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Putnam Variable Trust

Semiannual report

6 | 30 | 18

**Putnam VT
Mortgage Securities Fund**

Prior to April 30, 2018, the fund was known as Putnam VT American Government Income Fund.

Message from the Trustees

August 13, 2018

Dear Shareholder:

During the first half of 2018, conditions became more challenging for global financial markets. After an extended period of record advances and low volatility, a downturn early in the year pushed stocks into a brief correction. The market has since rallied, but both stocks and bonds have been more volatile, due in part to uncertainty surrounding trade policy and interest rates. Fortunately, navigating a change in market trends is nothing new to Putnam's experienced investment professionals, who continue to monitor risks and seek opportunities.

We would like to take this opportunity to extend our thanks to Jameson A. Baxter, who retired from her position as Chair of your Board of Trustees on June 30, 2018. It is hard to express in a few words the extent of Jamie's commitment to protecting the interests of Putnam shareholders like you. In addition to her professional and directorship experience, Jamie brought intelligence, insight, and compassion to a board she served for decades. Jamie began as a Trustee in 1994, served as Vice Chair for six years, and became Chair in 2011. We are also pleased to announce the appointment of Kenneth R. Leibler as your new Board of Trustees Chair. Ken became a Trustee in 2006, has served as Vice Chair since 2016, and now leads the Board in overseeing your fund and protecting your interests.

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.

Consider these risks before investing: Funds that invest in government securities are not guaranteed. Mortgage-backed securities are subject to prepayment risk which means that they may increase in value less than other bonds when interest rates decline and decline in value more than other bonds when interest rates rise. Exposure to privately issued mortgage-backed securities (MBS) and MBS issued or guaranteed by the U.S. government or its agencies or instrumentalities may make the fund's net asset value more susceptible to economic, market, political, and other developments affecting the housing or real estate markets. 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). Default risk is generally higher for non-qualified mortgages. Interest-rate risk is greater for longer-term bonds, and credit risk is greater for below-investment-grade bonds which may be considered speculative. Risks associated with derivatives include increased investment exposure (which may be considered leverage) or, 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. Bond prices may fall or fail to rise over time for several reasons, including general financial market conditions; changing market perceptions (including perceptions about the risk of default and expectations about monetary policy or interest rates); changes in government intervention in the financial and housing markets; and factors related to a specific issuer, industry, geography, such as a region of the United States, or sector, such as the housing or real estate markets. These and other factors may lead to periods of increased volatility and reduced liquidity in the fund's portfolio holdings. You can lose money by investing in the fund.

Performance summary (as of 6/30/18)

Investment objective

As high a level of current income as Putnam Management believes is consistent with preservation of capital

Net asset value June 30, 2018

Class IA: \$9.28	Class IB: \$9.27
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Total return at net asset value

(as of 6/30/18)	Class IA shares*	Class IB shares*	Bloomberg Barclays U.S. MBS Index	Bloomberg Barclays Government Bond-Bloomberg Barclays U.S. MBS Linked Benchmark†
6 months	0.13%	0.07%	-0.95%	-1.27%
1 year	0.87	0.60	0.15	-0.84
5 years	8.44	7.13	11.79	7.37
Annualized	1.63	1.39	2.25	1.43
10 years	46.66	43.01	41.59	32.96
Annualized	3.90	3.64	3.54	2.89
Life	134.81	124.72	137.24	124.28
Annualized	4.74	4.49	4.80	4.48

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

* Class inception date: February 1, 2000.

Prior to April 30, 2018, the fund was known as Putnam VT American Government Income Fund.

As of April 30, 2018, the Bloomberg Barclays U.S. MBS Index replaced the Bloomberg Barclays Government Bond Index as the primary benchmark for this fund. In Putnam Investment Management, LLC's opinion, the securities tracked by the Bloomberg Barclays U.S. MBS Index more accurately reflect the types of securities that generally will be held by the fund.

† The Bloomberg Barclays Government Bond-Bloomberg Barclays U.S. MBS Linked Benchmark represents performance of the Bloomberg Barclays Government Bond Index from inception date of the fund, February 1, 2000, through April 29, 2018, and performance of the Bloomberg Barclays U.S. MBS Index from April 30, 2018, and through the current period.

The Bloomberg Barclays U.S. MBS Index is an unmanaged index of agency mortgage-backed pass-through securities guaranteed by Ginnie Mae (GNMA), Fannie Mae (FNMA), and Freddie Mac (FHLMC).

The Bloomberg Barclays Government Bond Index is an unmanaged index of U.S. Treasury and agency securities.

Data represent past performance. Past performance does not guarantee future results. More recent returns may be less or more than those shown. Investment return and principal value will fluctuate, and you may have a gain or a loss when you sell your shares. Performance information does not reflect any deduction for taxes a shareholder may owe on fund distributions or on the redemption of fund shares. All total return figures are at net asset value and exclude contract charges and expenses, which are added to the variable annuity contracts to determine total return at unit value. Had these charges and expenses been reflected, performance would have been lower. For more recent performance, contact your variable annuity provider who can provide you with performance that reflects the charges and expenses at your contract level.

Portfolio composition

Agency pass-through	88.4%
Agency collateralized mortgage obligations	42.4%
Commercial MBS	38.0%
Non-agency residential MBS	17.6%
Asset-backed securities	0.2%
Cash and net other assets	9.9%

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

A-1+	5.2%
A-1	7.9%
AAA	128.6%
A	1.6%
BBB	2.6%
BB	3.9%
B	4.7%
CCC and below	2.2%
Not rated	-56.7%

Credit qualities are shown as a percentage of net assets. A bond rated BBB or higher (A-3 or higher, for short-term debt) is considered investment grade. This chart reflects the highest security rating provided by one or more of Standard & Poor's, Moody's, and Fitch. To-be-announced (TBA) mortgage commitments, if any, are included based on their issuer ratings. Ratings may vary over time.

Cash, derivative instruments, and net other assets are shown in the not-rated category. Payables and receivables for TBA mortgage commitments are included in the not-rated category and may result in negative weights. The fund itself has not been rated by an independent rating agency.

Understanding your fund's expenses

As an investor in a variable annuity product that invests in a registered investment company, you pay ongoing expenses, such as management fees, distribution fees (12b-1 fees), and other expenses. In the most recent six-month period, your fund's expenses were limited; had expenses not been limited, they would have been higher. Using the following information, you can estimate how these expenses affect your investment and compare them with the expenses of other funds. You may also pay one-time transaction expenses, which are not shown in this section and would result in higher total expenses. Charges and expenses at the insurance company separate account level are not reflected. For more information, see your fund's prospectus or talk to your financial representative.

Review your fund's expenses

The two left-hand columns of the Expenses per \$1,000 table show the expenses you would have paid on a \$1,000 investment in your fund from 1/1/18 to 6/30/18. They also show how much a \$1,000 investment would be worth at the close of the period, *assuming actual returns and expenses*. To estimate the ongoing expenses you paid over the period, divide your account value by \$1,000, then multiply the result by the number in the first line for the class of shares you own.

Compare your fund's expenses with those of other funds

The two right-hand columns of the Expenses per \$1,000 table show your fund's expenses based on a \$1,000 investment, *assuming a hypothetical 5% annualized return*. You can use this information to compare the ongoing expenses (but not transaction expenses or total costs) of investing in the fund with those of other funds. All shareholder reports of mutual funds and funds serving as variable annuity vehicles will provide this information to help you make this comparison. Please note that you cannot use this information to estimate your actual ending account balance and expenses paid during the period.

Expense ratios

	Class IA	Class IB
Net expenses for the fiscal year ended 12/31/17*	0.50%	0.75%
Total annual operating expenses for the fiscal year ended 12/31/17	0.66%	0.91%
Annualized expense ratio for the six-month period ended 6/30/18	0.61%	0.86%

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

Expenses are shown as a percentage of average net assets.

*Reflects Putnam Management's contractual obligation to limit certain fund expenses through 4/30/19.

Expenses per \$1,000

	Expenses and value for a \$1,000 investment, assuming actual returns for the 6 months ended 6/30/18		Expenses and value for a \$1,000 investment, assuming a hypothetical 5% annualized return for the 6 months ended 6/30/18	
	Class IA	Class IB	Class IA	Class IB
Expenses paid per \$1,000*†	\$3.03	\$4.27	\$3.06	\$4.31
Ending value (after expenses)	\$1,001.30	\$1,000.70	\$1,021.77	\$1,020.53

*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 6/30/18. 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; and then dividing that result by the number of days in the year. 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; and then dividing that result by the number of days in the year.

Your fund's managers



Portfolio Manager **Michael V. Salm** is Co-Head of Fixed Income. He joined Putnam in 1997 and has been in the investment industry since 1989.

In addition to Mike, Brett S. Kozlowski, CFA, and Jatin Misra, Ph.D., CFA, are Portfolio Managers of the fund.

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

Shareholders were informed through a supplement to the fund's prospectus that Putnam Management has recommended, and the fund's Board of Trustees has approved, changes to the fund's investment goal and strategy. The fund's new goal is to seek as high a level of current income as Putnam Management believes is consistent with preservation of capital, and the new investment strategy broadens the fund's exposure across a number of mortgage sub-sectors. In connection with these changes, the fund's name changed to Putnam VT Mortgage Securities Fund as of April 30, 2018. See the fund's prospectus for more information.

ABOUT DERIVATIVES

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

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

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

The fund's portfolio 6/30/18 (Unaudited)

U.S. GOVERNMENT AND AGENCY

MORTGAGE OBLIGATIONS (137.6%)*

	Principal amount	Value
U.S. Government Guaranteed Mortgage Obligations (56.1%)		
Government National Mortgage Association		
Pass-Through Certificates		
6.50%, with due dates from 4/15/28 to 7/20/36	\$48,320	\$54,367
6.00%, with due dates from 4/15/28 to 11/20/38	108,723	120,149
5.50%, 4/20/38	158,956	172,558
5.00%, TBA, 7/1/48	1,000,000	1,049,609
4.70%, 8/20/67	103,581	110,831
4.50%, TBA, 7/1/48	4,000,000	4,157,188
4.50%, with due dates from 2/20/34 to 5/20/48	1,769,675	1,857,924
4.00%, TBA, 7/1/48	6,000,000	6,148,125
4.00%, with due dates from 4/20/45 to 10/20/45	2,994,278	3,082,208
3.50%, TBA, 8/1/48	5,000,000	5,011,328
3.50%, TBA, 7/1/48	5,000,000	5,017,188
3.50%, with due dates from 1/20/45 to 5/20/45	1,893,693	1,907,804
3.00%, TBA, 7/1/48	5,000,000	4,890,625

33,579,904

U.S. Government Agency Mortgage Obligations (81.5%)

Federal Home Loan Mortgage Corporation		
Pass-Through Certificates		
7.50%, with due dates from 9/1/30 to 7/1/31	13,317	15,142
7.00%, with due dates from 11/1/26 to 4/1/32	143,268	160,613
5.50%, 12/1/33	17,018	18,458
4.50%, with due dates from 7/1/44 to 8/1/44	186,932	195,955
4.00%, with due dates from 12/1/44 to 9/1/45	1,201,044	1,229,744
3.00%, TBA, 8/1/48	5,000,000	4,834,180

Federal National Mortgage Association		
Pass-Through Certificates		
7.50%, with due dates from 9/1/30 to 11/1/30	11,791	13,003
7.00%, with due dates from 12/1/28 to 12/1/35	392,366	439,842
6.50%, 9/1/36	7,694	8,645
6.00%, 1/1/38	115,081	127,308
5.50%, 1/1/38	493,935	537,029
5.00%, 2/1/39	12,822	13,741
4.50%, with due dates from 7/1/44 to 5/1/45	267,313	279,906
4.00%, 3/1/46	418,244	428,733
3.50%, TBA, 8/1/48	4,000,000	3,975,938
3.50%, TBA, 7/1/48	4,000,000	3,980,625
3.50%, with due dates from 5/1/45 to 1/1/57	4,197,192	4,193,574
3.00%, TBA, 8/1/48	13,000,000	12,578,515
3.00%, TBA, 7/1/48	13,000,000	12,591,719
3.00%, with due dates from 5/1/45 to 10/1/46	2,209,567	2,148,313
2.50%, TBA, 7/1/48	1,000,000	937,422

48,708,405

Total U.S. government and agency mortgage obligations (cost \$82,699,703) \$82,288,309

MORTGAGE-BACKED SECURITIES (60.6%)*

Agency collateralized mortgage obligations (41.1%)

Federal Home Loan Mortgage Corporation		
IFB Ser. 3408, Class EK, ((-4.024 x 1 Month US LIBOR) + 25.79%), 17.451%, 4/15/37	\$28,042	\$37,958
IFB Ser. 3072, Class SM, ((-3.667 x 1 Month US LIBOR) + 23.80%), 16.195%, 11/15/35	39,199	50,357
IFB Ser. 3065, Class DC, ((-3 x 1 Month US LIBOR) + 19.86%), 13.64%, 3/15/35	235,767	286,008
IFB Ser. 2990, Class LB, ((-2.556 x 1 Month US LIBOR) + 16.95%), 11.647%, 6/15/34	35,362	38,884

MORTGAGE-BACKED SECURITIES (60.6%)* cont.

Principal amount Value

Agency collateralized mortgage obligations cont.

Federal Home Loan Mortgage Corporation		
Structured Agency Credit Risk Debt FRN		
Ser. 14-HQ3, Class M3, (1 Month US LIBOR + 4.75%), 6.841%, 10/25/24	\$343,953	\$382,059
Ser. 4122, Class TI, IO, 4.50%, 10/15/42	302,499	69,171
Ser. 4018, Class DI, IO, 4.50%, 7/15/41	398,055	53,850
IFB Ser. 4136, Class ES, IO, ((-1 x 1 Month US LIBOR) + 6.25%), 4.177%, 11/15/42	348,453	35,288
IFB Ser. 4436, Class SC, IO, ((-1 x 1 Month US LIBOR) + 6.15%), 4.077%, 2/15/45	1,241,995	190,219
Ser. 4546, Class PI, IO, 4.00%, 12/15/45	631,437	140,209
Ser. 4530, Class HI, IO, 4.00%, 11/15/45	382,894	83,095
Ser. 4500, Class GI, IO, 4.00%, 8/15/45	508,578	100,088
Ser. 4425, IO, 4.00%, 1/15/45	503,065	106,962
Ser. 4425, Class EI, IO, 4.00%, 1/15/45	784,672	167,017
Ser. 4452, Class QI, IO, 4.00%, 11/15/44	426,925	115,095
Ser. 4213, Class GI, IO, 4.00%, 11/15/41	1,079,407	151,754
Ser. 4019, Class JI, IO, 4.00%, 5/15/41	527,499	85,223
Ser. 3996, Class IK, IO, 4.00%, 3/15/39	462,656	32,077
Ser. 4621, Class QI, IO, 3.50%, 10/15/46	927,207	143,355
Ser. 4165, Class AI, IO, 3.50%, 2/15/43	396,688	68,905
Ser. 4136, Class IQ, IO, 3.50%, 11/15/42	623,099	83,083
Ser. 4199, Class CI, IO, 3.50%, 12/15/37	338,121	23,920
Ser. 304, Class C37, IO, 3.50%, 12/15/27	351,073	30,284
Ser. 4150, Class DI, IO, 3.00%, 1/15/43	489,244	61,461
Ser. 4141, Class PI, IO, 3.00%, 12/15/42	459,366	51,187
Ser. 4158, Class TI, IO, 3.00%, 12/15/42	1,109,675	108,848
Ser. 4165, Class TI, IO, 3.00%, 12/15/42	1,155,146	113,586
Ser. 4171, Class NI, IO, 3.00%, 6/15/42	688,354	67,493
Ser. 4183, Class MI, IO, 3.00%, 2/15/42	371,709	32,896
Ser. 4201, Class JI, IO, 3.00%, 12/15/41	538,988	47,650
Ser. 315, PO, zero %, 9/15/43	994,059	783,533
Ser. 3835, Class FO, PO, zero %, 4/15/41	602,582	497,617
Ser. 3391, PO, zero %, 4/15/37	6,726	5,543
Ser. 3300, PO, zero %, 2/15/37	3,269	2,748
Ser. 3326, Class WF, zero %, 10/15/35 ^W	1,304	955

Federal Home Loan Mortgage Corporation Structures		
Agency Credit risk Debt FRN Ser. 15-HQ1, Class M3, (1 Month US LIBOR + 3.80%), 5.891%, 3/25/25	250,000	267,775

Federal National Mortgage Association		
IFB Ser. 06-62, Class PS, ((-6 x 1 Month US LIBOR) + 39.90%), 27.353%, 7/25/36	22,243	35,193
IFB Ser. 06-8, Class HP, ((-3.667 x 1 Month US LIBOR) + 24.57%), 16.899%, 3/25/36	38,975	55,776
IFB Ser. 07-53, Class SP, ((-3.667 x 1 Month US LIBOR) + 24.20%), 16.533%, 6/25/37	44,251	57,589
IFB Ser. 05-122, Class SE, ((-3.5 x 1 Month US LIBOR) + 23.10%), 15.781%, 11/25/35	43,951	53,680
IFB Ser. 08-24, Class SP, ((-3.667 x 1 Month US LIBOR) + 23.28%), 15.616%, 2/25/38	170,764	211,020
IFB Ser. 05-75, Class GS, ((-3 x 1 Month US LIBOR) + 20.25%), 13.977%, 8/25/35	31,099	36,440
IFB Ser. 05-106, Class JC, ((-3.101 x 1 Month US LIBOR) + 20.12%), 13.64%, 12/25/35	48,223	63,460
IFB Ser. 05-83, Class QP, ((-2.6 x 1 Month US LIBOR) + 17.39%), 11.957%, 11/25/34	15,554	17,514
IFB Ser. 11-4, Class CS, ((-2 x 1 Month US LIBOR) + 12.90%), 8.718%, 5/25/40	91,968	99,679
Connecticut Avenue Securities FRB Ser. 16-C02, Class 1M2, (1 Month US LIBOR + 6.00%), 8.091%, 9/25/28	140,000	165,733

MORTGAGE-BACKED SECURITIES (60.6%)* cont.

	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Federal National Mortgage Association		
Connecticut Avenue Securities FRB Ser. 14-C04, Class 1M2, (1 Month US LIBOR + 4.90%), 6.991%, 11/25/24	\$88,373	\$101,149
Ser. 15-58, Class KI, IO, 6.00%, 3/25/37	851,098	204,708
Ser. 15-86, Class MI, IO, 5.50%, 11/25/45	742,961	168,006
Ser. 10-109, Class IM, IO, 5.50%, 9/25/40	1,605,495	317,503
Ser. 18-51, Class BI, IO, 5.50%, 7/25/38	1,205,000	205,486
Ser. 17-19, Class IH, IO, 5.00%, 3/25/47	875,882	177,743
Ser. 12-151, Class IM, IO, 5.00%, 4/25/42	816,267	163,419
Connecticut Avenue Securities FRB Ser. 14-C03, Class 2M2, (1 Month US LIBOR + 2.90%), 4.991%, 7/25/24	113,279	120,686
IFB Ser. 11-123, Class KS, IO, ((-1 x 1 Month US LIBOR) + 6.60%), 4.509%, 10/25/41	108,760	16,641
IFB Ser. 18-47, Class SA, IO, ((-1 x 1 Month US LIBOR) + 6.25%), 4.21%, 7/25/48	753,000	104,949
IFB Ser. 18-36, Class SD, IO, 4.159%, 6/25/48	2,175,041	308,013
IFB Ser. 16-83, Class BS, IO, ((-1 x 1 Month US LIBOR) + 6.10%), 4.009%, 11/25/46	2,336,846	327,486
IFB Ser. 16-85, Class SL, IO, ((-1 x 1 Month US LIBOR) + 6.10%), 4.009%, 11/25/46	3,552,018	462,608
IFB Ser. 16-50, Class SM, IO, ((-1 x 1 Month US LIBOR) + 6.10%), 4.009%, 8/25/46	1,595,150	207,735
Ser. 12-118, Class PI, IO, 4.00%, 6/25/42	873,969	162,697
Ser. 12-62, Class MI, IO, 4.00%, 3/25/41	311,364	40,931
Ser. 12-104, Class HI, IO, 4.00%, 9/25/27	631,018	72,645
Ser. 16-70, Class QI, IO, 3.50%, 10/25/46	2,588,325	409,887
Ser. 15-10, Class AI, IO, 3.50%, 8/25/43	711,715	122,174
Ser. 12-124, Class JI, IO, 3.50%, 11/25/42	230,485	29,666
Ser. 13-22, Class PI, IO, 3.50%, 10/25/42	638,112	122,987
Ser. 12-114, Class NI, IO, 3.50%, 10/25/41	958,828	165,944
Ser. 13-55, Class IK, IO, 3.00%, 4/25/43	385,596	44,944
Ser. 13-6, Class JI, IO, 3.00%, 2/25/43	833,729	88,063
Ser. 12-151, Class PI, IO, 3.00%, 1/25/43	354,260	38,989
Ser. 12-145, Class TI, IO, 3.00%, 11/25/42	324,649	21,636
Ser. 13-35, Class IP, IO, 3.00%, 6/25/42	399,170	30,756
Ser. 13-55, Class PI, IO, 3.00%, 5/25/42	602,880	48,912
Ser. 13-53, Class JI, IO, 3.00%, 12/25/41	464,790	48,425
Ser. 13-23, Class PI, IO, 3.00%, 10/25/41	405,559	23,166
Ser. 13-30, Class IP, IO, 3.00%, 10/25/41	593,413	35,409
Ser. 13-23, Class LI, IO, 3.00%, 6/25/41	376,426	22,280
Ser. 14-28, Class AI, IO, 3.00%, 3/25/40	564,629	57,829
FRB Ser. 03-W8, Class 3F2, (1 Month US LIBOR + 0.35%), 2.441%, 5/25/42	4,319	4,343
FRB Ser. 07-95, Class A3, (1 Month US LIBOR + 0.25%), 2.341%, 8/27/36	1,868,618	1,805,709
Ser. 08-53, Class DO, PO, zero %, 7/25/38	39,725	34,904
Ser. 07-44, Class CO, PO, zero %, 5/25/37	13,771	11,078
Government National Mortgage Association		
Ser. 16-75, Class LI, IO, 6.00%, 1/20/40	491,703	115,550
Ser. 14-137, Class ID, IO, 5.50%, 9/16/44	563,211	122,970
Ser. 15-89, Class LI, IO, 5.00%, 12/20/44	931,857	214,476
Ser. 14-133, Class IP, IO, 5.00%, 9/16/44	403,130	90,845
Ser. 14-76, IO, 5.00%, 5/20/44	510,426	117,708
Ser. 13-51, Class QI, IO, 5.00%, 2/20/43	380,897	71,888
Ser. 13-3, Class IT, IO, 5.00%, 1/20/43	220,958	48,296
Ser. 13-6, Class OI, IO, 5.00%, 1/20/43	165,561	37,892
Ser. 13-16, Class IB, IO, 5.00%, 10/20/40	21,134	1,862
Ser. 10-35, Class UI, IO, 5.00%, 3/20/40	242,583	55,599
Ser. 10-9, Class UI, IO, 5.00%, 1/20/40	772,310	168,411
Ser. 09-121, Class UI, IO, 5.00%, 12/20/39	602,239	137,106

MORTGAGE-BACKED SECURITIES (60.6%)* cont.

	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Government National Mortgage Association		
IFB Ser. 11-81, Class SB, IO, ((-1 x 1 Month US LIBOR) + 6.71%), 4.62%, 11/16/36	\$228,349	\$13,041
IFB Ser. 13-182, Class SP, IO, ((-1 x 1 Month US LIBOR) + 6.70%), 4.616%, 12/20/43	408,640	70,123
IFB Ser. 11-156, Class SK, IO, ((-1 x 1 Month US LIBOR) + 6.60%), 4.516%, 4/20/38	1,006,864	185,011
Ser. 18-1, IO, 4.50%, 1/20/48	912,471	205,689
Ser. 13-34, Class HI, IO, 4.50%, 3/20/43	585,149	122,731
Ser. 12-129, IO, 4.50%, 11/16/42	456,176	105,988
Ser. 12-91, Class IN, IO, 4.50%, 5/20/42	938,923	187,614
Ser. 11-18, Class PI, IO, 4.50%, 8/20/40	225,830	32,111
Ser. 10-35, Class AI, IO, 4.50%, 3/20/40	568,249	120,696
Ser. 10-35, Class DI, IO, 4.50%, 3/20/40	335,957	73,437
Ser. 10-35, Class QI, IO, 4.50%, 3/20/40	200,825	43,374
Ser. 10-9, Class QI, IO, 4.50%, 1/20/40	164,310	33,295
Ser. 09-121, Class BI, IO, 4.50%, 12/16/39	171,506	39,426
Ser. 09-121, Class CI, IO, 4.50%, 12/16/39	681,303	147,266
IFB Ser. 18-89, Class LS, IO, ((-1 x 1 Month US LIBOR) + 6.20%), 4.154%, 6/20/48	952,000	134,470
Ser. 16-69, IO, 4.00%, 5/20/46	908,448	163,448
Ser. 15-53, Class MI, IO, 4.00%, 4/16/45	494,796	109,702
Ser. 15-40, IO, 4.00%, 3/20/45	319,261	66,200
Ser. 14-100, Class NI, IO, 4.00%, 6/20/43	927,921	130,020
Ser. 13-67, Class IP, IO, 4.00%, 4/16/43	718,917	148,528
Ser. 13-165, Class IL, IO, 4.00%, 3/20/43	188,725	35,265
Ser. 12-56, Class IB, IO, 4.00%, 4/20/42	526,761	103,899
Ser. 12-47, Class CI, IO, 4.00%, 3/20/42	234,892	45,442
Ser. 14-104, IO, 4.00%, 3/20/42	528,382	87,976
Ser. 14-4, Class IK, IO, 4.00%, 7/20/39	260,709	26,367
Ser. 11-71, Class IK, IO, 4.00%, 4/16/39	316,806	34,899
Ser. 10-114, Class MI, IO, 4.00%, 3/20/39	336,165	26,680
Ser. 14-182, Class BI, IO, 4.00%, 1/20/39	722,169	93,858
Ser. 16-156, Class PI, IO, 3.50%, 11/20/46	702,535	90,293
Ser. 16-111, Class IP, IO, 3.50%, 8/20/46	1,212,127	140,266
Ser. 16-4, Class JI, IO, 3.50%, 1/20/46	758,325	135,642
Ser. 17-176, Class BI, IO, 3.50%, 5/20/45	1,211,223	190,216
Ser. 17-164, Class IG, IO, 3.50%, 4/20/44	1,582,527	189,903
Ser. 13-79, Class PI, IO, 3.50%, 4/20/43	450,723	69,583
Ser. 15-168, Class IG, IO, 3.50%, 3/20/43	631,603	107,155
Ser. 13-37, Class JI, IO, 3.50%, 1/20/43	287,490	48,456
Ser. 13-27, Class PI, IO, 3.50%, 12/20/42	247,319	40,991
Ser. 12-136, IO, 3.50%, 11/20/42	635,148	130,313
Ser. 14-46, Class JI, IO, 3.50%, 10/20/41	302,020	41,156
Ser. 13-18, Class GI, IO, 3.50%, 5/20/41	400,011	44,497
Ser. 12-71, Class JI, IO, 3.50%, 4/16/41	203,344	13,128
Ser. 14-102, Class IG, IO, 3.50%, 3/16/41	233,532	30,637
Ser. 15-52, Class KI, IO, 3.50%, 11/20/40	704,433	92,820
Ser. 12-48, Class KI, IO, 3.50%, 12/16/39	260,035	24,501
Ser. 14-147, Class MI, IO, 3.50%, 7/20/39	412,601	25,482
Ser. 15-99, Class TI, IO, 3.50%, 4/20/39	717,567	64,337
Ser. 15-24, Class AI, IO, 3.50%, 12/20/37	676,926	77,554
Ser. 14-160, Class IB, IO, 3.00%, 11/20/40	975,648	88,861
Ser. 14-141, Class CI, IO, 3.00%, 3/20/40	298,268	23,520
Ser. 14-174, Class AI, IO, 3.00%, 11/16/29	583,257	53,391
Ser. 16-H24, Class KI, IO, 2.976%, 11/20/66 W	810,890	111,497
Ser. 17-H14, Class LI, IO, 2.646%, 6/20/67 W	881,638	111,307
Ser. 16-H13, Class IK, IO, 2.597%, 6/20/66 W	1,424,117	185,135
Ser. 15-H22, Class GI, IO, 2.572%, 9/20/65 W	1,467,216	185,456
Ser. 17-H03, Class CI, IO, 2.49%, 12/20/66 W	733,091	98,967
Ser. 16-H04, Class HI, IO, 2.365%, 7/20/65 W	883,426	86,311

MORTGAGE-BACKED SECURITIES (60.6%)* cont.	Principal amount	Value
Agency collateralized mortgage obligations cont.		
Government National Mortgage Association		
Ser. 17-H25, Class AI, IO, 2.352%, 12/20/67 W	\$586,954	\$77,038
Ser. 16-H27, Class GI, IO, 2.326%, 12/20/66 W	1,587,631	224,794
Ser. 17-H04, Class BI, IO, 2.313%, 2/20/67 W	1,014,551	147,110
Ser. 16-H07, Class PI, IO, 2.261%, 3/20/66 W	2,510,544	316,956
Ser. 16-H17, Class DI, IO, 2.221%, 7/20/66 W	1,461,579	163,146
Ser. 16-H14, Class AI, IO, 2.219%, 6/20/66 W	946,040	106,636
Ser. 17-H25, Class CI, IO, 2.182%, 12/20/67 W	1,661,710	255,488
Ser. 17-H14, Class JI, IO, 2.173%, 6/20/67 W	560,440	85,467
Ser. 17-H08, Class GI, IO, 2.173%, 2/20/67 W	998,669	147,304
Ser. 17-H20, Class AI, IO, 2.131%, 10/20/67 W	2,340,169	333,108
Ser. 18-H02, IO, 2.106%, 1/20/68 W	465,900	68,142
Ser. 17-H06, Class MI, IO, 2.106%, 2/20/67 W	1,729,002	193,422
Ser. 17-H08, Class EI, IO, 2.103%, 2/20/67 W	1,362,249	189,012
Ser. 16-H24, IO, 2.101%, 9/20/66 W	968,846	113,839
Ser. 17-H08, Class NI, IO, 2.098%, 3/20/67 W	1,040,415	125,682
Ser. 15-H13, Class AI, IO, 2.091%, 6/20/65 W	1,347,174	133,033
Ser. 16-H11, Class HI, IO, 2.086%, 1/20/66 W	3,003,347	296,580
Ser. 18-H01, Class XI, IO, 2.079%, 1/20/68 W	1,214,629	189,786
Ser. 18-H05, Class ID, IO, 2.057%, 3/20/68 W	600,802	90,120
Ser. 16-H06, Class HI, IO, 2.056%, 2/20/66	1,148,962	100,393
Ser. 15-H24, Class HI, IO, 2.027%, 9/20/65 W	1,291,032	92,338
Ser. 17-H03, Class KI, IO, 1.945%, 1/20/67 W	1,508,330	196,478
Ser. 15-H23, Class TI, IO, 1.895%, 9/20/65 W	1,108,981	112,672
Ser. 15-H10, Class HI, IO, 1.893%, 4/20/65 W	2,338,797	212,597
Ser. 16-H18, Class QI, IO, 1.84%, 6/20/66 W	1,369,150	174,846
Ser. 16-H23, Class NI, IO, 1.829%, 10/20/66 W	1,940,988	240,294
Ser. 17-H25, IO, 1.816%, 11/20/67 W	985,893	127,088
FRB Ser. 15-H16, Class XI, IO, 1.762%, 7/20/65 W	867,486	92,994
Ser. 17-H16, Class HI, IO, 1.748%, 8/20/67 W	897,885	88,666
Ser. 16-H24, Class JI, IO, 1.722%, 11/20/66 W	612,568	77,337
Ser. 17-H09, IO, 1.704%, 4/20/67 W	949,975	100,920
Ser. 14-H25, Class BI, IO, 1.676%, 12/20/64 W	1,137,558	93,631
Ser. 17-H10, Class MI, IO, 1.601%, 4/20/67 W	1,135,304	115,006
Ser. 15-H20, Class CI, IO, 1.587%, 8/20/65 W	1,470,554	156,473
Ser. 14-H18, Class CI, IO, 1.585%, 9/20/64 W	1,055,130	92,697
Ser. 16-H06, Class DI, IO, 1.578%, 7/20/65	1,417,851	116,044
Ser. 17-H06, Class EI, 1.571%, 2/20/67 W	742,821	52,737
Ser. 16-H06, Class AI, IO, 1.55%, 2/20/66	828,677	77,099
Ser. 16-H03, Class AI, IO, 1.542%, 1/20/66 W	1,566,954	150,819
Ser. 15-H25, Class BI, IO, 1.439%, 10/20/65 W	1,038,493	102,915
Ser. 16-H08, Class GI, IO, 1.421%, 4/20/66 W	1,027,542	61,371
Ser. 16-H10, Class AI, IO, 1.396%, 4/20/66 W	1,369,678	103,485
Ser. 16-H04, Class KI, IO, 1.392%, 2/20/66 W	1,699,046	131,676
Ser. 15-H22, Class AI, IO, 1.39%, 9/20/65 W	1,606,875	161,009
Ser. 15-H04, Class AI, IO, 1.282%, 12/20/64 W	1,196,243	101,681
FRB Ser. 11-H07, Class FI, IO, 1.23%, 2/20/61 W	4,618,580	154,261
Ser. 14-H21, Class AI, IO, 1.167%, 10/20/64 W	1,540,213	132,830
Ser. 10-151, Class KO, PO, zero %, 6/16/37	32,834	26,739
Ser. 06-36, Class OD, PO, zero %, 7/16/36	1,867	1,516
	24,617,552	
Commercial mortgage-backed securities (1.9%)		
JPMBB Commercial Mortgage Securities Trust 144A		
FRB Ser. C14, Class D, 4.717%, 8/15/46 W	298,000	269,662
ML-CFC Commercial Mortgage Trust FRB Ser. 06-4, Class C, 5.324%, 12/12/49 W		
	260,849	256,251
Morgan Stanley Capital I Trust 144A FRB		
Ser. 12-C4, Class E, 5.601%, 3/15/45 W	179,000	154,994
WF-RBS Commercial Mortgage Trust 144A		
FRB Ser. 12-C9, Class D, 4.94%, 11/15/45 W	290,000	273,759
FRB Ser. 13-C11, Class D, 4.413%, 3/15/45 W	175,000	167,692
	1,122,358	

MORTGAGE-BACKED SECURITIES (60.6%)* cont.	Principal amount	Value
Residential mortgage-backed securities (non-agency) (17.6%)		
Arroyo Mortgage Trust 144A Ser. 18-1, Class A3, 4.157%, 4/25/48 W		
	\$145,893	\$146,560
Bayview Financial Mortgage Pass-Through Trust Ser. 06-C, Class 1A3, 6.028%, 11/28/36		
	450,000	441,000
Carrington Mortgage Loan Trust FRB Ser. 06-NC2, Class A4, (1 Month US LIBOR + 0.24%), 2.331%, 6/25/36		
	490,000	458,150
Citigroup Mortgage Loan Trust FRB Ser. 07-AR5, Class 1A1A, 3.817%, 4/25/37 W		
	439,607	437,616
Countrywide Asset-Backed Certificates FRB Ser. 07-10, Class 1A1, (1 Month US LIBOR + 0.18%), 2.271%, 6/25/47		
	451,345	428,777
Credit Suisse Mortgage Trust 144A FRB Ser. 13-11R, Class 1A2, 5.313%, 6/27/34 W		
	180,000	182,033
Federal Home Loan Mortgage Corporation		
FRB Ser. 16-DNA3, Class M3, (1 Month US LIBOR + 5.00%), 7.091%, 12/25/28	362,000	421,668
Structured Agency Credit Risk Debt Notes FRB Ser. 14-DN4, Class M3, (1 Month US LIBOR + 4.55%), 6.641%, 10/25/24		
	201,311	223,146
Structured Agency Credit Risk Debt FRN Ser. 17-DNA2, Class M2, (1 Month US LIBOR + 3.45%), 5.541%, 10/25/29		
	250,000	272,548
Structured Agency Credit Risk Debt Notes FRB Ser. 18-DNA1, Class B1, (1 Month US LIBOR + 3.15%), 5.241%, 7/25/30		
	250,000	234,060
Structured Agency Credit Risk Debt FRN Ser. 17-HQA2, Class M2, (1 Month US LIBOR + 2.65%), 4.741%, 12/25/29		
	260,000	268,262
Structured Agency Credit Risk Debt FRN Ser. 18-HQA1, Class M2, (1 Month US LIBOR + 2.30%), 4.391%, 9/25/30		
	295,000	294,696
Federal Home Loan Mortgage Corporation 144A		
Structured Agency Credit Risk Debt FRN Ser. 18-DNA2, Class B1, (1 Month US LIBOR + 3.70%), 5.757%, 12/25/30		
	300,000	292,617
Federal Home Loan Mortgage Corporation Structured Agency Credit risk debt Notes FRB Ser. 15-HQA1, Class B, (1 Month US LIBOR + 8.80%), 10.891%, 3/25/28		
	249,104	302,662
Federal National Mortgage Association		
Connecticut Avenue Securities FRB Ser. 16-C03, Class 1B, (1 Month US LIBOR + 11.75%), 13.841%, 10/25/28		
	155,967	222,125
Connecticut Avenue Securities FRB Ser. 16-C03, Class 1M2, (1 Month US LIBOR + 5.30%), 7.391%, 10/25/28		
	250,000	295,302
Connecticut Avenue Securities FRB Ser. 16-C05, Class 2M2, (1 Month US LIBOR + 4.45%), 6.541%, 1/25/29		
	260,000	289,381
Connecticut Avenue Securities FRB Ser. 16-C07, Class 2M2, (1 Month US LIBOR + 4.35%), 6.441%, 5/25/29		
	20,000	22,192
Connecticut Avenue Securities FRB Ser. 16-C06, Class 1M2, (1 Month US LIBOR + 4.25%), 6.341%, 4/25/29		
	284,000	322,611
Connecticut Avenue Securities FRB Ser. 17-C06, Class 1B1, (1 Month US LIBOR + 4.15%), 6.241%, 2/25/30		
	200,000	210,436
Connecticut Avenue Securities FRB Ser. 17-C07, Class 1B1, (1 Month US LIBOR + 4.00%), 6.091%, 5/25/30		
	220,000	228,668

MORTGAGE-BACKED**SECURITIES (60.6%)* cont.**

	Principal amount	Value
Residential mortgage-backed securities (non-agency) cont.		
Federal National Mortgage Association		
Connecticut Avenue Securities FRB Ser. 17-C05, Class 1B1, (1 Month US LIBOR + 3.60%), 5.691%, 1/25/30	\$440,000	\$451,166
Connecticut Avenue Securities FRB Ser. 18-C01, Class 1B1, (1 Month US LIBOR + 3.55%), 5.641%, 7/25/30	320,000	315,875
Connecticut Avenue Securities FRB Ser. 17-C01, Class 1M2, (1 Month US LIBOR + 3.55%), 5.641%, 7/25/29	330,000	357,447
Connecticut Avenue Securities FRB Ser. 17-C06, Class 1M2, (1 Month US LIBOR + 2.65%), 4.741%, 2/25/30	290,000	299,116
Connecticut Avenue Securities FRB Ser. 18-C04, Class 2M2, (1 Month US LIBOR + 2.55%), 4.652%, 12/25/30	300,000	300,000
Connecticut Avenue Securities FRB Ser. 18-C02, Class 2M2, (1 Month US LIBOR + 2.20%), 4.291%, 8/25/30	299,000	296,823
Connecticut Avenue Securities FRB Ser. 18-C03, Class 1M2, (1 Month US LIBOR + 2.15%), 4.241%, 10/25/30	420,000	416,560
GCAT, LLC 144A Ser. 18-2, Class A1, 4.09%, 6/26/23	270,000	270,000
JPMorgan Alternative Loan Trust FRB Ser. 06-A6, Class 1A1, (1 Month US LIBOR + 0.16%), 2.251%, 11/25/36	176,418	167,266
Morgan Stanley ABS Capital I, Inc. Trust FRB Ser. 04-HE9, Class M2, (1 Month US LIBOR + 0.93%), 3.021%, 11/25/34	71,543	70,986
Vericrest Opportunity Loan Transferee LXI, LLC 144A Ser. 17-NPL8, Class A1, 3.125%, 6/25/47	163,928	162,596
Vericrest Opportunity Loan Transferor LVI, LLC 144A Ser. 17-NPL3, Class A1, 3.50%, 3/25/47	452,316	450,903
VOLT LV, LLC 144A Ser. 17-NPL2, Class A1, 3.50%, 3/25/47	279,611	278,669
WaMu Mortgage Pass-Through Certificates Trust FRB Ser. 05-AR14, Class 1A2, 3.413%, 12/25/35 W	438,202	438,215
FRB Ser. 05-AR8, Class 2AC2, (1 Month US LIBOR + 0.92%), 3.011%, 7/25/45	138,973	136,541
Wells Fargo Home Equity Asset-Backed Securities Trust FRB Ser. 07-2, Class A3, (1 Month US LIBOR + 0.23%), 2.321%, 4/25/37	112,508	108,539
		10,515,212
Total mortgage-backed securities (cost \$36,188,010)		\$36,255,122

PURCHASED SWAP OPTIONS OUTSTANDING(2.3%)*

Counterparty	Fixed right % to receive or (pay)/ Floating rate index/Maturity date	Expiration date/strike	Notional/ Contract amount	Value
Bank of America N.A.				
	(1.9325)/3 month USD-LIBOR-BBA/Aug-19	Aug-18/1.9325	\$19,444,000	\$198,134
	(2.2625)/3 month USD-LIBOR-BBA/Aug-22	Aug-21/2.2625	8,749,800	76,823
	2.2625/3 month USD-LIBOR-BBA/Aug-22	Aug-21/2.2625	8,749,800	22,487
	1.9325/3 month USD-LIBOR-BBA/Aug-19	Aug-18/1.9325	19,444,000	19
Barclays Bank PLC				
	2.89/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.89	9,426,400	32,144
	2.655/3 month USD-LIBOR-BBA/Sep-28	Sep-18/2.655	1,253,900	2,056

PURCHASED SWAP OPTIONS OUTSTANDING(2.3%)* cont.

Counterparty	Fixed right % to receive or (pay)/ Floating rate index/Maturity date	Expiration date/strike	Notional/ Contract amount	Value
Barclays Bank PLC cont.				
	(3.255)/3 month USD-LIBOR-BBA/Sep-28	Sep-18/3.255	\$1,253,900	\$1,630
Citibank, N.A.				
	2.945/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.945	9,398,500	31,861
	(3.031)/3 month USD-LIBOR-BBA/Jun-49	Jun-19/3.031	752,300	30,987
	2.826/3 month USD-LIBOR-BBA/Aug-28	Aug-18/2.826	4,713,200	12,207
	2.884/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.884	4,999,500	11,849
	(3.115)/3 month USD-LIBOR-BBA/Jul-28	Jul-18/3.115	9,398,500	470
	2.47/3 month USD-LIBOR-BBA/Aug-19	Aug-18/2.47	7,777,600	311
Credit Suisse International				
	3.056/3 month USD-LIBOR-BBA/Sep-20	Sep-18/3.056	8,358,700	26,664
	2.8475/3 month USD-LIBOR-BBA/Aug-28	Aug-18/2.8475	4,999,500	19,948
	2.895/3 month USD-LIBOR-BBA/Sep-20	Sep-18/2.895	8,358,700	18,055
	(3.056)/3 month USD-LIBOR-BBA/Sep-20	Sep-18/3.056	8,358,700	12,120
	(2.895)/3 month USD-LIBOR-BBA/Sep-20	Sep-18/2.895	8,358,700	11,535
	2.85/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.85	4,713,200	10,935
	2.80/3 month USD-LIBOR-BBA/Jul-20	Jul-18/2.80	6,666,000	5,533
Goldman Sachs International				
	2.965/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.965	9,426,400	49,960
	3.04375/3 month USD-LIBOR-BBA/Sep-19	Sep-18/3.04375	13,331,900	18,265
	3.005/3 month USD-LIBOR-BBA/Sep-19	Sep-18/3.005	13,331,900	15,065
	(3.005)/3 month USD-LIBOR-BBA/Sep-19	Sep-18/3.005	13,331,900	14,665
	(3.04375)/3 month USD-LIBOR-BBA/Sep-19	Sep-18/3.04375	13,331,900	13,065
	2.73375/3 month USD-LIBOR-BBA/Sep-19	Sep-18/2.73375	13,331,900	9,866
	2.70/3 month USD-LIBOR-BBA/Sep-19	Sep-18/2.70	13,331,900	7,866
	(2.70)/3 month USD-LIBOR-BBA/Sep-19	Sep-18/2.70	13,331,900	7,466
	(2.73375)/3 month USD-LIBOR-BBA/Sep-19	Sep-18/2.73375	13,331,900	6,666
	2.695/3 month USD-LIBOR-BBA/Oct-23	Oct-18/2.695	1,633,300	2,270
	(3.135)/3 month USD-LIBOR-BBA/Jul-28	Jul-18/3.135	9,426,400	1,602
	1.9175/3 month USD-LIBOR-BBA/Oct-19	Oct-18/1.9175	7,077,600	7
JPMorgan Chase Bank N.A.				
	(1.919)/3 month USD-LIBOR-BBA/Aug-19	Aug-18/1.919	19,444,000	200,468

PURCHASED SWAP OPTIONS OUTSTANDING(2.3%)* cont.

Counterparty Fixed right % to receive or (pay)/ Floating rate index/Maturity date	Expiration date/strike	Notional/ Contract amount	Value
JPMorgan Chase Bank N.A. cont.			
(2.25)/3 month USD- LIBOR-BBA/Aug-22	Aug-21/2.25	\$8,749,800	\$77,523
2.25/3 month USD- LIBOR-BBA/Aug-22	Aug-21/2.25	8,749,800	22,224
(2.68)/3 month USD- LIBOR-BBA/Jul-20	Jul-18/2.68	7,777,600	19,677
(2.895)/3 month USD- LIBOR-BBA/Sep-20	Sep-18/2.895	10,030,400	13,842
2.865/3 month USD-LIBOR- BBA/Jul-28	Jul-18/2.865	3,142,100	9,552
(3.115)/3 month USD- LIBOR-BBA/Jul-28	Jul-18/3.115	3,142,100	3,142
1.919/3 month USD- LIBOR-BBA/ Aug-19	Aug-18/1.919	19,444,000	19

Morgan Stanley & Co. International PLC

3.00/3 month USD-LIBOR- BBA/Apr-72	Apr-47/3.00	790,100	90,933
3.00/3 month USD-LIBOR- BBA/Apr-72	Apr-47/3.00	790,100	90,893
2.9125/3 month USD-LIBOR- BBA/Jul-28	Jul-18/2.9125	12,568,500	49,143
2.89/3 month USD-LIBOR- BBA/Sep-28	Sep-18/2.89	6,284,200	49,017
(2.8225)/3 month USD-LIBOR- BBA/Oct-20	Oct-18/2.8225	13,331,900	34,663
(2.92875)/3 month USD- LIBOR-BBA/Nov-20	Nov-18/2.92875	6,666,000	16,998
2.745/3 month USD-LIBOR- BBA/Aug-28	Aug-18/2.745	4,699,300	12,218
2.78/3 month USD-LIBOR- BBA/Jul-20	Jul-18/2.78	6,666,000	3,866
(2.9525)/3 month USD-LIBOR- BBA/Jul-28	Jul-18/2.9525	1,253,900	617

Total purchased swap options outstanding (cost \$1,303,286) \$1,367,326**PURCHASED OPTIONS****OUTSTANDING (0.1%)***

Counterparty	Expiration date/Strike price	Notional amount	Contract amount	Value	
JPMorgan Chase Bank N.A.					
Federal National Mortgage Association 30 yr 2.50%	TBA commitments (Call)	Jul-18/\$93.22	\$1,000,000	\$1,000,000	\$5,704
Federal National Mortgage Association 30 yr 3.00%	TBA commitments (Put)	Jul-18/96.44	2,000,000	2,000,000	532
Federal National Mortgage Association 30 yr 3.50%	TBA commitments (Call)	Jul-18/99.20	14,000,000	14,000,000	51,814
Federal National Mortgage Association 30 yr 3.50%	TBA commitments (Put)	Sep-18/98.84	2,000,000	2,000,000	7,096
Federal National Mortgage Association 30 yr 3.50%	TBA commitments (Put)	Sep-18/98.68	2,000,000	2,000,000	6,094
Federal National Mortgage Association 30 yr 3.50%	TBA commitments (Put)	Sep-18/98.52	2,000,000	2,000,000	5,216
Federal National Mortgage Association 30 yr 3.50%	TBA commitments (Put)	Jul-18/98.91	2,000,000	2,000,000	144

PURCHASED OPTIONS**OUTSTANDING (0.1%)* cont.**

Counterparty	Expiration date/Strike price	Notional amount	Contract amount	Value	
JPMorgan Chase Bank N.A. cont.					
Federal National Mortgage Association 30 yr 3.50%	TBA commitments (Put)	Jul-18/\$98.75	\$2,000,000	\$2,000,000	\$52
Federal National Mortgage Association 30 yr 3.50%	TBA commitments (Put)	Jul-18/98.59	2,000,000	2,000,000	16

Total purchased options outstanding (cost \$133,125) \$76,668**ASSET-BACKED SECURITIES (0.2%)***

	Principal amount	Value
loanDepot Station Place Agency Securitization Trust 144A FRB Ser. 17-LD1, Class A, (1 Month US LIBOR + 0.80%), 2.891%, 11/25/50	\$133,000	\$133,000

Total asset-backed securities (cost \$133,000) \$133,000**SHORT-TERM INVESTMENTS (13.5%)***

	Principal amount/shares	Value
Interest in \$362,000,000 joint tri-party repurchase agreement dated 6/29/18 with Citigroup Global Markets, Inc. due 7/2/18 — maturity value of \$1,534,271 for an effective yield of 2.120% (collateralized by various U.S. Treasury notes with coupon rates ranging from 1.125% to 1.750% and due dates ranging from 8/31/19 to 8/31/23, valued at \$369,240,001)	\$1,534,000	\$1,534,000
Interest in \$300,000,000 joint tri-party repurchase agreement dated 6/29/18 with HSBC Bank USA, National Association due 7/2/18 — maturity value of \$1,600,281 for an effective yield of 2.110% (collateralized by various U.S. Treasury notes and bonds with coupon rates ranging from 0.875% to 4.750% and due dates ranging from 8/15/18 to 5/15/47, valued at \$306,001,251)	1,600,000	1,600,000
Interest in \$236,577,000 joint tri-party repurchase agreement dated 6/29/18 with Merrill Lynch, Pierce, Fenner & Smith, Inc. due 7/2/18 — maturity value of \$1,600,281 for an effective yield of 2.110% (collateralized by various mortgage backed securities with coupon rates ranging from 2.206% to 4.500% and due dates ranging from 2/1/33 to 6/1/48, valued at \$241,308,540)	1,600,000	1,600,000
State Street Institutional U.S. Government Money Market Fund, Premier Class 1.82% ^P Shares	247,000	247,000
U.S. Treasury Bills 1.841%, 8/2/18 Δ \$	\$2,000,000	1,996,883
U.S. Treasury Bills 1.898%, 9/6/18 Δ \$	455,000	453,434
U.S. Treasury Bills 1.887%, 8/23/18 Δ \$	281,000	280,257
U.S. Treasury Bills 1.883%, 8/9/18 Δ \$	205,000	204,606
U.S. Treasury Bills 1.894%, 9/20/18 Δ \$	167,000	166,304
U.S. Treasury Bills 1.893%, 9/13/18 \$	3,000	2,989

Total short-term investments (cost \$8,085,321) \$8,085,473**Total investments (cost \$128,542,445) \$128,205,898****Key to holding's abbreviations**

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.

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
PO	Principal Only
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, 2018 through June 30, 2018 (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 \$59,820,778.

Δ This security, in part or in entirety, was pledged and segregated with the custodian for collateral on certain derivative contracts at the close of the reporting period. Collateral at period end totaled \$1,554,754 and is included in Investments in securities on the Statement of assets and liabilities (Notes 1 and 8).

§ This security, in part or in entirety, was pledged and segregated with the custodian for collateral on the initial margin on certain centrally cleared derivative contracts at the close of the reporting period. Collateral at period end totaled \$1,484,661 and is included in Investments in securities on the Statement of assets and liabilities (Notes 1 and 8).

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 (Note 1).

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

At the close of the reporting period, the fund maintained liquid assets totaling \$41,719,462 to cover certain derivative contracts and delayed delivery securities.

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

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.

WRITTEN SWAP OPTIONS OUTSTANDING at 6/30/18 (premiums \$1,427,719)

(Unaudited)

Counterparty

Fixed Obligation % to receive or (pay)/Floating rate index/ Maturity date

Expiration date/strike

Notional/ Contract amount

Value

Bank of America N.A.

(2.2625)/3 month USD-LIBOR-BBA/Aug-19	Aug-18/2.2625	\$8,749,800	\$88
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(1.9325)/3 month USD-LIBOR-BBA/Aug-20	Aug-19/1.9325	19,444,000	5,055
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2.2625/3 month USD-LIBOR-BBA/Aug-19	Aug-18/2.2625	8,749,800	54,336
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1.9325/3 month USD-LIBOR-BBA/Aug-20	Aug-19/1.9325	19,444,000	203,190
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Barclays Bank PLC

2.9425/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.9425	501,500	386
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(2.9425)/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.9425	501,500	888
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WRITTEN SWAP OPTIONS OUTSTANDING at 6/30/18 (premiums \$1,427,719)

(Unaudited) cont.

Counterparty

Fixed Obligation % to receive or (pay)/Floating rate index/ Maturity date

Expiration date/strike

Notional/ Contract amount

Value

Barclays Bank PLC cont.

2.813/3 month USD-LIBOR-BBA/Jan-21	Jan-19/2.813	\$6,965,000	\$33,362
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(2.98)/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.98	4,713,200	34,406
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Citibank, N.A.

(2.6325)/3 month USD-LIBOR-BBA/Aug-19	Aug-18/2.6325	7,777,600	778
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(2.739)/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.739	4,999,500	1,750
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3.03/3 month USD-LIBOR-BBA/Jul-28	Jul-18/3.03	4,699,300	1,927
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3.126/3 month USD-LIBOR-BBA/Aug-28	Aug-18/3.126	4,713,200	5,797
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3.029/3 month USD-LIBOR-BBA/Jul-28	Jul-18/3.029	4,999,500	6,399
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3.09/3 month USD-LIBOR-BBA/Jun-24	Jun-19/3.09	3,343,500	30,727
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(3.03)/3 month USD-LIBOR-BBA/Jul-28	Jul-18/3.03	4,699,300	42,247
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2.663/3 month USD-LIBOR-BBA/Jan-21	Jan-19/2.663	6,965,000	46,596
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Credit Suisse International

3.3575/3 month USD-LIBOR-BBA/Aug-28	Aug-18/3.3575	4,999,500	1,300
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3.10/3 month USD-LIBOR-BBA/Jul-28	Jul-18/3.10	4,713,200	4,383
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(2.915)/3 month USD-LIBOR-BBA/Jul-28	Jul-18/2.915	1,499,800	6,434
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2.973/3 month USD-LIBOR-BBA/Sep-22	Sep-18/2.973	8,358,700	23,404
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(2.973)/3 month USD-LIBOR-BBA/Sep-22	Sep-18/2.973	8,358,700	44,301
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Goldman Sachs International

(2.3025)/3 month USD-LIBOR-BBA/Oct-19	Oct-18/2.3025	15,555,200	2,178
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3.05/3 month USD-LIBOR-BBA/Jul-28	Jul-18/3.05	4,713,200	3,394
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2.8875/3 month USD-LIBOR-BBA/Sep-20	Sep-18/2.8875	13,331,900	18,931
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2.85/3 month USD-LIBOR-BBA/Sep-20	Sep-18/2.85	13,331,900	21,598
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(2.85)/3 month USD-LIBOR-BBA/Sep-20	Sep-18/2.85	13,331,900	21,998
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(2.8875)/3 month USD-LIBOR-BBA/Sep-20	Sep-18/2.8875	13,331,900	27,597
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(3.05)/3 month USD-LIBOR-BBA/Jul-28	Jul-18/3.05	4,713,200	51,610
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JPMorgan Chase Bank N.A.

(2.25)/3 month USD-LIBOR-BBA/Aug-19	Aug-18/2.25	8,749,800	88
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3.055/3 month USD-LIBOR-BBA/Sep-20	Sep-18/3.055	10,030,400	4,313
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(1.919)/3 month USD-LIBOR-BBA/Aug-20	Aug-19/1.919	19,444,000	4,861
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2.975/3 month USD-LIBOR-BBA/Sep-20	Sep-18/2.975	10,030,400	8,024
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2.25/3 month USD-LIBOR-BBA/Aug-19	Aug-18/2.25	8,749,800	55,299
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WRITTEN SWAP OPTIONS OUTSTANDING at 6/30/18 (premiums \$1,427,719)

(Unaudited) cont.

Counterparty

Fixed Obligation % to receive
or (pay)/Floating rate index/
Maturity date

Expiration
date/strike

Notional/
Contract
amount

Value

JPMorgan Chase Bank N.A. cont.

2.77/3 month USD-LIBOR-
BBA/Jan-21 Jan-19/2.77 \$15,555,200 \$80,731

1.919/3 month USD-LIBOR-
BBA/Aug-20 Aug-19/1.919 19,444,000 205,523

**Morgan Stanley & Co.
International PLC**

3.0625/3 month USD-LIBOR-
BBA/Jul-28 Jul-18/3.0625 1,253,900 1

(2.8425)/3 month
USD-LIBOR-BBA/Jul-28 Jul-18/2.8425 1,253,900 13

(2.8525)/3 month
USD-LIBOR-BBA/Jul-28 Jul-18/2.8525 1,499,800 2,625

3.1225/3 month USD-LIBOR-
BBA/Jul-28 Jul-18/3.1225 6,284,200 3,645

3.255/3 month USD-LIBOR-
BBA/Aug-28 Aug-18/3.255 4,699,300 5,028

3.24/3 month USD-LIBOR-
BBA/Sep-28 Sep-18/3.24 3,142,100 7,038

2.75/3 month USD-LIBOR-
BBA/Aug-20 Aug-18/2.75 6,666,000 17,265

3.02/3 month USD-LIBOR-
BBA/Jul-28 Jul-18/3.02 9,487,300 23,813

2.655/3 month USD-LIBOR-
BBA/Jul-20 Jul-18/2.655 13,331,900 35,996

(2.99)/3 month USD-LIBOR-
BBA/Sep-28 Sep-18/2.99 3,142,100 37,799

(2.9725)/3 month USD-LIBOR-
BBA/Jul-28 Jul-18/2.9725 6,284,200 41,664

(3.00)/3 month USD-LIBOR-
BBA/Apr-48 Apr-25/3.00 790,100 78,607

(3.00)/3 month USD-LIBOR-
BBA/Apr-48 Apr-25/3.00 790,100 78,686

(3.02)/3 month USD-LIBOR-
BBA/Jul-28 Jul-18/3.02 9,487,300 94,209

Total \$1,480,288

WRITTEN OPTIONS OUTSTANDING at 6/30/18 (premiums \$133,125)

(Unaudited)

Counterparty Expiration
date/strike Notional Contract
price amount amount Value

JPMorgan Chase Bank N.A.

Federal National
Mortgage Association
30 yr 2.50% TBA
commitments (Put) Jul-18/\$93.22 \$1,000,000 \$1,000,000 \$313

Federal National
Mortgage Association
30 yr 3.00% TBA
commitments (Call) Jul-18/96.44 2,000,000 2,000,000 9,282

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Jul-18/99.20 14,000,000 14,000,000 4,788

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Sep-18/98.27 2,000,000 2,000,000 4,010

WRITTEN OPTIONS OUTSTANDING at 6/30/18 (premiums \$133,125)

(Unaudited) cont.

Counterparty Expiration
date/strike Notional Contract
price amount amount Value

JPMorgan Chase Bank N.A. cont.

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Sep-18/\$98.11 \$2,000,000 \$2,000,000 \$3,410

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Sep-18/97.95 2,000,000 2,000,000 2,894

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Sep-18/97.70 2,000,000 2,000,000 2,196

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Sep-18/97.54 2,000,000 2,000,000 1,852

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Sep-18/97.38 2,000,000 2,000,000 1,556

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Jul-18/98.55 2,000,000 2,000,000 10

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Jul-18/97.88 2,000,000 2,000,000 2

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Jul-18/98.03 2,000,000 2,000,000 2

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Jul-18/98.23 2,000,000 2,000,000 2

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Jul-18/98.39 2,000,000 2,000,000 2

Federal National
Mortgage Association
30 yr 3.50% TBA
commitments (Put) Jul-18/98.19 2,000,000 2,000,000 2

Total \$30,321

FORWARD PREMIUM SWAP OPTION CONTRACTS OUTSTANDING at 6/30/18 (Unaudited)

Counterparty Fixed right or obligation % to receive or (pay)/ Floating rate index/Maturity date	Expiration date/strike	Contract amount	Premium receivable/ (payable)	Unrealized appreciation/ (depreciation)
Bank of America N.A.				
(2.203)/3 month USD-LIBOR-BBA/Jun-24 (Purchased)	Jun-19/2.203	\$1,944,400	\$(38,888)	\$33,094
(2.647)/3 month USD-LIBOR-BBA/Jun-29 (Purchased)	Jun-24/2.647	1,944,400	(76,026)	6,067
(2.5925)/3 month USD-LIBOR-BBA/Jan-27 (Purchased)	Jan-19/2.5925	1,166,600	(41,123)	(5,145)
(2.785)/3 month USD-LIBOR-BBA/Jan-47 (Purchased)	Jan-27/2.785	1,166,600	(125,176)	(5,751)
2.647/3 month USD-LIBOR-BBA/Jun-29 (Purchased)	Jun-24/2.647	1,944,400	(76,026)	(22,166)
2.785/3 month USD-LIBOR-BBA/Jan-47 (Purchased)	Jan-27/2.785	1,166,600	(125,176)	(30,822)
2.203/3 month USD-LIBOR-BBA/Jun-24 (Purchased)	Jun-19/2.203	1,944,400	(38,888)	(33,424)
2.5925/3 month USD-LIBOR-BBA/Jan-27 (Purchased)	Jan-19/2.5925	1,166,600	(41,123)	(34,648)
(2.7175)/3 month USD-LIBOR-BBA/Jan-47 (Written)	Jan-19/2.7175	1,166,600	105,402	83,237
(2.413)/3 month USD-LIBOR-BBA/Jun-29 (Written)	Jun-19/2.413	1,944,400	74,762	60,938
2.7175/3 month USD-LIBOR-BBA/Jan-47 (Written)	Jan-19/2.7175	1,166,600	105,402	29,142
2.413/3 month USD-LIBOR-BBA/Jun-29 (Written)	Jun-19/2.413	1,944,400	74,762	(33,424)
Barclays Bank PLC				
(2.205)/3 month USD-LIBOR-BBA/Jun-24 (Purchased)	Jun-19/2.205	1,944,400	(38,888)	32,938
(2.43)/3 month USD-LIBOR-BBA/Feb-22 (Purchased)	Feb-19/2.43	1,166,600	(16,274)	2,987
2.43/3 month USD-LIBOR-BBA/Feb-22 (Purchased)	Feb-19/2.43	1,166,600	(16,274)	(14,384)
2.205/3 month USD-LIBOR-BBA/Jun-24 (Purchased)	Jun-19/2.205	1,944,400	(38,888)	(33,405)
Citibank, N.A.				
(2.654)/3 month USD-LIBOR-BBA/Jun-29 (Purchased)	Jun-24/2.654	1,944,400	(76,026)	5,736
(2.34)/3 month USD-LIBOR-BBA/Nov-24 (Purchased)	Nov-19/2.34	237,000	(4,396)	3,576
(2.689)/3 month USD-LIBOR-BBA/Nov-49 (Purchased)	Nov-24/2.689	237,000	(30,514)	2,920
2.34/3 month USD-LIBOR-BBA/Nov-24 (Purchased)	Nov-19/2.34	237,000	(4,396)	(2,993)
2.689/3 month USD-LIBOR-BBA/Nov-49 (Purchased)	Nov-24/2.689	237,000	(30,514)	(6,480)
2.654/3 month USD-LIBOR-BBA/Jun-29 (Purchased)	Jun-24/2.654	1,944,400	(76,026)	(21,933)
(2.42)/3 month USD-LIBOR-BBA/Jun-29 (Written)	Jun-19/2.42	1,944,400	74,859	60,821
(2.615)/3 month USD-LIBOR-BBA/Nov-49 (Written)	Nov-19/2.615	237,000	18,960	10,608
2.615/3 month USD-LIBOR-BBA/Nov-49 (Written)	Nov-19/2.615	237,000	18,960	(5,174)
2.42/3 month USD-LIBOR-BBA/Jun-29 (Written)	Jun-19/2.42	1,944,400	74,471	(32,744)
Goldman Sachs International				
(2.47)/3 month USD-LIBOR-BBA/Nov-29 (Purchased)	Nov-19/2.47	395,400	(14,037)	8,078
(2.7725)/3 month USD-LIBOR-BBA/Nov-29 (Purchased)	Nov-19/2.7725	395,400	(10,083)	4,958
(2.725)/3 month USD-LIBOR-BBA/Nov-39 (Purchased)	Nov-29/2.725	395,400	(31,691)	2,218
(3.005)/3 month USD-LIBOR-BBA/Nov-39 (Purchased)	Nov-29/3.005	395,400	(27,401)	1,574
(2.8175)/3 month USD-LIBOR-BBA/Mar-47 (Purchased)	Mar-27/2.8175	233,300	(29,454)	(520)
3.005/3 month USD-LIBOR-BBA/Nov-39 (Purchased)	Nov-29/3.005	395,400	(35,981)	(4,464)
2.8175/3 month USD-LIBOR-BBA/Mar-47 (Purchased)	Mar-27/2.8175	233,300	(29,454)	(4,526)
2.725/3 month USD-LIBOR-BBA/Nov-39 (Purchased)	Nov-29/2.725	395,400	(31,691)	(4,685)
2.47/3 month USD-LIBOR-BBA/Nov-29 (Purchased)	Nov-19/2.47	395,400	(14,037)	(9,221)
2.7725/3 month USD-LIBOR-BBA/Nov-29 (Purchased)	Nov-19/2.7725	395,400	(18,979)	(10,810)
(2.875)/3 month USD-LIBOR-BBA/Nov-39 (Written)	Nov-19/2.875	395,400	32,462	16,500
(2.584)/3 month USD-LIBOR-BBA/Nov-39 (Written)	Nov-19/2.584	395,400	23,665	14,187
2.875/3 month USD-LIBOR-BBA/Nov-39 (Written)	Nov-19/2.875	395,400	16,686	(5,500)
2.584/3 month USD-LIBOR-BBA/Nov-39 (Written)	Nov-19/2.584	395,400	23,665	(9,857)
JPMorgan Chase Bank N.A.				
(2.2525)/3 month USD-LIBOR-BBA/Nov-29 (Purchased)	Nov-19/2.2525	395,400	(24,515)	3,760
(2.553)/3 month USD-LIBOR-BBA/Nov-24 (Purchased)	Nov-19/2.553	237,000	(3,152)	3,057
(2.902)/3 month USD-LIBOR-BBA/Nov-49 (Purchased)	Nov-24/2.902	237,000	(25,430)	2,856
2.50/3 month USD-LIBOR-BBA/Nov-39 (Purchased)	Nov-29/2.50	395,400	(22,854)	(490)
(2.50)/3 month USD-LIBOR-BBA/Nov-39 (Purchased)	Nov-29/2.50	395,400	(41,122)	(1,396)
2.2525/3 month USD-LIBOR-BBA/Nov-29 (Purchased)	Nov-19/2.2525	395,400	(4,745)	(1,677)
2.553/3 month USD-LIBOR-BBA/Nov-24 (Purchased)	Nov-19/2.553	237,000	(5,807)	(3,806)

FORWARD PREMIUM SWAP OPTION CONTRACTS OUTSTANDING at 6/30/18 (Unaudited) cont.

Counterparty Fixed right or obligation % to receive or (pay)/ Floating rate index/Maturity date	Expiration date/strike	Contract amount	Premium receivable/ (payable)	Unrealized appreciation/ (depreciation)
JPMorgan Chase Bank N.A. cont.				
2.902/3 month USD-LIBOR-BBA/Nov-49 (Purchased)	Nov-24/2.902	\$237,000	\$(36,640)	\$(8,167)
(2.8325)/3 month USD-LIBOR-BBA/Feb-52 (Purchased)	Feb-22/2.8325	1,166,600	(162,887)	(28,803)
2.8325/3 month USD-LIBOR-BBA/Feb-52 (Purchased)	Feb-22/2.8325	1,166,600	(162,887)	(49,965)
(2.79)/3 month USD-LIBOR-BBA/Feb-49 (Written)	Feb-19/2.79	1,166,600	110,769	78,955
2.79/3 month USD-LIBOR-BBA/Feb-49 (Written)	Feb-19/2.79	1,166,600	110,769	41,718
(2.826)/3 month USD-LIBOR-BBA/Nov-49 (Written)	Nov-19/2.826	237,000	26,094	13,879
(2.36)/3 month USD-LIBOR-BBA/Nov-39 (Written)	Nov-19/2.36	395,400	6,524	617
2.36/3 month USD-LIBOR-BBA/Nov-39 (Written)	Nov-19/2.36	395,400	43,099	(1,309)
2.826/3 month USD-LIBOR-BBA/Nov-49 (Written)	Nov-19/2.826	237,000	13,296	(4,200)
Morgan Stanley & Co. International PLC				
(2.155)/3 month USD-LIBOR-BBA/Nov-24 (Purchased)	Nov-19/2.155	237,000	(5,925)	3,723
(2.505)/3 month USD-LIBOR-BBA/Nov-49 (Purchased)	Nov-24/2.505	237,000	(36,308)	2,171
2.155/3 month USD-LIBOR-BBA/Nov-24 (Purchased)	Nov-19/2.155	237,000	(3,105)	(2,090)
2.505/3 month USD-LIBOR-BBA/Nov-49 (Purchased)	Nov-24/2.505	237,000	(25,501)	(4,870)
(2.43)/3 month USD-LIBOR-BBA/Nov-49 (Written)	Nov-19/2.43	237,000	13,177	7,309
2.43/3 month USD-LIBOR-BBA/Nov-49 (Written)	Nov-19/2.43	237,000	25,975	(4,930)
Unrealized appreciation				537,624
Unrealized (depreciation)				(443,779)
Total				\$93,845

**TBA SALE COMMITMENTS OUTSTANDING at 6/30/18
(proceeds receivable \$29,356,836) (Unaudited)**

	Principal amount	Settlement date	Value
Federal Home Loan Mortgage Corporation, 3.00%, 7/1/48	\$1,000,000	7/12/18	\$967,813
Federal National Mortgage Association, 4.00%, 7/1/48	2,000,000	7/12/18	2,039,062
Federal National Mortgage Association, 3.50%, 7/1/48	4,000,000	7/12/18	3,980,625
Federal National Mortgage Association, 3.00%, 8/1/48	5,000,000	8/13/18	4,837,890
Federal National Mortgage Association, 3.00%, 7/1/48	13,000,000	7/12/18	12,591,719
Government National Mortgage Association, 3.50%, 7/1/48	5,000,000	7/19/18	5,017,188
Total			\$29,434,297

CENTRALLY CLEARED INTEREST RATE SWAP CONTRACTS OUTSTANDING at 6/30/18 (Unaudited)

Notional amount	Value	Upfront premium received (paid)	Termination date	Payments made by fund	Payments received by fund	Unrealized appreciation/ (depreciation)
\$9,694,300	\$16,994 ^E	\$(12,155)	6/7/20	3 month USD-LIBOR-BBA — Semiannually	2.79375% — Quarterly	\$4,840
9,694,300	6,728 ^E	8,204	6/7/20	3 month USD-LIBOR-BBA — Quarterly	2.90375% — Semiannually	1,476
31,917,400	193,994	(234,249)	6/20/23	2.75% — Semiannually	3 month USD-LIBOR- BBA — Quarterly	(44,403)
4,699,300	13,017	30,420	7/3/28	3 month USD-LIBOR-BBA — Quarterly	2.899% — Semiannually	17,403
26,279,100	5,887 ^E	9,573	9/19/20	2.875% — Semiannually	3 month USD-LIBOR- BBA — Quarterly	3,686
1,313,700	17,992 ^E	(9,783)	9/19/48	3 month USD-LIBOR-BBA — Quarterly	3.00% — Semiannually	8,210
7,616,200	2,163 ^E	(6,339)	9/19/23	2.90% — Semiannually	3 month USD-LIBOR- BBA — Quarterly	(4,176)
1,647,400	1,292 ^E	(2,311)	9/19/28	2.95% — Semiannually	3 month USD-LIBOR- BBA — Quarterly	(3,603)
815,000	3,336	(11)	6/26/28	3 month USD-LIBOR-BBA — Semiannually	2.9715% — Quarterly	(3,418)
2,026,700	7,710 ^E	(29)	8/7/28	3 month USD-LIBOR-BBA — Semiannually	2.976% — Quarterly	(7,738)
2,098,900	8,213 ^E	(30)	7/27/28	3 month USD-LIBOR-BBA — Semiannually	2.975% — Quarterly	(8,243)

CENTRALLY CLEARED INTEREST RATE SWAP CONTRACTS OUTSTANDING at 6/30/18 (Unaudited) cont.

Notional amount	Value	Upfront premium received (paid)	Termination date	Payments made by fund	Payments received by fund	Unrealized appreciation/ (depreciation)
\$364,500	\$1,586 ^E	\$(5)	7/27/28	3 month USD-LIBOR-BBA — Semiannually	2.98% — Quarterly	\$(1,591)
2,365,000	2,457	(19)	6/27/23	3 month USD-LIBOR-BBA — Semiannually	2.9035% — Quarterly	(2,625)
773,000	1,020	(10)	6/28/28	3 month USD-LIBOR-BBA — Semiannually	2.9398% — Quarterly	(1,069)
1,020,000	1,805	(14)	7/2/28	3 month USD-LIBOR-BBA — Semiannually	2.91024% — Quarterly	1,792
1,238,000	508	(16)	7/3/28	3 month USD-LIBOR-BBA — Semiannually	2.92594% — Quarterly	491
1,537,500	1,046	(20)	7/3/28	3 month USD-LIBOR-BBA — Semiannually	2.92287% — Quarterly	1,025
Total		\$(216,794)				\$(37,943)

^E Extended effective date.

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/18 (Unaudited)

Swap counterparty/ Notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
Bank of America N.A.						
\$40,651	\$39,798	\$—	1/12/41	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	\$(525)
30,321	29,685	—	1/12/41	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(392)
Barclays Bank PLC						
182,470	182,852	—	1/12/40	4.50% (1 month USD-LIBOR) — Monthly	Synthetic MBX Index 4.50% 30 year Fannie Mae pools — Monthly	598
36,883	36,025	—	1/12/42	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(567)
37,934	38,079	—	1/12/40	4.00% (1 month USD-LIBOR) — Monthly	Synthetic MBX Index 4.00% 30 year Fannie Mae pools — Monthly	182
18,341	17,706	—	1/12/39	6.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.00% 30 year Fannie Mae pools — Monthly	(433)
250,904	251,864	—	1/12/40	4.00% (1 month USD-LIBOR) — Monthly	Synthetic MBX Index 4.00% 30 year Fannie Mae pools — Monthly	1,207
1,763	1,719	—	1/12/38	6.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.50% 30 year Fannie Mae pools — Monthly	(24)
56,124	56,018	—	1/12/41	5.00% (1 month USD-LIBOR) — Monthly	Synthetic MBX Index 5.00% 30 year Ginnie Mae II pools — Monthly	(29)
7,603	7,619	—	1/12/40	4.50% (1 month USD-LIBOR) — Monthly	Synthetic MBX Index 4.50% 30 year Fannie Mae pools — Monthly	25
255,326	254,435	—	1/12/39	(6.00%) 1 month USD-LIBOR — Monthly	Synthetic MBX Index 6.00% 30 year Fannie Mae pools — Monthly	444
24,807	24,193	—	1/12/38	6.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.50% 30 year Fannie Mae pools — Monthly	(335)
27,489	25,543	—	1/12/41	(5.00%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 5.00% 30 year Fannie Mae pools — Monthly	1,693

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/18 (Unaudited) cont.

Swap counterparty/ Notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
Barclays Bank PLC cont.						
\$50,312	\$49,256	\$—	1/12/41	(4.00%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	\$650
2,125	2,062	—	1/12/43	3.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 3.50% 30 year Fannie Mae pools — Monthly	(48)
299,570	299,920	—	1/12/40	5.00% (1 month USD-LIBOR) — Monthly	Synthetic MBX Index 5.00% 30 year Fannie Mae pools — Monthly	766
4,876,567	4,947,696	—	1/12/41	5.00% (1 month USD-LIBOR) — Monthly	Synthetic MBX Index 5.00% 30 year Fannie Mae pools — Monthly	77,875
4,112,256	4,100,519	—	1/12/38	(6.50%) 1 month USD-LIBOR — Monthly	Synthetic MBX Index 6.50% 30 year Fannie Mae pools — Monthly	3,907
Citibank, N.A.						
55,609	56,420	—	1/12/41	5.00% (1 month USD-LIBOR) — Monthly	Synthetic MBX Index 5.00% 30 year Fannie Mae pools — Monthly	888
Credit Suisse International						
41,562	38,618	—	1/12/41	(5.00%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 5.00% 30 year Fannie Mae pools — Monthly	2,560
34,816	34,086	—	1/12/41	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(450)
35,726	34,506	—	1/12/44	3.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 3.50% 30 year Fannie Mae pools — Monthly	(964)
4,540	4,405	—	1/12/43	3.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 3.50% 30 year Fannie Mae pools — Monthly	(102)
24,577	23,355	—	1/12/45	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(1,031)
17,931	17,040	—	1/12/45	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(752)
17,740	16,943	—	1/12/45	3.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 3.50% 30 year Fannie Mae pools — Monthly	(672)
78,639	74,290	—	1/12/44	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(3,743)
59,063	57,825	—	1/12/41	(4.00%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	763
Goldman Sachs International						
49,507	48,282	—	1/12/38	6.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.50% 30 year Fannie Mae pools — Monthly	(668)
38,194	37,248	—	1/12/38	6.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.50% 30 year Fannie Mae pools — Monthly	(515)
110,621	106,791	—	1/12/39	6.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.00% 30 year Fannie Mae pools — Monthly	(2,611)
47,975	46,787	—	1/12/38	6.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.50% 30 year Fannie Mae pools — Monthly	(647)

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/18 (Unaudited) cont.

Swap counterparty/ Notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
Goldman Sachs International cont.						
\$91,532	\$89,402	\$—	1/12/42	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	\$(1,407)
91,532	89,402	—	1/12/42	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(1,407)
293,442	292,604	—	1/12/38	(6.50%) 1 month USD-LIBOR — Monthly	Synthetic MBX Index 6.50% 30 year Fannie Mae pools — Monthly	279
110,238	109,923	—	1/12/38	(6.50%) 1 month USD-LIBOR — Monthly	Synthetic MBX Index 6.50% 30 year Fannie Mae pools — Monthly	105
17,873	17,479	—	1/12/40	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(242)
178	172	—	1/12/39	6.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.00% 30 year Fannie Mae pools — Monthly	(4)
45,841	44,253	—	1/12/39	6.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.00% 30 year Fannie Mae pools — Monthly	(1,082)
401,955	400,808	—	1/12/38	(6.50%) 1 month USD-LIBOR — Monthly	Synthetic MBX Index 6.50% 30 year Fannie Mae pools — Monthly	382
14,894	14,852	—	1/12/38	(6.50%) 1 month USD-LIBOR — Monthly	Synthetic MBX Index 6.50% 30 year Fannie Mae pools — Monthly	14
39,730	39,616	—	1/12/38	(6.50%) 1 month USD-LIBOR — Monthly	Synthetic MBX Index 6.50% 30 year Fannie Mae pools — Monthly	38
10,818	10,550	—	1/12/38	6.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.50% 30 year Fannie Mae pools — Monthly	(146)
54,256	52,913	—	1/12/38	6.50% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.50% 30 year Fannie Mae pools — Monthly	(732)
61,165	59,742	—	1/12/42	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(940)
67,743	66,166	—	1/12/42	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(1,041)
77,656	74,967	—	1/12/39	6.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 6.00% 30 year Fannie Mae pools — Monthly	(1,833)
72,292	70,609	—	1/12/42	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(1,111)
53,187	49,420	—	1/12/41	(5.00%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 5.00% 30 year Fannie Mae pools — Monthly	3,276
62,969	61,935	—	1/12/44	(3.00%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 3.00% 30 year Fannie Mae pools — Monthly	603
58,011	56,795	—	1/12/41	(4.00%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	749

OTC TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/18 (Unaudited) cont.

Swap counterparty/ Notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
JPMorgan Chase Bank N.A.						
\$56,816	\$55,624	\$—	1/12/41	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	\$(734)
4,782	4,682	—	1/12/41	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(62)
53,143	49,380	—	1/12/41	(5.00%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 5.00% 30 year Fannie Mae pools — Monthly	3,273
JPMorgan Securities LLC						
41,499	39,204	—	1/12/44	4.00% (1 month USD-LIBOR) — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	(1,975)
421,147	411,347	—	1/12/42	(4.00%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 4.00% 30 year Fannie Mae pools — Monthly	6,472
35,726	34,506	—	1/12/44	(3.50%) 1 month USD-LIBOR — Monthly	Synthetic TRS Index 3.50% 30 year Fannie Mae pools — Monthly	966
Upfront premium received		—		Unrealized appreciation		107,715
Upfront premium (paid)		—		Unrealized (depreciation)		(27,224)
Total		\$—		Total		\$80,491

CENTRALLY CLEARED TOTAL RETURN SWAP CONTRACTS OUTSTANDING at 6/30/18 (Unaudited)

Notional amount	Value	Upfront premium received (paid)	Termination date	Payments received (paid) by fund	Total return received by or paid by fund	Unrealized appreciation/ (depreciation)
\$407,000	\$8,361	\$—	7/3/22	(1.9225%) — At maturity	USA Non Revised Consumer Price Index- Urban (CPI-U) — At maturity	\$8,361
407,000	11,221	—	7/3/27	2.085% — At maturity	USA Non Revised Consumer Price Index- Urban (CPI-U) — At maturity	(11,221)
466,000	10,371	—	7/5/22	(1.89%) — At maturity	USA Non Revised Consumer Price Index- Urban (CPI-U) — At maturity	10,371
466,000	14,467	—	7/5/27	2.05% — At maturity	USA Non Revised Consumer Price Index- Urban (CPI-U) — At maturity	(14,468)
Total		\$—				\$(6,957)

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION SOLD at 6/30/18 (Unaudited)

Swap counterparty/ Referenced debt*	Rating***	Upfront premium received (paid)**	Notional amount	Value	Termination date	Payments received by fund	Unrealized appreciation/ (depreciation)
Citigroup Global Markets, Inc.							
CMBX NAA.6 Index	A/P	\$274	\$235,000	\$1,246	5/11/63	200 bp — Monthly	\$(894)
CMBX NAA.6 Index	A/P	183	235,000	1,246	5/11/63	200 bp — Monthly	(985)
CMBX NAA.6 Index	A/P	(92)	237,000	1,256	5/11/63	200 bp — Monthly	(1,269)
CMBX NAA.6 Index	A/P	4,196	430,000	2,279	5/11/63	200 bp — Monthly	2,060

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION SOLD at 6/30/18 (Unaudited) cont.

Swap counterparty/ Referenced debt*	Rating***	Upfront premium received (paid)**	Notional amount	Value	Termi- nation date	Payments received by fund	Unrealized appreciation/ (depreciation)
Citigroup Global Markets, Inc. cont.							
CMBX NAA.6 Index	A/P	\$692	\$446,000	\$2,364	5/11/63	200 bp— Monthly	\$(1,523)
CMBX NAA.7 Index	A-/P	—	523,000	2,092	1/17/47	200 bp— Monthly	2,267
CMBX NAA.7 Index	A-/P	(378)	260,000	1,040	1/17/47	200 bp— Monthly	748
CMBX NA BBB-.6 Index	BBB-/P	25,822	240,000	24,888	5/11/63	300 bp— Monthly	1,054
CMBX NA BBB-.6 Index	BBB-/P	36,967	358,000	37,125	5/11/63	300 bp— Monthly	22
CMBX NA BBB-.6 Index	BBB-/P	43,853	413,000	42,828	5/11/63	300 bp— Monthly	1,231
CMBX NA BBB-.6 Index	BBB-/P	44,274	413,000	42,828	5/11/63	300 bp— Monthly	1,653
CMBX NA BBB-.6 Index	BBB-/P	47,575	424,000	43,969	5/11/63	300 bp— Monthly	3,818
CMBX NA BBB-.6 Index	BBB-/P	46,429	473,000	49,050	5/11/63	300 bp— Monthly	(2,385)
Credit Suisse International							
CMBX NAA.6 Index	A/P	387	250,000	1,325	5/11/63	200 bp— Monthly	(854)
CMBX NA BBB-.6 Index	BBB-/P	13,207	132,000	13,688	5/11/63	300 bp— Monthly	(416)
CMBX NA BBB-.6 Index	BBB-/P	96,194	896,000	92,915	5/11/63	300 bp— Monthly	3,727
CMBX NA BBB-.6 Index	BBB-/P	140,705	1,308,000	135,640	5/11/63	300 bp— Monthly	5,719
Deutsche Bank AG							
CMBX NA BBB-.6 Index	BBB-/P	53,946	506,000	52,472	5/11/63	300 bp— Monthly	1,727
Goldman Sachs International							
CMBX NAA.6 Index	A/P	1,542	172,000	912	5/11/63	200 bp— Monthly	688
CMBX NAA.7 Index	A-/P	(381)	261,000	1,044	1/17/47	200 bp— Monthly	750
CMBX NA BBB-.6 Index	BBB-/P	24,037	208,000	21,570	5/11/63	300 bp— Monthly	2,572
CMBX NA BBB-.6 Index	BBB-/P	41,260	411,000	42,621	5/11/63	300 bp— Monthly	(1,155)
CMBX NA BBB-.6 Index	BBB-/P	50,168	470,000	48,739	5/11/63	300 bp— Monthly	1,664
JPMorgan Securities LLC							
CMBX NAA.6 Index	A/P	3,068	527,000	2,793	5/11/63	200 bp— Monthly	451
CMBX NA BBB-.6 Index	BBB-/P	12,891	120,000	12,444	5/11/63	300 bp— Monthly	507
CMBX NA BBB-.6 Index	BBB-/P	16,621	165,000	17,111	5/11/63	300 bp— Monthly	(408)
CMBX NA BBB-.6 Index	BBB-/P	24,758	213,000	22,088	5/11/63	300 bp— Monthly	2,776
CMBX NA BBB-.6 Index	BBB-/P	34,869	341,000	35,362	5/11/63	300 bp— Monthly	(322)
Merrill Lynch International							
CMBX NA BBB-.6 Index	BBB-/P	43,684	417,000	43,243	5/11/63	300 bp— Monthly	650

OTC CREDIT DEFAULT CONTRACTS OUTSTANDING — PROTECTION SOLD at 6/30/18 (Unaudited) cont.

Swap counterparty/ Referenced debt*	Rating***	Upfront premium received (paid)**	Notional amount	Value	Termi- nation date	Payments received by fund	Unrealized appreciation/ (depreciation)
Morgan Stanley & Co. International PLC							
CMBX NAA.6 Index	A/P	\$1,277	\$156,000	\$827	5/11/63	200 bp— Monthly	\$502
CMBX NAA.6 Index	A/P	1,939	191,000	1,012	5/11/63	200 bp— Monthly	991
CMBX NAA.6 Index	A/P	2,940	261,000	1,383	5/11/63	200 bp— Monthly	1,644
CMBX NAA.6 Index	A/P	3,560	325,000	1,723	5/11/63	200 bp— Monthly	1,946
CMBX NAA.6 Index	A/P	—	452,000	2,396	5/11/63	200 bp— Monthly	(2,245)
CMBX NAA.6 Index	A/P	3,025	1,113,000	5,899	5/11/63	200 bp— Monthly	(2,503)
CMBX NAA.7 Index	A-/P	(484)	500,000	2,000	1/17/47	200 bp— Monthly	1,683
CMBX NAA.7 Index	A-/P	1,506	310,000	1,240	1/17/47	200 bp— Monthly	2,849
CMBX NAA.7 Index	A-/P	(127)	261,000	1,044	1/17/47	200 bp— Monthly	1,004
CMBX NA BBB-.6 Index	BBB-/P	9,983	93,000	9,644	5/11/63	300 bp— Monthly	385
CMBX NA BBB-.6 Index	BBB-/P	22,748	211,000	21,881	5/11/63	300 bp— Monthly	973
CMBX NA BBB-.6 Index	BBB-/P	23,830	223,000	23,125	5/11/63	300 bp— Monthly	817
CMBX NA BBB-.6 Index	BBB-/P	41,278	390,000	40,443	5/11/63	300 bp— Monthly	1,030
CMBX NA BBB-.6 Index	BBB-/P	48,077	419,000	43,450	5/11/63	300 bp— Monthly	4,837
CMBX NA BBB-.6 Index	BBB-/P	50,008	470,000	48,739	5/11/63	300 bp— Monthly	1,504
CMBX NA BBB-.6 Index	BBB-/P	49,475	470,000	48,739	5/11/63	300 bp— Monthly	971
CMBX NA BBB-.6 Index	BBB-/P	64,868	610,000	63,257	5/11/63	300 bp— Monthly	1,916
CMBX NA BBB-.6 Index	BBB-/P	224,418	1,852,000	192,052	5/11/63	300 bp— Monthly	33,291
CMBX NA BBB-.6 Index	BBB-/P	310,210	2,560,000	265,472	5/11/63	300 bp— Monthly	46,018
CMBX NA BBB-.7 Index	BBB-/P	11,617	156,000	11,045	1/17/47	300 bp— Monthly	651
CMBX NA BBB-.7 Index	BBB-/P	78,401	1,152,000	81,562	1/17/47	300 bp— Monthly	(2,586)
Upfront premium received		1,756,762					137,096
Upfront premium (paid)		(1,462)					(17,545)
Total		\$1,755,300					\$119,551

* 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, 2018. "Securities rated by Putnam are indicated by "/P." The Putnam rating categories are comparable to the Standard & Poor's classifications.

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	\$—	\$133,000	\$—
Mortgage-backed securities	—	36,255,122	—
Purchased options outstanding	—	76,668	—
Purchased swap options outstanding	—	1,367,326	—
U.S. government and agency mortgage obligations	—	82,288,309	—
Short-term investments	247,000	7,838,473	—
Totals by level	\$247,000	\$127,958,898	\$—

	Valuation inputs		
	Level 1	Level 2	Level 3
Other financial instruments:			
Written options outstanding	\$—	\$(30,321)	\$—
Written swap options outstanding	—	(1,480,288)	—
Forward premium swap option contracts	—	93,845	—
TBA sale commitments	—	(29,434,297)	—
Interest rate swap contracts	—	178,851	—
Total return swap contracts	—	73,534	—
Credit default contracts	—	(1,635,749)	—
Totals by level	\$—	\$(32,234,425)	\$—

During the reporting period, transfers within the fair value hierarchy, if any, did not represent, in the aggregate, more than 1% of the fund's net assets measured as of the end of the period. Transfers are accounted for using the end of period pricing valuation method.

Statement of assets and liabilities

6/30/18 (Unaudited)

Assets

Investment in securities, at value (Note 1):	
Unaffiliated issuers (identified cost \$128,542,445)	\$128,205,898
Cash	871
Interest and other receivables	496,623
Receivable for investments sold	586,687
Receivable for sales of delayed delivery securities (Note 1)	19,754,819
Receivable from Manager (Note 2)	50,552
Receivable for variation margin on centrally cleared swap contracts (Note 1)	23,696
Unrealized appreciation on forward premium swap option contracts (Note 1)	537,624
Unrealized appreciation on OTC swap contracts (Note 1)	244,811
Premium paid on OTC swap contracts (Note 1)	1,462
Total assets	149,903,043

Liabilities

Payable for investments purchased	1,025,680
Payable for purchases of delayed delivery securities (Note 1)	55,405,923
Payable for shares of the fund repurchased	33,680
Payable for custodian fees (Note 2)	27,749
Payable for investor servicing fees (Note 2)	7,031
Payable for Trustee compensation and expenses (Note 2)	67,321
Payable for administrative services (Note 2)	228
Payable for distribution fees (Note 2)	5,446
Payable for variation margin on centrally cleared swap contracts (Note 1)	13,166
Unrealized depreciation on OTC swap contracts (Note 1)	44,769
Premium received on OTC swap contracts (Note 1)	1,756,762
Unrealized depreciation on forward premium swap option contracts (Note 1)	443,779
Written options outstanding, at value (premiums \$1,560,844) (Note 1)	1,510,609
TBA sale commitments, at value (proceeds receivable \$29,356,836) (Note 1)	29,434,297
Collateral on certain derivative contracts, at value (Notes 1 and 8)	247,000
Other accrued expenses	58,825
Total liabilities	90,082,265
Net assets	\$59,820,778

Represented by

Paid-in capital (Unlimited shares authorized) (Notes 1 and 4)	\$76,639,626
Undistributed net investment income (Note 1)	637,999
Accumulated net realized loss on investments	(17,342,061)
Net unrealized depreciation of investments	(114,786)
Total — Representing net assets applicable to capital shares outstanding	\$59,820,778

Computation of net asset value Class IA

Net assets	\$33,483,527
Number of shares outstanding	3,606,906
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$9.28

Computation of net asset value Class IB

Net assets	\$26,337,251
Number of shares outstanding	2,841,439
Net asset value, offering price and redemption price per share (net assets divided by number of shares outstanding)	\$9.27

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

Statement of operations

Six months ended 6/30/18 (Unaudited)

Investment income

Interest	\$1,165,169
Total investment income	1,165,169

Expenses

Compensation of Manager (Note 2)	119,732
Investor servicing fees (Note 2)	21,547
Custodian fees (Note 2)	30,257
Trustee compensation and expenses (Note 2)	1,735
Distribution fees (Note 2)	33,421
Administrative services (Note 2)	673
Auditing and tax fees	26,404
Legal	49,907
Other	12,039
Fees waived and reimbursed by Manager (Note 2)	(75,994)
Total expenses	219,721
Expense reduction (Note 2)	(16)
Net expenses	219,705
Net investment income	945,464

Realized and unrealized gain (loss)

Net realized gain (loss) on:

Securities from unaffiliated issuers (Notes 1 and 3)	(1,691,963)
Futures contracts (Note 1)	(610,964)
Swap contracts (Note 1)	953,814
Written options (Note 1)	1,019,829
Total net realized loss	(329,284)

Change in net unrealized appreciation (depreciation) on:

Securities from unaffiliated issuers and TBA sale commitments	(510,490)
Futures contracts	39,578
Swap contracts	288,391
Written options	(394,415)
Total change in net unrealized depreciation	(576,936)
Net loss on investments	(906,220)
Net increase in net assets resulting from operations	\$39,244

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

Statement of changes in net assets

	Six months ended 6/30/18*	Year ended 12/31/17
Decrease in net assets		
Operations:		
Net investment income	\$945,464	\$1,844,760
Net realized loss on investments	(329,284)	(807,449)
Net unrealized appreciation (depreciation) of investments	(576,936)	393,199
Net increase in net assets resulting from operations	39,244	1,430,510
Distributions to shareholders (Note 1):		
From ordinary income		
Net investment income		
Class IA	(1,036,991)	(1,024,324)
Class IB	(731,746)	(695,766)
Decrease from capital share transactions (Note 4)	(1,826,143)	(9,997,047)
Total decrease in net assets	(3,555,636)	(10,286,627)
Net assets:		
Beginning of period	63,376,414	73,663,041
End of period (including undistributed net investment income of \$637,999 and \$1,461,272, respectively)	\$59,820,778	\$63,376,414

* 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	Total distributions	Net asset value, end of period	Total return at net asset value (%) ^{b,c}	Net assets, end of period (in thousands)	Ratio of expenses to average net assets (%) ^{b,d}	Ratio of net investment income (loss) to average net assets (%)	Portfolio turnover (%)
Class IA												
6/30/18†	\$9.55	.15	(.14)	.01	(.28)	(.28)	\$9.28	.13*	\$33,484	.30* ^e	1.59* ^e	558* ^f
12/31/17	9.59	.27	(.06)	.21	(.25)	(.25)	9.55	2.27	35,852	.66	2.85	1,188 ^f
12/31/16	9.76	.24	(.20)	.04	(.21)	(.21)	9.59	.36	40,362	.64 ^e	2.43 ^e	1,028 ^f
12/31/15	10.02	.19	(.22)	(.03)	(.23)	(.23)	9.76	(.33)	44,229	.62	1.92	905 ^f
12/31/14	10.01	.22	.22	.44	(.43)	(.43)	10.02	4.49	50,935	.62	2.17	587 ^f
12/31/13	10.19	.23	(.25)	(.02)	(.16)	(.16)	10.01	(.19)	57,347	.63	2.29	390 ^g
Class IB												
6/30/18†	\$9.52	.14	(.13)	.01	(.26)	(.26)	\$9.27	.07*	\$26,337	.43* ^e	1.47* ^e	558* ^f
12/31/17	9.56	.25	(.07)	.18	(.22)	(.22)	9.52	1.96	27,524	.91	2.60	1,188 ^f
12/31/16	9.72	.21	(.19)	.02	(.18)	(.18)	9.56	.20	33,301	.89 ^e	2.18 ^e	1,028 ^f
12/31/15	9.99	.16	(.22)	(.06)	(.21)	(.21)	9.72	(.65)	35,862	.87	1.67	905 ^f
12/31/14	9.97	.19	.23	.42	(.40)	(.40)	9.99	4.31	41,287	.87	1.89	587 ^f
12/31/13	10.15	.20	(.25)	(.05)	(.13)	(.13)	9.97	(.48)	33,075	.88	2.04	390 ^g

* Not annualized.

† Unaudited.

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

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

^c Total return assumes dividend reinvestment.

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

^e Reflects an involuntary contractual expense limitation in effect during the period. As a result of such limitation, the expenses of each class reflect the following reductions as a percentage of average net assets.

	Percentage of average net assets
June 30, 2018	0.12%
December 31, 2016	>0.01

^f Portfolio turnover includes TBA purchase and sale commitments.

^g Portfolio turnover excludes TBA purchase and sale commitments. Including TBA purchase and sale commitments to conform with current year presentation, the portfolio turnover would have been the following:

	Portfolio turnover %
December 31, 2013	965%

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

Notes to financial statements 6/30/18 (Unaudited)

Within the following Notes to financial statements, references to “State Street” represent State Street Bank and Trust Company, references to “the SEC” represent the Securities and Exchange Commission, references to “Putnam Management” represent Putnam Investment Management, LLC, the fund’s manager, an indirect wholly-owned subsidiary of Putnam Investments, LLC and references to “OTC”, if any, represent over-the-counter. Unless otherwise noted, the “reporting period” represents the period from January 1, 2018 through June 30, 2018.

Putnam VT Mortgage Securities 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. Prior to April 30, 2018, the fund was known as Putnam VT American Government Income Fund. The goal of the fund is to seek as high a level of current income as Putnam Management believes is consistent with preservation of capital. The fund invests mainly in mortgages, mortgage-related fixed income securities and related derivatives that are either investment-grade or below-investment-grade in quality (sometimes referred to as “junk bonds”). Under normal circumstances, we invest at least 80% of the fund’s net assets (plus any borrowings for investment purposes) in mortgages, mortgage-related fixed income securities and related derivatives (i.e., derivatives used to acquire exposure to, or whose underlying securities are, mortgages or mortgage-related securities). The fund generally uses the net unrealized gain or loss, or market value, of mortgage-related derivatives for purposes of this policy, but may use the notional value of a derivative if that is determined to be a more appropriate measure of the fund’s investment exposure. This policy may be changed only after 60 days’ notice to shareholders. We expect to invest in mortgage-backed investments that are obligations of U.S. government agencies and instrumentalities and accordingly are backed by the full faith and credit of the United States (e.g., Ginnie Mae mortgage-backed bonds) as well as in mortgage-backed investments that are backed by only the credit of a federal agency or government-sponsored entity (e.g., Fannie Mae and Freddie Mac mortgage-backed bonds), and that have short-to long-term maturities. We also expect to invest in lower-rated, higher-yielding mortgage-backed securities, including non-agency residential mortgage-backed securities (which may be backed by non-qualified or “sub-prime” mortgages), commercial mortgage-backed securities and collateralized mortgage obligations (including interest only, principal only, and other prepayment derivatives). Non-agency (i.e., privately issued) securities typically are lower-rated and higher yielding than securities issued or backed by agencies such as Ginnie Mae, Fannie Mae or Freddie Mac. While our emphasis will be on mortgage-backed securities, the fund may also invest to a lesser extent in other types of asset-backed securities. We may consider, among other factors, credit, interest rate, prepayment and liquidity risks, as well as general market conditions, when deciding whether to buy or sell investments. We typically use to a significant extent derivatives, including interest rate swaps, swaptions, forward delivery contracts, total return swaps, and options on mortgage-backed securities and indices, 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 Agreement and Declaration of Trust, any claims asserted against or on behalf of the Putnam Funds, including claims against Trustees and Officers, must be brought in state and federal courts located within the Commonwealth of Massachusetts.

Note 1 — Significant accounting policies

The following is a summary of significant accounting policies consistently followed by the fund in the preparation of its financial statements. The preparation of financial statements is in conformity with accounting principles generally accepted in the United States of America and requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities in the financial statements and the reported amounts of increases and decreases in net assets from operations. Actual results could differ from those estimates. Subsequent events after the Statement of assets and liabilities date through the date that the financial statements were issued have been evaluated in the preparation of the financial statements.

Investment income, realized and unrealized gains and losses and expenses of the fund are borne pro-rata based on the relative net assets of each class to the total net assets of the fund, except that each class bears expenses unique to that class (including the distribution fees applicable to such classes). Each class votes as a class only with respect to its own distribution plan or other matters on which a class vote is required by law or determined by the Trustees. If the fund were liquidated, shares of each class would receive their pro-rata share of the net assets of the fund. In addition, the Trustees declare separate dividends on each class of shares.

Security valuation Portfolio securities and other investments are valued using policies and procedures adopted by the Board of Trustees. The Trustees have formed a Pricing Committee to oversee the implementation of these procedures and have delegated responsibility for valuing the fund’s assets in accordance with these procedures to Putnam Management. Putnam Management has established an internal Valuation Committee that is responsible for making fair value determinations, evaluating the effectiveness of the pricing policies of the fund and reporting to the Pricing Committee.

Investments, including mortgage backed securities and short-term investments with remaining maturities of 60 days or less, are valued on the basis of valuations provided by an independent pricing service approved by the Trustees or dealers selected by Putnam Management. Such service providers use information with respect to transactions in bonds, quotations from bond dealers, market transactions in comparable securities and various relationships between securities in determining value. These securities will generally be categorized as Level 2.

Certain investments, including certain restricted and illiquid securities and derivatives, are also valued at fair value following procedures approved by the Trustees. These valuations consider such factors as significant market or specific security events such as interest rate or credit quality changes, various relationships with other securities, discount rates, U.S. Treasury, U.S. swap and credit yields, index levels, convexity exposures, recovery rates, sales and other multiples and resale restrictions. These securities are classified as Level 2 or as Level 3 depending on the priority of the significant inputs.

To assess the continuing appropriateness of fair valuations, the Valuation Committee reviews and affirms the reasonableness of such valuations on a regular basis after considering all relevant information that is reasonably available. Such valuations and procedures are reviewed periodically by the Trustees. Certain securities may be valued on the basis of a price provided by a single source. The fair value of securities is generally determined as the amount that the fund could reasonably expect to realize from an orderly disposition of such securities over a reasonable period of time. By its nature, a fair value price is a good faith estimate of the value of a security in a current sale and does not reflect an actual market price, which may be different by a material amount.

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

Repurchase agreements The fund, or any joint trading account, through its custodian, receives delivery of the underlying securities, the fair value of which at the time of purchase is required to be in an amount at least equal to the resale price, including accrued interest. Collateral for certain tri-party repurchase agreements, which totaled \$4,828,687, 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, is recorded on the accrual basis. All premiums/discounts are amortized/accreted on a yield-to-maturity 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, for hedging 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.

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

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

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

Credit default contracts The fund entered into OTC and/or centrally cleared credit default contracts to hedge credit risk, to hedge market risk and for gaining exposure to specific sectors.

In OTC and centrally cleared credit default contracts, the protection buyer typically makes a periodic stream of payments to a counterparty, the protection seller, in exchange for the right to receive a contingent payment upon the occurrence of a credit event on the reference obligation or all other equally ranked obligations of the reference entity. Credit events are contract specific but may include bankruptcy, failure to pay, restructuring and obligation acceleration. For OTC credit default contracts, an upfront payment received by the fund is recorded as

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

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

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

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

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

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

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

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

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

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

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

At the close of the reporting period, the fund had a net liability position of \$1,731,299 on open derivative contracts subject to the Master Agreements. Collateral posted by the fund at period end for these agreements totaled \$1,554,754 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 \$317.5 million unsecured committed line of credit and a \$235.5 million unsecured uncommitted line of credit, both provided by State Street. Borrowings may be made for temporary or emergency purposes, including the funding of shareholder redemption requests and trade settlements. Interest is charged to the fund based on the fund's borrowing at a rate equal to 1.25% plus the higher of (1) the Federal Funds rate and (2) the overnight LIBOR for the committed line of credit and the Federal Funds rate plus 1.30% for the uncommitted line of credit. A closing fee equal to 0.04% of the committed line of credit plus a \$25,000 flat fee and 0.04% of the uncommitted line of credit has been paid by the participating funds. In addition, a commitment fee of 0.21% per annum on any unutilized portion of the committed line of credit is allocated to the participating funds based on their relative net assets and paid quarterly. During the reporting period, the fund had no borrowings against these arrangements.

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

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, 2017, 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
\$15,459,542	\$166,109	\$15,625,651

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 \$97,611,371, resulting in gross unrealized appreciation and depreciation of \$2,167,837 and \$3,807,735, respectively, or net unrealized depreciation of \$1,639,898.

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 34.6% 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 0.195% of the fund's average net assets.

Effective April 30, 2018, Putnam Management has contractually agreed to waive fees (and, to the extent necessary, bear other expenses) of the fund through April 30, 2020, to the extent that total expenses of the fund (excluding brokerage, interest, taxes, investment-related expenses, payments under distribution plans, extraordinary expenses and acquired fund fees and expenses) would exceed an annual rate of 0.50% of the fund's average net assets. During the reporting period, the fund's expenses were reduced by \$16,288 as a result of this limit.

Putnam Management has also contractually agreed, through April 30, 2020, to waive fees and/or reimburse the fund's expenses to the extent necessary to

limit the cumulative expenses of the fund, exclusive of brokerage, interest, taxes, investment-related expenses, extraordinary expenses, acquired fund fees and expenses and payments under the fund's investor servicing contract, investment management contract and distribution plan, on a fiscal year-to-date basis to an annual rate of 0.20% of the fund's average net assets over such fiscal year-to-date period. During the reporting period, the fund's expenses were reduced by \$59,706 as a result of this limit.

Putnam Investments Limited (PIL), an affiliate of Putnam Management, is authorized by the Trustees to manage a separate portion of the assets of the fund as determined by Putnam Management from time to time. PIL did not manage any portion of the assets of the fund during the reporting period. If Putnam Management were to engage the services of PIL, Putnam Management would pay a quarterly sub-management fee to PIL for its services at an annual rate of 0.25% of the average net assets of the 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	\$12,113
Class IB	9,434
Total	\$21,547

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 \$16 under the expense offset arrangements.

Each Independent Trustee of the fund receives an annual Trustee fee, of which \$47, 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)	\$414,290,563	\$392,742,043
U.S. government securities (Long-term)	—	—
Total	\$414,290,563	\$392,742,043

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 6/30/18		Year ended 12/31/17		Six months ended 6/30/18		Year ended 12/31/17	
	Shares	Amount	Shares	Amount	Shares	Amount	Shares	Amount
Shares sold	98,000	\$920,841	175,414	\$1,671,461	191,554	\$1,783,771	434,602	\$4,135,307
Shares issued in connection with reinvestment of distributions	112,472	1,036,991	109,087	1,024,324	79,365	731,746	74,175	695,766
	210,472	1,957,832	284,501	2,695,785	270,919	2,515,517	508,777	4,831,073
Shares repurchased	(357,613)	(3,327,530)	(738,230)	(7,036,350)	(320,325)	(2,971,962)	(1,101,791)	(10,487,555)
Net decrease	(147,141)	\$(1,369,698)	(453,729)	\$(4,340,565)	(49,406)	\$(456,445)	(593,014)	\$(5,656,482)

Note 5 — 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 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.

Note 6 — 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 TBA commitment option contracts (contract amount)	\$21,300,000
Purchased swap option contracts (contract amount)	\$384,000,000
Written TBA commitment option contracts (contract amount)	\$33,600,000
Written swap option contracts (contract amount)	\$340,000,000
Futures contracts (number of contracts)	100
Centrally cleared interest rate swap contracts (notional)	\$91,300,000
OTC total return swap contracts (notional)	\$13,700,000
Centrally cleared total return swap contracts (notional)	\$1,700,000
OTC credit default contracts (notional)	\$10,000,000

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	\$9,165	Payables	\$1,644,914
Interest rate contracts	Investments, Receivables, Net assets — Unrealized appreciation	2,338,420*	Payables, Net assets — Unrealized depreciation	2,058,805*
Total		\$2,347,585		\$3,703,719

*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 (see 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	\$—	\$—	\$63,406	\$63,406
Interest rate contracts	(385,909)	(610,964)	890,408	\$(106,465)
Total	\$(385,909)	\$(610,964)	\$953,814	\$(43,059)

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	\$—	\$—	\$119,551	\$119,551
Interest rate contracts	7,740	39,578	168,840	\$216,158
Total	\$7,740	\$39,578	\$288,391	\$335,709

Note 7 — New accounting pronouncements

In March 2017, the Financial Accounting Standards Board issued Accounting Standards Update (ASU) No. 2017-08, *Receivables — Nonrefundable Fees and Other Costs* (Subtopic 310-20): *Premium Amortization on Purchased Callable Debt Securities*. The amendments in the ASU shorten the amortization period for certain

callable debt securities held at a premium, to be amortized to the earliest call date. The ASU is effective for fiscal years and interim periods within those fiscal years beginning after December 15, 2018. Putnam Management is currently evaluating the impact, if any, of applying this provision.

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	Deutsche Bank AG
Assets:							
Centrally cleared interest rate swap contracts [§]	\$—	\$—	\$23,420	\$—	\$—	\$—	\$—
OTC Total return swap contracts* [#]	—	87,347	—	888	—	3,323	—
Centrally cleared total return swap contracts [§]	—	—	276	—	—	—	—
OTC Credit default contracts — protection sold* [#]	—	—	—	—	3,393	—	—
Forward premium swap option contracts [#]	212,478	35,925	—	83,661	—	—	—
Purchased swap options* [#]	297,463	35,830	—	87,685	—	104,790	—
Purchased options* [#]	—	—	—	—	—	—	—
Repurchase agreements* [#]	—	—	—	—	1,534,000	—	—
Total Assets	\$509,941	\$159,102	\$23,696	\$172,234	\$1,537,393	\$108,113	\$—
Liabilities:							
Centrally cleared interest rate swap contracts [§]	—	—	12,936	—	—	—	—
OTC Total return swap contracts* [#]	917	1,436	—	—	—	7,714	—
Centrally cleared total return swap contracts [§]	—	—	230	—	—	—	—
OTC Credit default contracts — protection sold* [#]	—	—	—	—	247,391	242,317	52,219
Forward premium swap option contracts [#]	165,380	47,789	—	69,324	—	—	—
Written swap options [#]	262,669	69,042	—	136,221	—	79,822	—
Written options [#]	—	—	—	—	—	—	—
Total Liabilities	\$428,966	\$118,267	\$13,166	\$205,545	\$247,391	\$329,853	\$52,219
Total Financial and Derivative Net Assets	\$80,975	\$40,835	\$10,530	\$(33,311)	\$1,290,002	\$(221,740)	\$(52,219)
Total collateral received (pledged) [†] [#]	\$—	\$—	\$—	\$(18,970)	\$1,290,002	\$(201,596)	\$—
Net amount	\$80,975	\$40,835	\$10,530	\$(14,341)	\$—	\$(20,144)	\$(52,219)
<i>Controlled collateral received (including TBA commitments)**</i>	\$—	\$—	\$—	\$—	\$—	\$—	\$—
<i>Uncontrolled collateral received</i>	\$—	\$—	\$—	\$—	\$1,564,680	\$—	\$—
<i>Collateral (pledged) (including TBA commitments)**</i>	\$—	\$—	\$—	\$(18,970)	\$(252,248)	\$(201,596)	\$—

* 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 centrally cleared swap contracts is represented in the tables listed after the fund's portfolio. Collateral pledged for initial margin on centrally cleared swap contracts, which is not included in the table above, amounted to \$1,484,661, respectively.

Goldman Sachs International	HSBC Bank USA, National Association	JPMorgan Chase Bank N.A.	JPMorgan Securities LLC	Merrill Lynch International	Merrill Lynch, Pierce, Fenner & Smith, Inc.	Morgan Stanley & Co. International PLC	Total
\$—	\$—	\$—	\$—	\$—	\$—	\$—	\$23,420
5,446	—	3,273	7,438	—	—	—	107,715
—	—	—	—	—	—	—	276
1,131	—	—	—	—	—	4,641	9,165
47,515	—	144,842	—	—	—	13,203	537,624
146,763	—	346,447	—	—	—	348,348	1,367,326
—	—	76,668	—	—	—	—	76,668
—	1,600,000	—	—	—	1,600,000	—	4,734,000
\$200,855	\$1,600,000	\$571,230	\$7,438	\$—	\$1,600,000	\$366,192	\$6,856,194
—	—	—	—	—	—	—	12,936
14,386	—	796	1,975	—	—	—	27,224
—	—	—	—	—	—	—	230
113,238	—	—	89,203	43,034	—	857,512	1,644,914
49,583	—	99,813	—	—	—	11,890	443,779
147,306	—	358,839	—	—	—	426,389	1,480,288
—	—	30,321	—	—	—	—	30,321
\$324,513	\$—	\$489,769	\$91,178	\$43,034	\$—	\$1,295,791	\$3,639,692
\$(123,658)	\$1,600,000	\$81,461	\$(83,740)	\$(43,034)	\$1,600,000	\$(929,599)	\$3,216,502
\$(120,806)	\$1,600,000	\$81,461	\$—	\$—	\$1,600,000	\$(929,599)	
\$(2,852)	\$—	\$—	\$(83,740)	\$(43,034)	\$—	\$—	
\$—	\$—	\$110,000	\$137,000	\$—	\$—	\$—	\$247,000
\$—	\$1,632,007	\$—	\$—	\$—	\$1,632,000	\$—	\$4,828,687
\$(120,806)	\$—	\$—	\$—	\$—	\$—	\$(961,134)	\$(1,554,754)

Shareholder Meeting Results (Unaudited)

August 6, 2018 meeting

A proposal to approve an amendment to your fund’s fundamental investment policy regarding industry concentration was approved as follows:

Votes for	Votes against	Abstentions	Broker non-votes
4,192,585	557,871	295,356	—

All tabulations are rounded to the nearest whole number.

Trustee approval of management contract

General conclusions

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

At the outset of the review process, members of the Board's independent staff and independent legal counsel discussed with representatives of Putnam Management the annual contract review materials furnished to the Contract Committee during the course of the previous year's review, identifying possible changes in these materials that might be necessary or desirable for the coming year. 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 2018, the Contract Committee met on a number of occasions with representatives of Putnam Management, and separately in executive session, to consider the information that Putnam Management provided. Throughout this process, the Contract Committee was assisted by the members of the Board's independent staff and by independent legal counsel for The Putnam Funds and the Independent Trustees.

In May 2018, the Contract Committee met in executive session to discuss and consider its recommendations with respect to the continuance of the contracts. At the Trustees' June 2018 meeting, the Contract Committee met in executive session with the other Independent Trustees to review a summary of the key financial, performance and other data that the Contract Committee considered in the course of its review. The Contract Committee then presented its written report, which summarized the key factors that the Committee had considered and set forth its recommendations. The Contract Committee recommended, and the Independent Trustees approved, the continuance of your fund's management and sub-management contracts, effective July 1, 2018. (Because PIL is an affiliate of Putnam Management and Putnam Management remains fully responsible for all services provided by PIL, the Trustees have not attempted to evaluate PIL as a separate entity, and all subsequent references to Putnam Management below should be deemed to include reference to PIL as necessary or appropriate in the context.)

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

- That the fee schedule in effect for your fund represented reasonable compensation in light of the nature and quality of the services being provided to the fund, the fees paid by competitive funds, the costs incurred by Putnam Management in providing services to the fund, and the application of certain reductions and waivers noted below; and

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

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

Management fee schedules and total expenses

The Trustees reviewed the management fee schedules in effect for all Putnam funds, including fee levels and breakpoints. 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. (In a few instances, funds have implemented so-called "all-in" 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 mutual fund industry — that suggest that consideration of fee changes might be warranted. The Trustees concluded that the circumstances did not indicate that changes to the management fee structure for your fund would be appropriate at this time.

Under its management contract, your fund has the benefit of breakpoints in its management fee schedule that provide shareholders with economies of scale in the form of reduced fee rates as assets under management in the Putnam family of funds increase. The Trustees concluded that the fee schedule in effect for your fund represented an appropriate sharing of economies of scale between fund shareholders and Putnam Management.

As in the past, the Trustees also focused on the competitiveness of each fund's total expense ratio. In order to support the effort to have fund expenses meet competitive standards, the Trustees and Putnam Management have implemented certain expense limitations that were in effect during your fund's fiscal year ending in 2017. These expense limitations were: (i) a contractual expense limitation applicable to all open-end funds of 25 basis points on investor servicing fees and expenses and (ii) a contractual expense limitation applicable to specified open-end funds, including your fund, of 20 basis points on so-called "other expenses" (i.e.,

all expenses exclusive of management fees, distribution fees, investor servicing fees, investment-related expenses, interest, taxes, brokerage commissions, acquired fund fees and expenses and extraordinary expenses). These expense limitations attempt to maintain competitive expense levels for the funds. Most funds, including your fund, had sufficiently low expenses that these expense limitations were not operative during their fiscal years ending in 2017. Putnam Management has agreed to maintain these expense limitations until at least April 30, 2020. In addition, effective through at least April 30, 2020, Putnam Management will waive fees and/or reimburse expenses of your fund to the extent that expenses of the fund (excluding payments under the fund's distribution plans, brokerage, interest, taxes, investment-related expenses, extraordinary expenses, and acquired fund fees and expenses) would exceed an annual rate of 0.50% of its average net assets. Putnam Management's support for these expense limitation arrangements was an important factor in the Trustees' decision to approve the continuance of your fund's management and sub-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 fee), 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 fourth quintile in total expenses (excluding any applicable 12b-1 fees) as of December 31, 2017. 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, 2017 reflected the most recent fiscal year-end data available in Broadridge's database at that time.

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

The information examined by the Trustees in connection with their annual contract review for the Putnam funds included information regarding fees charged by Putnam Management and its affiliates to institutional clients, including defined benefit pension and profit-sharing plans and sub-advised mutual funds. This information included, in cases where an institutional product's investment strategy corresponds with a fund's strategy, comparisons of those fees with fees charged to the Putnam funds, as well as an assessment of the differences in the services

provided to these different types of clients as compared to the services provided to the Putnam funds. The Trustees observed that the differences in fee rates between these clients and the Putnam funds are by no means uniform when examined by individual asset sectors, suggesting that differences in the pricing of investment management services to these types of clients may reflect, among other things, historical competitive forces operating in separate markets. The Trustees considered the fact that in many cases fee rates across different asset classes are higher on average for mutual funds than for institutional clients, as well as the differences between the services that Putnam Management provides to the Putnam funds and those that it provides to its other clients. The Trustees did not rely on these comparisons to any significant extent in concluding that the management fees paid by your fund are reasonable.

Investment performance

The quality of the investment process provided by Putnam Management represented a major factor in the Trustees' evaluation of the quality of services provided by Putnam Management under your fund's management contract. The Trustees were assisted in their review of the Putnam funds' 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 the funds' portfolio teams and with the Chief Investment Officers and other senior members 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 2017 was a strong year for the performance of the Putnam funds, with generally favorable results for most asset classes, including U.S. equity, international and global equity, taxable and tax exempt fixed income, and global asset allocation Funds. In this regard, the Trustees considered that, for the one-year period ended December 31, 2017, the Putnam open-end Funds' performance, on an asset-weighted basis, ranked in the 32nd percentile of their Lipper peers (excluding those Putnam funds that are evaluated based on their total returns and/or comparisons of those returns versus selected investment benchmarks or targeted annual returns). The Trustees observed that this strong performance has continued a positive trend that began in mid-year 2016 across most Putnam funds. They noted that the longer-term performance of the Putnam funds continued to be strong, exemplified by the fact that the Putnam funds were ranked by the Barron's/Lipper Fund Families survey as the 7th-best performing mutual fund complex out of 55 complexes for the five-year period ended December 31, 2017 and the 9th-best performing mutual fund complex out of 50 complexes for the ten-year period ended 2017. In addition, the survey ranked the Putnam funds 7th out of 59 mutual fund complexes for the one-year period ended 2017; the Putnam funds have ranked 1st or 2nd in the survey for the one-year period three times since 2009 (most recently in 2013). They also noted, however, the disappointing investment performance of some funds for periods ended December 31, 2017 and considered information provided by Putnam Management regarding the factors contributing to the underperformance and actions being taken to improve the performance of these particular funds. The Trustees indicated their intention to continue to monitor closely the performance of those funds, including the effectiveness of any efforts Putnam Management has undertaken to

address underperformance and whether additional actions to address areas of underperformance are warranted.

For purposes of the Trustees' evaluation of the Putnam Funds' investment performance, the Trustees generally focus on a competitive industry ranking of each fund's total net return over a one-year, three-year and five-year period. For a number of Putnam funds with relatively unique investment mandates for which Putnam Management informed the Trustees that meaningful competitive performance rankings are not considered to be available, the Trustees evaluated performance based on their total gross and net returns and, in most cases, comparisons of those returns with 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 Inc. ("Lipper") peer group (Lipper VP (Underlying Funds) — General U.S. Government Funds) for the one-year, three-year and five-year periods ended December 31, 2017 (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
2nd	3rd	2nd

Over the one-year, three-year and five-year periods ended December 31, 2017, there were 56, 56 and 52 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 considered Putnam Management's continued efforts to support fund performance through initiatives including structuring compensation for portfolio managers and research analysts to enhance accountability for fund performance, emphasizing accountability in the portfolio management process, and affirming its commitment to a fundamental-driven approach to investing. The Trustees noted further that Putnam Management continued to strengthen its fundamental research capabilities by adding new investment personnel.

Brokerage and soft-dollar allocations; investor servicing

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

Putnam Management may also receive benefits from payments that the funds make to Putnam Management's affiliates for investor or distribution services. In conjunction with the annual review of your fund's management and sub-management contracts, the Trustees reviewed your fund's investor servicing agreement with Putnam Investor Services, Inc. ("PSERV") and its distributor's contracts and distribution plans with Putnam Retail Management Limited Partnership ("PRM"), both of which are affiliates of Putnam Management. The Trustees concluded that the fees payable by the funds to PSERV and PRM, as applicable, for such services are fair and reasonable in relation to the nature and quality of such services, the fees paid by competitive funds, and the costs incurred by PSERV and PRM, as applicable, in providing such services. Furthermore, the Trustees were of the view that the services provided were required for the operation of the 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, 2018, 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

Each Putnam VT 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-Q. Shareholders may obtain the fund's Form N-Q on the SEC's website at www.sec.gov. In addition, the fund's Form N-Q may be reviewed and copied at the SEC's Public Reference Room in Washington, D.C. You may call the SEC at 1-800-SEC-0330 for information about the SEC's website or the operation of the Public Reference Room.

Fund information

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Putnam Investment Management, LLC
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Investment Sub-Advisor

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Marketing Services

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Investor Servicing Agent

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Custodian

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Legal Counsel

Ropes & Gray LLP

Trustees

Kenneth R. Leibler, *Chair*
Liaquat Ahamed
Ravi Akhoury
Barbara M. Baumann
Katinka Domotorffy
Catharine Bond Hill
Paul L. Joskow
Robert E. Patterson
George Putnam, III
Robert L. Reynolds
Manoj P. Singh

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.

