.166)/US SOFR/Jul-28 (Purchased)		Jul-23/3.166	6,536,900	(81,466)	129,169
3.166/US SOFR/Jul-28 (Purchased)		Jul-23/3.166	6,536,900	(81,466)	(81,058)
2.394/US SOFR/Sep-33 (Purchased)		Sep-23/2.394	2,574,500	(31,151)	(28,963)
(1.826)/US SOFR/Jan-42 (Purchased)		Jan-32/1.826	1,934,400	(142,855)	108,868
1.826/US SOFR/Jan-42 (Purchased)		Jan-32/1.826	1,934,400	(142,855)	(66,988)
(1.99)/US SOFR/Feb-42 (Purchased)		Feb-32/1.99	1,870,800	(147,326)	84,186
1.99/US SOFR/Feb-42 (Purchased)		Feb-32/1.99	1,870,800	(147,326)	(66,133)
(3.20)/US SOFR/Jul-33 (Purchased)		Jul-23/3.20	1,227,300	(19,453)	16,667

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)
Citibank, N.A. cont.					
3.58/US SOFR/Jul-33 (Written)		Jul-23/3.58	\$1,227,300	\$6,996	\$(2,528)
3.39/US SOFR/Jul-33 (Written)		Jul-23/3.39	1,227,300	11,659	(8,922)
Deutsche Bank AG					
(2.98)/US SOFR/Mar-35 (Written)		Mar-30/2.98	13,599,200	629,643	97,098
2.98/US SOFR/Mar-35 (Written)		Mar-30/2.98	13,599,200	629,643	(12,239)
(3.19)/US SOFR/Mar-38 (Written)		Mar-28/3.19	507,300	35,333	2,354
3.19/US SOFR/Mar-38 (Written)		Mar-28/3.19	507,300	35,333	1,273
Goldman Sachs International					
(2.40)/US SOFR/May-57 (Purchased)		May-27/2.40	3,103,000	(400,287)	108,512
2.40/US SOFR/May-57 (Purchased)		May-27/2.40	3,103,000	(400,287)	(146,493)
(3.123)/US SOFR/Jul-33 (Purchased)		Jul-23/3.123	1,084,500	(21,473)	16,636
3.123/US SOFR/Jul-33 (Purchased)		Jul-23/3.123	1,084,500	(21,473)	(20,324)
(2.525)/US SOFR/Mar-47 (Purchased)		Mar-27/2.525	785,300	(110,727)	(730)
2.525/US SOFR/Mar-47 (Purchased)		Mar-27/2.525	785,300	(46,215)	(3,950)
JPMorgan Chase Bank N.A.					
1.75/US SOFR/Feb-41 (Purchased)		Feb-31/1.75	4,471,000	(110,434)	(1,475)
(1.75)/US SOFR/Feb-41 (Purchased)		Feb-31/1.75	4,471,000	(697,029)	(8,271)
(3.0925)/US SOFR/Mar-43 (Written)		Mar-33/3.0925	3,611,600	303,374	34,382
3.0925/US SOFR/Mar-43 (Written)		Mar-33/3.0925	3,611,600	303,374	(722)
(1.70)/US SOFR/Jan-29 (Written)		Jan-24/1.70	3,158,700	67,399	63,300
1.70/US SOFR/Jan-29 (Written)		Jan-24/1.70	3,158,700	67,399	(205,821)
(3.115)/US SOFR/Mar-43 (Written)		Mar-33/3.115	2,208,500	186,397	20,075
3.115/US SOFR/Mar-43 (Written)		Mar-33/3.115	2,208,500	186,397	1,612
(1.81)/US SOFR/Jan-37 (Written)		Jan-27/1.81	489,600	28,935	18,223
1.81/US SOFR/Jan-37 (Written)		Jan-27/1.81	489,600	28,935	(31,956)
(3.1525)/US SOFR/Mar-40 (Written)		Mar-30/3.1525	334,800	26,533	3,027
3.1525/US SOFR/Mar-40 (Written)		Mar-30/3.1525	334,800	26,533	743
Toronto-Dominion Bank					
2.118/US SOFR/Mar-41 (Purchased)		Mar-31/2.118	412,400	(13,733)	(186)
(2.118)/US SOFR/Mar-41 (Purchased)		Mar-31/2.118	412,400	(54,679)	(621)
Unrealized appreciation					1,075,901
Unrealized (depreciation)					(1,081,360)
Total					\$(5,459)

TBA SALE COMMITMENTS OUTSTANDING at 6/30/23 (Unaudited)	Principal	Settlement	
(proceeds receivable \$93,867,129)	amount	date	Value
Government National Mortgage Association, 3.50%, 7/1/53	\$1,000,000	7/20/23	\$922,729
Uniform Mortgage-Backed Securities, 6.00%, 7/1/53	5,000,000	7/13/23	5,044,140
Uniform Mortgage-Backed Securities, 5.50%, 7/1/53	20,000,000	7/13/23	19,903,120
Uniform Mortgage-Backed Securities, 5.00%, 8/1/53	1,000,000	8/14/23	980,078
Uniform Mortgage-Backed Securities, 5.00%, 7/1/53	19,000,000	7/13/23	18,614,805
Uniform Mortgage-Backed Securities, 4.50%, 8/1/53	1,000,000	8/14/23	961,563
Uniform Mortgage-Backed Securities, 4.50%, 7/1/53	9,000,000	7/13/23	8,652,654
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	14,000,000	7/13/23	12,756,954
Uniform Mortgage-Backed Securities, 3.00%, 8/1/53	1,000,000	8/14/23	880,937
Uniform Mortgage-Backed Securities, 3.00%, 7/1/53	8,000,000	7/13/23	7,018,752
Uniform Mortgage-Backed Securities, 2.50%, 7/1/53	11,000,000	7/13/23	9,326,801
Uniform Mortgage-Backed Securities, 2.00%, 7/1/53	8,000,000	7/13/23	6,523,440
Total			\$93,462,769

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)
\$835,000	\$14,663	\$(7)	1/6/28	3.5615% — Annually	US SOFR — Annually	\$19,501
582,000	15,731	(8)	3/15/33	3.234% — Annually	US SOFR — Annually	18,646
380,000	8,314	(5)	3/24/33	US SOFR — Annually	3.2975% — Annually	(10,029)
709,000	30,033	(9)	4/6/33	3.45% — Annually	US SOFR — Annually	33,290
683,000	15,702	(9)	4/20/33	US SOFR — Annually	3.283% — Annually	(18,045)
566,000	14,376	(7)	5/3/33	3.253% — Annually	US SOFR — Annually	16,031
620,000	18,129	(5)	5/17/28	US SOFR — Annually	3.261% — Annually	(19,535)
710,000	12,745	(8)	5/23/30	US SOFR — Annually	3.4095% — Annually	(14,027)
52,511,000	198,492 ^E	80,414	9/20/25	US SOFR — Annually	4.40% — Annually	(118,078)
71,716,000	621,061 ^E	1,000,184	9/20/28	4.00% — Annually	US SOFR — Annually	379,123
27,851,000	219,744 ^E	(381,298)	9/20/33	US SOFR — Annually	3.60% — Annually	(161,554)
3,689,000	32,389 ^E	(38,768)	9/20/53	US SOFR — Annually	3.20% — Annually	(6,379)
54,269,000	187,771	(16,666)	6/23/25	US SOFR — Annually	4.625% — Annually	(205,695)
23,088,000	163,925	12,242	6/23/28	3.753% — Annually	US SOFR — Annually	182,832
18,425,000	127,317	28,921	6/23/33	3.475% — Annually	US SOFR — Annually	162,696
10,076,000	26,601	(45,328)	6/23/53	US SOFR — Annually	3.17% — Annually	(76,143)
2,379,000	6,138	(31)	6/26/33	3.527% — Annually	US SOFR — Annually	6,610
5,359,000	15,059	(20)	6/30/25	4.649% — Annually	US SOFR — Annually	15,098
886,000	5,901	(7)	6/30/28	US SOFR — Annually	3.76% — Annually	(5,940)
7,737,000	55,165	(62)	6/30/28	3.7495% — Annually	US SOFR — Annually	55,382
3,519,000	9,818	(13)	6/30/25	US SOFR — Annually	4.65% — Annually	(9,870)
7,191,000	5,465 ^E	(27)	8/3/25	US SOFR — Annually	4.683% — Annually	(5,492)
2,711,000	2,738	(25)	7/5/28	3.9255% — Annually	US SOFR — Annually	(2,764)
643,000	167	(2)	7/5/25	US SOFR — Annually	4.7985% — Annually	165
268,000	174	(4)	7/5/33	US SOFR — Annually	3.5625% — Annually	171
Total		\$639,452				\$235,994

^E Extended effective date.

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

Swap counterparty/ Referenced debt*	Rating***	Upfront premium received (paid)**	Notional amount	Value	Termination date	Payments received by fund	Unrealized appreciation/(depreciation)
Bank of America N.A.							
CMBX NA BBB-.6 Index	BB+/P	\$3,281	\$27,360	\$5,923	5/11/63	300 bp — Monthly	\$(2,629)
CMBX NA BBB-.6 Index	BB+/P	6,388	60,420	13,081	5/11/63	300 bp — Monthly	(6,663)
CMBX NA BBB-.6 Index	BB+/P	7,467	74,670	16,166	5/11/63	300 bp — Monthly	(8,662)
Citigroup Global Markets, Inc.							
CMBX NA BB.11 Index	BB-/P	87,010	154,000	62,047	11/18/54	500 bp — Monthly	25,092
CMBX NA BB.13 Index	BB-/P	12,097	121,000	52,829	12/16/72	500 bp — Monthly	(40,631)
CMBX NA BB.14 Index	BB/P	15,240	139,000	60,284	12/16/72	500 bp — Monthly	(44,928)
CMBX NA BB.6 Index	B/P	20,083	94,342	37,907	5/11/63	500 bp — Monthly	(17,745)
CMBX NA BB.7 Index	B-/P	35,060	687,000	285,174	1/17/47	500 bp — Monthly	(249,541)
CMBX NA BB.9 Index	B/P	1,222	6,000	2,502	9/17/58	500 bp — Monthly	(1,275)
CMBX NA BB.9 Index	B/P	22,260	109,000	45,453	9/17/58	500 bp — Monthly	(23,102)
CMBX NA BBB-.10 Index	BB+/P	7,321	59,000	17,918	11/17/59	300 bp — Monthly	(10,568)
CMBX NA BBB-.10 Index	BB+/P	11,127	102,000	30,977	11/17/59	300 bp — Monthly	(19,799)
CMBX NA BBB-.11 Index	BBB-/P	8,331	133,000	32,253	11/18/54	300 bp — Monthly	(23,855)
CMBX NA BBB-.15 Index	BBB-/P	3,343	32,000	9,261	11/18/64	300 bp — Monthly	(5,902)
CMBX NA BBB-.15 Index	BBB-/P	1,359	8,000	2,315	11/18/64	300 bp — Monthly	(952)
Credit Suisse International							
CMBX NAA.6 Index	A/P	(1,759)	605,385	86,449	5/11/63	200 bp — Monthly	(88,005)
CMBX NAA.7 Index	BBB/P	275	6,490	515	1/17/47	200 bp — Monthly	(238)
CMBX NA BB.7 Index	B-/P	16,586	124,000	51,472	1/17/47	500 bp — Monthly	(34,783)
CMBX NA BBB-.7 Index	BB-/P	4,347	55,000	10,995	1/17/47	300 bp — Monthly	(6,620)
CMBX NA BBB-.7 Index	BB-/P	18,774	254,000	50,775	1/17/47	300 bp — Monthly	(31,873)

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	Termi- nation date	Payments received by fund	Unrealized appreciation/ (depreciation)
Goldman Sachs International							
CMBX NAA.6 Index	A/P	\$1,175	\$3,040	\$434	5/11/63	200 bp — Monthly	\$742
CMBX NAA.6 Index	A/P	1,740	4,560	651	5/11/63	200 bp — Monthly	1,090
CMBX NAA.6 Index	A/P	5,764	20,142	2,876	5/11/63	200 bp — Monthly	2,894
CMBX NAA.6 Index	A/P	1,950	24,322	3,473	5/11/63	200 bp — Monthly	(1,515)
CMBX NA BBB-.11 Index	BBB-/P	64	1,000	243	11/18/54	300 bp — Monthly	(178)
CMBX NA BBB-.14 Index	BBB-/P	919	20,000	5,794	12/16/72	300 bp — Monthly	(4,865)
CMBX NA BBB-.14 Index	BBB-/P	1,889	42,500	12,312	12/16/72	300 bp — Monthly	(10,402)
CMBX NA BBB-.15 Index	BBB-/P	7,302	79,000	22,863	11/18/64	300 bp — Monthly	(15,521)
CMBX NA BBB-.7 Index	BB-/P	418	6,000	1,199	1/17/47	300 bp — Monthly	(778)
CMBX NA BBB-.7 Index	BB-/P	7,955	101,000	20,190	1/17/47	300 bp — Monthly	(12,185)
CMBX NA BBB-.7 Index	BB-/P	11,309	153,000	30,585	1/17/47	300 bp — Monthly	(19,199)
CMBX NA BBB-.7 Index	BB-/P	13,902	171,000	34,183	1/17/47	300 bp — Monthly	(20,195)
JPMorgan Securities LLC							
CMBX NAA.14 Index	A-/P	(106)	16,000	2,142	12/16/72	200 bp — Monthly	(2,243)
CMBX NAA.6 Index	A/P	17,193	83,606	11,939	5/11/63	200 bp — Monthly	5,282
CMBX NA BB.10 Index	B/P	5,777	72,000	32,890	5/11/63	500 bp — Monthly	(27,052)
CMBX NA BB.7 Index	B-/P	120,945	247,000	102,530	1/17/47	500 bp — Monthly	18,621
CMBX NA BBB-.8 Index	BB-/P	9,044	58,000	11,606	10/17/57	300 bp — Monthly	(2,532)
Merrill Lynch International							
CMBX NAA.13 Index	A-/P	6,123	46,000	5,607	12/16/72	200 bp — Monthly	531
CMBX NAA.13 Index	A-/P	5,996	46,000	5,607	12/16/72	200 bp — Monthly	403
CMBX NA BB.6 Index	B/P	5,518	18,195	7,311	5/11/63	500 bp — Monthly	(1,777)
Morgan Stanley & Co. International PLC							
CMBX NAA.13 Index	A-/P	(192)	23,000	2,804	12/16/72	200 bp — Monthly	(2,988)
CMBX NAA.14 Index	A-/P	(27)	2,000	268	12/16/72	200 bp — Monthly	(294)
CMBX NAA.7 Index	BBB/P	(13)	12,053	957	1/17/47	200 bp — Monthly	(965)
CMBX NA BB.13 Index	BB-/P	2,301	24,000	10,478	12/16/72	500 bp — Monthly	(8,158)
CMBX NA BB.13 Index	BB-/P	8,852	92,000	40,167	12/16/72	500 bp — Monthly	(31,239)
CMBX NA BB.13 Index	BB-/P	10,438	113,000	49,336	12/16/72	500 bp — Monthly	(38,804)
CMBX NA BBB-.13 Index	BBB-/P	90	2,000	617	12/16/72	300 bp — Monthly	(525)
CMBX NA BBB-.13 Index	BBB-/P	1,422	7,000	2,159	12/16/72	300 bp — Monthly	(733)
CMBX NA BBB-.13 Index	BBB-/P	1,562	17,000	5,243	12/16/72	300 bp — Monthly	(3,673)
CMBX NA BBB-.13 Index	BBB-/P	11,844	63,000	19,429	12/16/72	300 bp — Monthly	(7,553)
CMBX NA BBB-.14 Index	BBB-/P	669	11,000	3,187	12/16/72	300 bp — Monthly	(2,512)
CMBX NA BBB-.14 Index	BBB-/P	617	11,000	3,187	12/16/72	300 bp — Monthly	(2,564)
Upfront premium received		544,349					Unrealized appreciation
Upfront premium (paid)		(2,097)					Unrealized (depreciation)
Total		\$542,252					Total
							\$781,566

* 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 Fitch are indicated by "/F." Securities rated by Putnam are indicated by "/P." The Putnam rating categories are comparable to the Standard & Poor's classifications.

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

Swap counterparty/ Referenced debt*	Rating***	Upfront premium received (paid)**	Notional amount	Value	Termi- nation date	Payments (paid) by fund	Unrealized appreciation/ (depreciation)
Citigroup Global Markets, Inc.							
CMBX NAA.6 Index		\$(47,452)	\$219,656	\$31,367	5/11/63	(200 bp) — Monthly	\$(16,159)
CMBX NAA.6 Index		(45,648)	215,476	30,770	5/11/63	(200 bp) — Monthly	(14,950)
CMBX NAA.7 Index		(148)	18,543	1,472	1/17/47	(200 bp) — Monthly	1,317
CMBX NA BB.10 Index		(45,086)	187,000	85,422	11/17/59	(500 bp) — Monthly	40,180
CMBX NA BB.10 Index		(35,955)	141,000	64,409	11/17/59	(500 bp) — Monthly	28,336

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)
Citigroup Global Markets, Inc. cont.						
CMBX NA BB.10 Index	\$(7,932)	\$76,000	\$34,717	11/17/59	(500 bp) — Monthly	\$26,722
CMBX NA BB.10 Index	(6,798)	62,000	28,322	11/17/59	(500 bp) — Monthly	21,472
CMBX NA BB.11 Index	(9,170)	127,000	51,168	11/18/54	(500 bp) — Monthly	41,892
CMBX NA BB.11 Index	(934)	18,000	7,252	11/18/54	(500 bp) — Monthly	6,303
CMBX NA BB.11 Index	(619)	9,000	3,626	11/18/54	(500 bp) — Monthly	3,000
CMBX NA BB.8 Index	(14,816)	41,554	19,202	10/17/57	(500 bp) — Monthly	4,352
CMBX NA BB.8 Index	(3,228)	25,125	11,610	10/17/57	(500 bp) — Monthly	8,361
CMBX NA BB.9 Index	(564)	14,000	5,838	9/17/58	(500 bp) — Monthly	5,262
CMBX NA BB.9 Index	(581)	9,000	3,753	9/17/58	(500 bp) — Monthly	3,165
CMBX NA BBB-.10 Index	(10,708)	84,000	25,511	11/17/59	(300 bp) — Monthly	14,761
CMBX NA BBB-.10 Index	(11,987)	76,000	23,081	11/17/59	(300 bp) — Monthly	11,056
CMBX NA BBB-.10 Index	(16,945)	73,000	22,170	11/17/59	(300 bp) — Monthly	5,188
CMBX NA BBB-.10 Index	(18,471)	62,000	18,829	11/17/59	(300 bp) — Monthly	327
CMBX NA BBB-.10 Index	(12,303)	50,000	15,185	11/17/59	(300 bp) — Monthly	2,857
CMBX NA BBB-.10 Index	(9,605)	44,000	13,363	11/17/59	(300 bp) — Monthly	3,736
CMBX NA BBB-.10 Index	(8,589)	36,000	10,933	11/17/59	(300 bp) — Monthly	2,327
CMBX NA BBB-.10 Index	(6,311)	29,000	8,807	11/17/59	(300 bp) — Monthly	2,481
CMBX NA BBB-.11 Index	(6,752)	47,000	11,398	11/18/54	(300 bp) — Monthly	4,622
CMBX NA BBB-.11 Index	(2,564)	8,000	1,940	11/18/54	(300 bp) — Monthly	(628)
CMBX NA BBB-.12 Index	(50,749)	146,000	46,632	8/17/61	(300 bp) — Monthly	(4,189)
CMBX NA BBB-.12 Index	(8,192)	119,000	38,009	8/17/61	(300 bp) — Monthly	29,757
CMBX NA BBB-.12 Index	(29,727)	89,000	28,427	8/17/61	(300 bp) — Monthly	(1,345)
CMBX NA BBB-.12 Index	(13,698)	72,000	22,997	8/17/61	(300 bp) — Monthly	9,263
CMBX NA BBB-.12 Index	(9,251)	41,000	13,095	8/17/61	(300 bp) — Monthly	3,824
CMBX NA BBB-.12 Index	(5,251)	31,000	9,901	8/17/61	(300 bp) — Monthly	4,635
CMBX NA BBB-.12 Index	(3,466)	17,000	5,430	8/17/61	(300 bp) — Monthly	1,955
CMBX NA BBB-.12 Index	(1,092)	16,000	5,110	8/17/61	(300 bp) — Monthly	4,011
CMBX NA BBB-.13 Index	(1,782)	35,000	10,794	12/16/72	(300 bp) — Monthly	8,994
CMBX NA BBB-.13 Index	(1,765)	35,000	10,794	12/16/72	(300 bp) — Monthly	9,012
CMBX NA BBB-.13 Index	(1,040)	19,000	5,860	12/16/72	(300 bp) — Monthly	4,810
CMBX NA BBB-.14 Index	(12,332)	62,000	17,961	12/16/72	(300 bp) — Monthly	5,599
CMBX NA BBB-.14 Index	(2,280)	14,000	4,056	12/16/72	(300 bp) — Monthly	1,769
CMBX NA BBB-.14 Index	(1,634)	8,500	2,462	12/16/72	(300 bp) — Monthly	824
CMBX NA BBB-.6 Index	(53,386)	162,449	35,170	5/11/63	(300 bp) — Monthly	(18,297)
Credit Suisse International						
CMBX NA BB.10 Index	(20,948)	157,000	71,718	11/17/59	(500 bp) — Monthly	50,639
CMBX NA BB.10 Index	(18,670)	157,000	71,718	11/17/59	(500 bp) — Monthly	52,917
CMBX NA BB.10 Index	(10,317)	83,000	37,914	11/17/59	(500 bp) — Monthly	27,528
CMBX NA BB.7 Index	(76,651)	466,000	193,437	1/17/47	(500 bp) — Monthly	116,397
CMBX NA BB.7 Index	(54,971)	298,000	123,700	1/17/47	(500 bp) — Monthly	68,481
Goldman Sachs International						
CMBX NA BB.10 Index	(23,983)	106,000	48,421	11/17/59	(500 bp) — Monthly	24,350
CMBX NA BB.7 Index	(25,990)	128,000	53,133	1/17/47	(500 bp) — Monthly	27,036
CMBX NA BB.7 Index	(16,712)	102,000	42,340	1/17/47	(500 bp) — Monthly	25,543
CMBX NA BB.7 Index	(6,810)	45,000	18,680	1/17/47	(500 bp) — Monthly	11,832
CMBX NA BB.9 Index	(2,296)	22,000	9,174	9/17/58	(500 bp) — Monthly	6,860
CMBX NA BB.9 Index	(319)	2,000	834	9/17/58	(500 bp) — Monthly	513
CMBX NA BBB-.12 Index	(4,289)	22,000	7,027	8/17/61	(300 bp) — Monthly	2,727
JPMorgan Securities LLC						
CMBX NA BB.11 Index	(85,971)	112,536	45,217	5/11/63	(500 bp) — Monthly	(40,848)
CMBX NA BBB-.11 Index	(4,846)	44,000	10,670	11/18/54	(300 bp) — Monthly	5,802
CMBX NA BBB-.12 Index	(2,403)	20,000	6,388	8/17/61	(300 bp) — Monthly	3,975
CMBX NA BBB-.7 Index	(81,697)	348,000	69,565	1/17/47	(300 bp) — Monthly	(12,306)

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)
Merrill Lynch International						
CMBX NA BB.10 Index	\$(8,592)	\$151,000	\$68,977	11/17/59	(500 bp) — Monthly	\$60,259
CMBX NA BB.7 Index	(20,471)	118,000	48,982	1/17/47	(500 bp) — Monthly	28,413
CMBX NA BBB-.7 Index	(11,964)	146,000	29,185	1/17/47	(300 bp) — Monthly	17,148
Morgan Stanley & Co. International PLC						
CMBX NAA.6 Index	(20,938)	95,007	13,567	5/11/63	(200 bp) — Monthly	(7,402)
CMBX NAA.6 Index	(15,160)	59,664	8,520	5/11/63	(200 bp) — Monthly	(6,660)
CMBX NA BB.10 Index	(38,750)	165,000	75,372	11/17/59	(500 bp) — Monthly	36,223
CMBX NA BB.10 Index	(25,211)	83,000	37,914	11/17/59	(500 bp) — Monthly	12,634
CMBX NA BB.10 Index	(629)	6,000	2,741	11/17/59	(500 bp) — Monthly	2,107
CMBX NA BB.9 Index	(3,165)	36,000	15,012	9/17/58	(500 bp) — Monthly	11,817
CMBX NA BB.9 Index	(608)	10,000	4,170	9/17/58	(500 bp) — Monthly	3,554
CMBX NA BB.9 Index	(615)	10,000	4,170	9/17/58	(500 bp) — Monthly	3,547
CMBX NA BB.9 Index	(431)	7,000	2,919	9/17/58	(500 bp) — Monthly	2,482
CMBX NA BB.9 Index	(201)	5,000	2,085	9/17/58	(500 bp) — Monthly	1,880
CMBX NA BBB-.10 Index	(19,260)	79,000	23,992	11/17/59	(300 bp) — Monthly	4,693
CMBX NA BBB-.10 Index	(8,884)	72,000	21,866	11/17/59	(300 bp) — Monthly	12,947
CMBX NA BBB-.10 Index	(12,016)	69,000	20,955	11/17/59	(300 bp) — Monthly	8,905
CMBX NA BBB-.10 Index	(5,580)	44,000	13,363	11/17/59	(300 bp) — Monthly	7,760
CMBX NA BBB-.10 Index	(1,735)	8,000	2,430	11/17/59	(300 bp) — Monthly	691
CMBX NA BBB-.11 Index	(20,805)	65,000	15,763	11/18/54	(300 bp) — Monthly	(5,075)
CMBX NA BBB-.11 Index	(16,964)	53,000	12,853	11/18/54	(300 bp) — Monthly	(4,138)
CMBX NA BBB-.11 Index	(5,380)	17,000	4,123	11/18/54	(300 bp) — Monthly	(1,266)
CMBX NA BBB-.12 Index	(53,096)	228,000	72,823	8/17/61	(300 bp) — Monthly	19,613
CMBX NA BBB-.12 Index	(14,955)	45,000	14,373	8/17/61	(300 bp) — Monthly	(605)
CMBX NA BBB-.12 Index	(2,381)	43,000	13,734	8/17/61	(300 bp) — Monthly	11,332
CMBX NA BBB-.12 Index	(6,678)	32,000	10,221	8/17/61	(300 bp) — Monthly	3,527
CMBX NA BBB-.12 Index	(989)	24,000	7,666	8/17/61	(300 bp) — Monthly	6,664
CMBX NA BBB-.7 Index	(22,314)	219,000	43,778	1/17/47	(300 bp) — Monthly	21,355
CMBX NA BBB-.8 Index	(21,158)	156,000	31,216	10/17/57	(300 bp) — Monthly	9,980
CMBX NA BBB-.8 Index	(10,784)	85,000	17,009	10/17/57	(300 bp) — Monthly	6,182
CMBX NA BBB-.8 Index	(7,250)	57,000	11,406	10/17/57	(300 bp) — Monthly	4,128
CMBX NA BBB-.8 Index	(5,586)	41,000	8,204	10/17/57	(300 bp) — Monthly	2,597
CMBX NA BBB-.8 Index	(2,722)	19,000	3,802	10/17/57	(300 bp) — Monthly	1,073
Upfront premium received	—					Unrealized appreciation
Upfront premium (paid)	(1,340,956)					Unrealized (depreciation)
Total	\$(1,340,956)					Total
						\$914,413

* 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:

	Valuation inputs		
	Level 1	Level 2	Level 3
Investments in securities:			
Asset-backed securities	\$—	\$918,661	\$—
Collateralized loan obligations	—	5,224,843	—
Corporate bonds and notes	—	46,742,038	—
Mortgage-backed securities	—	48,789,212	—
U.S. government and agency mortgage obligations	—	142,439,904	—
U.S. treasury obligations	—	105,552	—
Short-term investments	921,000	36,149,180	—
Totals by level	\$921,000	\$280,369,390	\$—

	Valuation inputs		
	Level 1	Level 2	Level 3
Other financial instruments:			
Futures contracts	\$171,168	\$—	\$—
Forward premium swap option contracts	—	(5,459)	—
TBA sale commitments	—	(93,462,769)	—
Interest rate swap contracts	—	(403,458)	—
Credit default contracts	—	931,551	—
Totals by level	\$171,168	\$(92,940,135)	\$—

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

Statement of assets and liabilities

6/30/23 (Unaudited)

Assets

Investment in securities, at value (Notes 1 and 8):	
Unaffiliated issuers (identified cost \$261,404,410)	\$246,919,450
Affiliated issuers (identified cost \$34,370,940) (Note 5)	34,370,940
Interest and other receivables	1,434,836
Receivable for shares of the fund sold	431,467
Receivable for investments sold	395,487
Receivable for sales of TBA securities (Note 1)	48,674,980
Receivable for variation margin on futures contracts (Note 1)	141,594
Receivable for variation margin on centrally cleared swap contracts (Note 1)	1,799,088
Unrealized appreciation on forward premium swap option contracts (Note 1)	1,075,901
Unrealized appreciation on OTC swap contracts (Note 1)	1,102,936
Premium paid on OTC swap contracts (Note 1)	1,343,053
Deposits with broker (Note 1)	936,757
Total assets	338,626,489

Liabilities

Payable for investments purchased	1,350,994
Payable for purchases of TBA securities (Note 1)	86,881,581
Payable for shares of the fund repurchased	34,925
Payable for compensation of Manager (Note 2)	48,412
Payable for custodian fees (Note 2)	27,097
Payable for investor servicing fees (Note 2)	17,742
Payable for Trustee compensation and expenses (Note 2)	117,177
Payable for administrative services (Note 2)	602
Payable for distribution fees (Note 2)	13,885
Payable for variation margin on futures contracts (Note 1)	969
Payable for variation margin on centrally cleared swap contracts (Note 1)	1,677,309
Unrealized depreciation on OTC swap contracts (Note 1)	970,089
Premium received on OTC swap contracts (Note 1)	544,349
Unrealized depreciation on forward premium swap option contracts (Note 1)	1,081,360
TBA sale commitments, at value (proceeds receivable \$93,867,129) (Note 1)	93,462,769
Collateral on certain derivative contracts and TBA commitments, at value (Notes 1 and 8)	1,026,552
Payable to broker (Note 1)	27,952
Other accrued expenses	85,058
Total liabilities	187,368,822
Net assets	\$151,257,667

Represented by

Paid-in capital (Unlimited shares authorized) (Notes 1 and 4)	\$245,142,103
Total distributable earnings (Note 1)	(93,884,436)
Total — Representing net assets applicable to capital shares outstanding	\$151,257,667

Computation of net asset value Class IA

Net assets	\$83,393,231
Number of shares outstanding	10,302,785
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$8.09

Computation of net asset value Class IB

Net assets	\$67,864,436
Number of shares outstanding	8,478,180
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$8.00

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 \$543,142 from investments in affiliated issuers) (Note 5)	\$4,311,892
Total investment income	4,311,892

Expenses

Compensation of Manager (Note 2)	301,172
Investor servicing fees (Note 2)	54,350
Custodian fees (Note 2)	25,926
Trustee compensation and expenses (Note 2)	3,446
Distribution fees (Note 2)	86,382
Administrative services (Note 2)	1,862
Auditing and tax fees	67,206
Other	25,151

Total expenses	565,495
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Expense reduction (Note 2)	(1,527)
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Net expenses	563,968
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Net investment income	3,747,924
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Realized and unrealized gain (loss)

Net realized gain (loss) on:

Securities from unaffiliated issuers (Notes 1 and 3)	(2,334,563)
Futures contracts (Note 1)	(48,864)
Swap contracts (Note 1)	(1,812,803)
Written options (Note 1)	(196,775)

Total net realized loss	(4,393,005)
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Change in net unrealized appreciation (depreciation) on:

Securities from unaffiliated issuers and TBA sale commitments	86,590
Futures contracts	476,865
Swap contracts	1,689,240
Written options	190,110

Total change in net unrealized appreciation	2,442,805
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Net loss on investments	(1,950,200)
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Net increase in net assets resulting from operations	\$1,797,724
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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	\$3,747,924	\$6,521,825
Net realized loss on investments	(4,393,005)	(31,096,349)
Change in net unrealized appreciation (depreciation) of investments	2,442,805	(2,878,263)
Net increase (decrease) in net assets resulting from operations	1,797,724	(27,452,787)
Distributions to shareholders (Note 1):		
From ordinary income		
Net investment income		
Class IA	(5,014,154)	(5,743,187)
Class IB	(3,908,177)	(4,841,625)
Increase (decrease) from capital share transactions (Note 4)	1,470,978	(15,836,604)
Total decrease in net assets	(5,653,629)	(53,874,203)
Net assets:		
Beginning of period	156,911,296	210,785,499
End of period	\$151,257,667	\$156,911,296

* Unaudited.

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

Financial highlights

(For a common share outstanding throughout the period)

Period ended	INVESTMENT OPERATIONS:				LESS DISTRIBUTIONS:			RATIOS AND SUPPLEMENTAL DATA:					
	Net asset value, beginning of period	Net investment income (loss) ^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 (%) ^{c,d}	Ratio of net investment income (loss) to average net assets (%)	Portfolio turnover (%) ^e
Class IA													
6/30/23 †	\$8.50	.21	(.12)	.09	(.50)	—	(.50)	\$8.09	1.08*	\$83,393	.31*	2.47*	588*
12/31/22	10.40	.34	(1.69)	(1.35)	(.55)	—	(.55)	8.50	(13.48)	85,874	.62 ^f	3.78	793
12/31/21	11.60	.36	(.87)	(.51)	(.18)	(.51)	(.69)	10.40	(4.44)	111,757	.56	3.36	800
12/31/20	11.63	.33	.32	.65	(.58)	(.10)	(.68)	11.60	6.00	126,631	.57	2.88	842
12/31/19	10.81	.42	.87	1.29	(.39)	(.08)	(.47)	11.63	12.24	133,986	.57	3.71	580
12/31/18	11.13	.46	(.42)	.04	(.36)	—	(.36)	10.81	.37	125,244	.59	4.28	566
Class IB													
6/30/23 †	\$8.39	.19	(.10)	.09	(.48)	—	(.48)	\$8.00	1.03*	\$67,864	.43*	2.35*	588*
12/31/22	10.28	.32	(1.69)	(1.37)	(.52)	—	(.52)	8.39	(13.81)	71,037	.87 ^f	3.53	793
12/31/21	11.46	.33	(.85)	(.52)	(.15)	(.51)	(.66)	10.28	(4.59)	99,028	.81	3.12	800
12/31/20	11.50	.30	.32	.62	(.56)	(.10)	(.66)	11.46	5.72	114,913	.82	2.62	842
12/31/19	10.70	.39	.85	1.24	(.36)	(.08)	(.44)	11.50	11.89	116,070	.82	3.47	580
12/31/18	11.01	.43	(.41)	.02	(.33)	—	(.33)	10.70	.20	103,935	.84	4.03	566

* 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 Total return assumes dividend reinvestment.

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

^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 Includes one-time proxy cost of 0.01%.

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 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 high current income consistent with what Putnam Management believes to be prudent risk. 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 denominated in U.S. dollars or (to a lesser extent) foreign currencies, 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, including on mortgage-backed securities and indices, and certain foreign currency transactions, 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.

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. Securities quoted in foreign currencies, if any, are translated into U.S. dollars at the current exchange rate.

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.

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 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.

Securities purchased or sold on a delayed delivery basis may be settled at a future date beyond customary settlement time; interest income is accrued based on the terms of the securities. Losses may arise due to changes in the fair value of the underlying securities or if the counterparty does not perform under the contract.

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.

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.

Interest rate swap contracts The fund entered into OTC and/or centrally cleared interest rate swap contracts, which are arrangements between two parties to exchange cash flows based on a notional principal amount, to hedge term structure risk and for yield curve positioning.

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 \$936,757 in a segregated account to cover margin requirements on open centrally cleared interest rate swap contracts.

Credit default contracts The fund entered into OTC and/or centrally cleared credit default contracts to hedge credit risk, to gain liquid exposure to individual names, to hedge market risk and to gain 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 \$155,687 on open derivative contracts subject to the Master Agreements. Collateral pledged by the fund at period end for these agreements totaled \$144,267 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.

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
\$44,276,710	\$19,059,234		\$63,335,944

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 \$218,069,649, resulting in gross unrealized appreciation and depreciation of \$4,905,714 and \$34,453,940, respectively, or net unrealized depreciation of \$29,548,226.

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 32.3% 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:

0.550%	of the first \$5 billion,
0.500%	of the next \$5 billion,
0.450%	of the next \$10 billion,
0.400%	of the next \$10 billion,
0.350%	of the next \$50 billion,
0.330%	of the next \$50 billion,
0.320%	of the next \$100 billion and
0.315%	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 0.194% 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 not reduced 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	\$29,967
Class IB	24,383
Total	\$54,350

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 \$1,527 under the expense offset arrangements.

Each Independent Trustee of the fund receives an annual Trustee fee, of which \$137, 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)	\$1,068,826,929	\$1,104,667,513
U.S. government securities (Long-term)	—	—
Total	\$1,068,826,929	\$1,104,667,513

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	172,936	\$1,453,782	282,831	\$2,606,269	302,693	\$2,502,866	1,061,064	\$9,824,711
Shares issued in connection with reinvestment of distributions	617,507	5,014,154	613,588	5,743,187	486,092	3,908,177	522,854	4,841,625
	790,443	6,467,936	896,419	8,349,456	788,785	6,411,043	1,583,918	14,666,336
Shares repurchased	(595,621)	(4,969,959)	(1,532,797)	(13,937,951)	(775,261)	(6,438,042)	(2,756,109)	(24,914,445)
Net increase (decrease)	194,822	\$1,497,977	(636,378)	\$(5,588,495)	13,524	\$(26,999)	(1,172,191)	\$(10,248,109)

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*	\$34,399,865	\$24,646,798	\$24,675,723	\$543,142	\$34,370,940
Total Short-term investments	\$34,399,865	\$24,646,798	\$24,675,723	\$543,142	\$34,370,940

*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. 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 — 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)	\$143,900,000
Written swap option contracts (contract amount)	\$113,700,000
Futures contracts (number of contracts)	600
Centrally cleared interest rate swap contracts (notional)	\$490,100,000
OTC credit default contracts (notional)	\$12,200,000

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	\$2,255,369	Payables	\$1,323,818
Interest rate contracts	Investments, Receivables, Net assets — Unrealized appreciation	2,476,820*	Payables, Net assets — Unrealized depreciation	2,714,569*
Total		\$4,732,189		\$4,038,387

*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	Swaps	Total
Credit contracts	\$—	\$—	\$24,109	\$24,109
Interest rate contracts	194,674	(48,864)	(1,836,912)	\$(1,691,102)
Total	\$194,674	\$(48,864)	\$(1,812,803)	\$(1,666,993)

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	Swaps	Total
Credit contracts	\$—	\$—	\$320,057	\$320,057
Interest rate contracts	(1,246,170)	476,865	1,369,183	\$599,878
Total	\$(1,246,170)	\$476,865	\$1,689,240	\$919,935

Note 8 — Offsetting of financial and derivative assets and liabilities

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

	Bank of America N.A.	Barclays Bank PLC	Barclays Capital, Inc. (clearing broker)	Citibank, N.A.	Citigroup Global Markets, Inc.	Credit Suisse International
Assets:						
Centrally cleared interest rate swap contracts [§]	\$—	\$—	\$1,799,088	\$—	\$—	\$—
OTC Credit default contracts — protection sold**	—	—	—	—	—	—
OTC Credit default contracts — protection purchased**	—	—	—	—	785,413	497,519
Futures contracts [§]	—	—	—	—	—	—
Forward premium swap option contracts [#]	369,776	—	—	338,890	—	—
Total Assets	\$369,776	\$—	\$1,799,088	\$338,890	\$785,413	\$497,519
Liabilities:						
Centrally cleared interest rate swap contracts [§]	—	—	1,677,309	—	—	—
OTC Credit default contracts — protection sold**	35,090	—	—	—	637,659	199,742
OTC Credit default contracts — protection purchased**	—	—	—	—	—	—
Futures contracts [§]	—	—	—	—	—	—
Forward premium swap option contracts [#]	340,752	11,106	—	296,714	—	—
Total Liabilities	\$375,842	\$11,106	\$1,677,309	\$296,714	\$637,659	\$199,742
Total Financial and Derivative Net Assets	\$(6,066)	\$(11,106)	\$121,779	\$42,176	\$147,754	\$297,777
Total collateral received (pledged)†##	\$—	\$—	\$—	\$—	\$147,754	\$260,000
Net amount	\$(6,066)	\$(11,106)	\$121,779	\$42,176	\$—	\$37,777
<i>Controlled collateral received (including TBA commitments)**</i>	\$—	\$—	\$—	\$—	\$203,000	\$260,000
<i>Uncontrolled collateral received</i>	\$—	\$—	\$—	\$—	\$—	\$—
<i>Collateral (pledged) (including TBA commitments)**</i>	\$—	\$—	\$—	\$—	\$—	\$—

* 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 \$1,253,840 and \$936,757, respectively.

Deutsche Bank AG	Goldman Sachs International	JPMorgan Chase Bank N.A.	JPMorgan Securities LLC	Merrill Lynch International	Morgan Stanley & Co. International PLC	Toronto-Dominion Bank	Total
\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$1,799,088
—	—	—	—	—	—	—	—
—	179,260	—	131,540	146,847	514,790	—	2,255,369
—	—	—	141,594	—	—	—	141,594
100,725	125,148	141,362	—	—	—	—	1,075,901
\$100,725	\$304,408	\$141,362	\$273,134	\$146,847	\$514,790	\$—	\$5,271,952
—	—	—	—	—	—	—	1,677,309
—	134,499	—	160,777	18,480	137,571	—	1,323,818
—	—	—	—	—	—	—	—
—	—	—	969	—	—	—	969
12,239	171,497	248,245	—	—	—	807	1,081,360
\$12,239	\$305,996	\$248,245	\$161,746	\$18,480	\$137,571	\$807	\$4,083,456
\$88,486	\$(1,588)	\$(106,883)	\$111,388	\$128,367	\$377,219	\$(807)	\$1,188,496
\$88,486	\$—	\$(106,883)	\$(33,419)	\$105,552	\$348,000	\$—	
\$—	\$(1,588)	\$—	\$144,807	\$22,815	\$29,219	\$(807)	
\$110,000	\$—	\$—	\$—	\$105,552	\$348,000	\$—	\$1,026,552
\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$—
\$—	\$—	\$(110,848)	\$(33,419)	\$—	\$—	\$—	\$(144,267)

Note 9 — 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 (the Board's “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 of the Transaction 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 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 Management and Putnam Management remains fully responsible for

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.

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, including your fund, had sufficiently low expenses that these expense limitations were not operative during their fiscal years 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

underperformance 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) — Core 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
3rd	4th	3rd

Over the one-year, three-year and five-year periods ended December 31, 2022, there were 114, 112 and 106 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 expressed concern about your fund's fourth quartile performance over the three-year period ended December 31, 2022 and considered the circumstances that may have contributed to this disappointing performance. The Trustees considered Putnam Management's observation that the fund's underperformance over those periods was driven by disappointing performance in 2020 and 2021. The Trustees observed that significant underperformance in the securitized products sector in 2021 had contributed to the fund's disappointing results, noting that prepayment strategies had suffered as a result of significantly elevated refinancing (given strong home price appreciation and low interest rates) relative to expectations. The Trustees considered that the fund's underperformance was also driven by significant underperformance in the securitized products sector in 2020, which resulted from the outsized impact of the COVID-19 pandemic on the commercial mortgage sector. In addition, the Trustees considered the negative impact that the fund's term structure strategies had on performance in 2021.

The Trustees noted Putnam Management's observation that term structure strategies positively contributed to the fund's performance over the three-year period ended December 31, 2022. The Trustees considered Putnam Management's discussion regarding the ways in which the fund's investment approach was evolving. The Trustees also considered that the fund had strong performance relative to its peers in 2022, partly due to the solid performance of the commercial mortgage sector. The Trustees noted that Putnam Management remained confident in the fund's portfolio managers. 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.

As a general matter, the Trustees believe that cooperative efforts between the Trustees and Putnam Management represent the most effective way to address investment performance concerns that may arise from time to time. The Trustees noted that investors in the Putnam funds have, in effect, placed their trust in the Putnam organization, under the oversight of the funds' Trustees, to make appropriate decisions regarding the management of the funds. The Trustees also considered that Putnam Management has made changes in light of subpar investment performance when warranted. Based on Putnam Management's willingness to take appropriate measures to address fund performance issues, the Trustees concluded that it continued to be advisable to seek change within Putnam Management to address performance shortcomings. In the Trustees' view, the alternative of engaging a new investment adviser for an underperforming fund, with all the attendant risks and disruptions, would not likely provide any greater assurance of improved investment performance.

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

Custodian

State Street Bank and Trust Company

Legal Counsel

Ropes & Gray LLP

Trustees

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.

