John Hancock.



# JOHN HANCOCK Variable Insurance Trust

Managed Volatility Growth Portfolio Managed Volatility Balanced Portfolio Managed Volatility Moderate Portfolio Managed Volatility Conservative Portfolio



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Semiannual report June 30, 2023

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### Portfolio of

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Managed Volatility Balanced Portfolio		Managed Volatility Conservative Portfolio	

## Sector weightings

#### Managed Volatility Growth Portfolio

<b>C C</b>	
ASSET ALLOCATION (% of net assets)	
Affiliated investment companies	96.1
Equity	68.3
Large blend	31.4
U.S. large cap	16.6
Emerging-market equity	6.3
U.S. mid cap	6.1
U.S. small cap	4.3
International equity	3.6
Fixed income	27.8
Intermediate bond	27.8
Unaffiliated investment companies	2.5
Equity	2.5
Short-term investments and other	1.4

### Managed Volatility Balanced Portfolio

ASSET ALLOCATION (% of net assets)				
Affiliated investment companies	96.8			
Equity	48.7			
Large blend	22.5			
U.S. large cap	13.3			
Emerging-market equity	4.0			
U.S. mid cap	4.0			
U.S. small cap	2.9			
International equity	2.0			
Fixed income	48.1			
Intermediate bond	48.1			
Unaffiliated investment companies	2.0			
Equity	2.0			
Short-term investments and other	1.2			

#### Managed Volatility Moderate Portfolio

ASSET ALLOCATION (% of net assets)	
Affiliated investment companies	97.0
Equity	38.7
Large blend	18.4
U.S. large cap	11.7
Emerging-market equity	2.9
U.S. mid cap	2.9
U.S. small cap	1.9
International equity	0.9
Fixed income	58.3
Intermediate bond	58.3
Unaffiliated investment companies	1.9
Equity	1.9
Short-term investments and other	1.1

#### Managed Volatility Conservative Portfolio

Affiliated investment companies Equity Large blend U.S. large cap U.S. mid cap Emerging-market equity U.S. small cap Fixed income Intermediate bond	
Large blend U.S. large cap U.S. mid cap Emerging-market equity U.S. small cap Fixed income Intermediate bond	98.0
U.S. large cap U.S. mid cap Emerging-market equity U.S. small cap Fixed income Intermediate bond	19.4
U.S. mid cap Emerging-market equity U.S. small cap Fixed income Intermediate bond	9.2
Emerging-market equity U.S. small cap Fixed income Intermediate bond	6.4
U.S. small cap Fixed income Intermediate bond	1.4
Fixed income Intermediate bond	1.3
Intermediate bond	1.1
	78.6
the effective of the sector and the sector of the	78.6
Unaffiliated investment companies	0.8
Equity	0.8
Short-term investments and other	1.2

#### Notes about risk

The portfolios may be subject to various risks as described in the portfolios' prospectus. Political tensions and armed conflicts, including the Russian invasion of Ukraine, and any resulting economic sanctions on entities and/or individuals of a particular country could lead such a country into an economic recession. The COVID-19 disease has resulted in significant disruptions to global business activity. A widespread health crisis such as a global pandemic could cause substantial market volatility, exchange-trading suspensions, and closures, which may lead to less liquidity in certain instruments, industries, sectors or the markets generally, and may ultimately affect portfolio performance. For more information, please refer to the "Principal risks" section of the prospectus.

## Shareholder expense example

As a shareholder of a John Hancock Variable Insurance Trust Managed Volatility Portfolio, you incur ongoing costs, including management fees, distribution and service (Rule 12b-1) fees and other expenses. In addition to the operating expenses which the portfolio bears directly, the portfolio indirectly bears a pro rata share of the operating expenses of the underlying funds in which the portfolio invests. Because the underlying funds have varied operating expenses and transaction costs and the portfolio may own different proportions of the underlying funds at different times, the amount of expenses incurred indirectly by the portfolio will vary. Had these indirect expenses been reflected in the following analysis, total expenses would have been higher than the amounts shown.

These examples are intended to help you understand your ongoing costs (in dollars) of investing in a portfolio so you can compare these costs with the ongoing costs of investing in other mutual funds. The examples are based on an investment of \$1,000 at the beginning of the period and held for the entire period (January 1, 2023 through June 30, 2023).

### Actual expenses:

The first line of each share class in the following table provides information about actual account values and actual expenses. You may use the information in this line, together with the amount you invested, to estimate the expenses that you paid over the period. Simply divide your account value by 1,000 (for example, an 8,600 account value divided by 1,000 = 8.6), then multiply the result by the number in the first line under the heading entitled "Expenses paid during period ended" to estimate the expenses you paid on your account during this period.

### Hypothetical example for comparison purposes:

The second line of each share class in the following table provides information about hypothetical account values and hypothetical expenses based on the actual expense ratio for the share class and an assumed annualized rate of return of 5% per year before expenses, which is not the actual return of the share class. The hypothetical account values and expenses may not be used to estimate the actual ending account balance or expenses you paid for the period. You may use this information to compare the ongoing costs of investing in a portfolio and other funds. To do so, compare this 5% hypothetical example with the 5% hypothetical examples that appear in the shareholder reports of the other funds. Please remember that these hypothetical account values and expenses may not be used to estimate the actual ending account balance or expenses you paid for the period.

Please note that the expenses shown in the table are meant to highlight your ongoing costs only and do not reflect any transactional costs and insurance-related charges. Therefore, the second line of each share class in the table is useful in comparing ongoing costs only, and will not help you determine the relative total costs of owning different funds. In addition, if these transactional costs were included, your costs would have been higher.

		Account value on 1-1-2023	Ending value on 6-30-2023	Expenses paid during period ended 6-30-2023 <sup>1</sup>	Annualized expense ratio <sup>2</sup>
Managed Vol	atility Growth Portfolio				
Series I	Actual expenses/actual returns	\$1,000.00	\$1,075.10	\$0.93	0.18%
	Hypothetical example	1,000.00	1,023.90	0.90	0.18%
Series II	Actual expenses/actual returns	1,000.00	1,074.50	1.95	0.38%
	Hypothetical example	1,000.00	1,022.90	1.91	0.38%
Series NAV	Actual expenses/actual returns	1,000.00	1,075.90	0.67	0.13%
	Hypothetical example	1,000.00	1,024.10	0.65	0.13%
Managed Vol	atility Balanced Portfolio				
Series I	Actual expenses/actual returns	\$1,000.00	\$1,064.10	\$0.92	0.18%
	Hypothetical example	1,000.00	1,023.90	0.90	0.18%
Series II	Actual expenses/actual returns	1,000.00	1,062.60	1.94	0.38%
	Hypothetical example	1,000.00	1,022.90	1.91	0.38%
Series NAV	Actual expenses/actual returns	1,000.00	1,063.80	0.67	0.13%
	Hypothetical example	1,000.00	1,024.10	0.65	0.13%
Managed Vol	atility Moderate Portfolio				
Series I	Actual expenses/actual returns	\$1,000.00	\$1,056.20	\$0.92	0.18%
	Hypothetical example	1,000.00	1,023.90	0.90	0.18%
Series II	Actual expenses/actual returns	1,000.00	1,055.70	1.94	0.38%
	Hypothetical example	1,000.00	1,022.90	1.91	0.38%
Series NAV	Actual expenses/actual returns	1,000.00	1,056.10	0.66	0.13%
	Hypothetical example	1,000.00	1,024.10	0.65	0.13%

## Shareholder expense example

		Account value on 1-1-2023	Ending value on 6-30-2023	Expenses paid during period ended 6-30-2023 <sup>1</sup>	Annualized expense ratio <sup>2</sup>
Managed Vo	latility Conservative Portfolio				
Series I	Actual expenses/actual returns	\$1,000.00	\$1,031.10	\$0.96	0.19%
	Hypothetical example	1,000.00	1,023.90	0.95	0.19%
Series II	Actual expenses/actual returns	1,000.00	1,029.30	1.96	0.39%
	Hypothetical example	1,000.00	1,022.90	1.96	0.39%
Series NAV	Actual expenses/actual returns	1,000.00	1,032.10	0.71	0.14%
	Hypothetical example	1,000.00	1,024.10	0.70	0.14%

<sup>1</sup> Expenses are equal to the annualized expense ratio, multiplied by the average account value over the period, multiplied by 181/365 (to reflect the one-half year period).

<sup>2</sup> Ratios do not include expenses indirectly incurred by the underlying funds and can vary based on the mix of underlying funds held by the portfolios.

# Managed Volatility Growth Portfolio

AFFILIATED INVESTMENT COMPANIES (A) - 96.1%           Equity - 68.3%           Blue Chip Growth, Series NAV, JHVIT (T. Rowe Price)         9,548,056         \$ 233,927,375           Emerging Markets Equity, Class NAV, JHIT (MIM US) (B)         25,422,262         230,325,698           Equity Income, Series NAV, JHVIT (T. Rowe Price)         22,798,472         322,826,366           Fundamental Large Cap Core, Class NAV, JHIT (MIM US) (B)         6,007,463         385,138,445           Mid Cap Growth, Series NAV, JHVIT (Wellington)         10,872,941         95,029,506           Mid Value, Series NAV, JHVIT (T. Rowe Price)         11,378,529         121,977,828           Multifactor Developed International ETF, JHETF (DFA)         6,565,716         204,193,768           Multifactor Emerging Markets ETF, JHETF (DFA)         4,999,478         123,637,091           Multifactor Small Cap ETF, JHETF (DFA)         3,646,210         122,002,187           Small Cap Growth, Class NAV, JHF II (Redwood) (C)         2,797,804         38,805,543           Small Cap Value, Series NAV, JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)         102,307,053         1,772,981,220           Multifactor SnaO, JHNUT (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT (Allspring Investments		Shares or Principal Amount	Value
Blue Chip Growth, Series NAV, JHVIT       9,548,056       \$ 233,927,375         Emerging Markets Equity, Class NAV, JHIT       (MIM US) (B)       25,422,262       230,325,698         Equity Income, Series NAV, JHVIT       22,798,472       322,826,366         Fundamental Large Cap Core, Class NAV, JHIT       (MIM US) (B)       6,007,463       385,138,445         Mid Cap Growth, Series NAV,       95,029,506       Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF,       1       11,378,529       121,977,828         Multifactor Developed International ETF,       1       123,637,091         Multifactor Emerging Markets ETF,       1       123,637,091         Multifactor Small Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHVIT       102,307,053       1,772,981,220         MMM US) (B)       102,307,053       1,772,981,220         Strategic Equity Allocation, Series NAV, JHVIT       3,857,908,908       1,772,981,220         Fixed income - 27.8%       38,805,543       3,857,908,908         Bond, Class NAV, JHSB (MIM US) (B)       29,954,324       402,286,568         Core Bond, Series NAV, JHVIT <td>AFFILIATED INVESTMENT COMPANIES (A</td> <td>) - 96.1%</td> <td></td>	AFFILIATED INVESTMENT COMPANIES (A	) - 96.1%	
Blue Chip Growth, Series NAV, JHVIT       9,548,056       \$ 233,927,375         Emerging Markets Equity, Class NAV, JHIT       (MIM US) (B)       25,422,262       230,325,698         Equity Income, Series NAV, JHVIT       22,798,472       322,826,366         Fundamental Large Cap Core, Class NAV, JHIT       (MIM US) (B)       6,007,463       385,138,445         Mid Cap Growth, Series NAV,       95,029,506       Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF,       1       11,378,529       121,977,828         Multifactor Developed International ETF,       1       123,637,091         Multifactor Emerging Markets ETF,       1       123,637,091         Multifactor Small Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHVIT       102,307,053       1,772,981,220         MMM US) (B)       102,307,053       1,772,981,220         Strategic Equity Allocation, Series NAV, JHVIT       3,857,908,908       1,772,981,220         Fixed income - 27.8%       38,805,543       3,857,908,908         Bond, Class NAV, JHSB (MIM US) (B)       29,954,324       402,286,568         Core Bond, Series NAV, JHVIT <td>Equity - 68.3%</td> <td></td> <td></td>	Equity - 68.3%		
Emerging Markets Equity, Class NAV, JHIT (MIM US) (B)       25,422,262       230,325,698         Equity Income, Series NAV, JHVIT (T. Rowe Price)       22,798,472       322,826,366         Fundamental Large Cap Core, Class NAV, JHIT (MIM US) (B)       6,007,463       385,138,445         Mid Cap Growth, Series NAV, JHVIT (Wellington)       10,872,941       95,029,506         Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF, JHETF (DFA)       6,565,716       204,193,768         Multifactor Emerging Markets ETF, JHETF (DFA)       4,999,478       123,637,091         Multifactor Mid Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHF II       (Redwood) (C)       2,797,804       38,805,543         Small Cap Value, Series NAV, JHVIT (Wellington)       5,541,397       76,914,591         Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)       102,307,053       1,772,981,220         MUMI Kingting Investments)       12,398,956       3,857,908,908         Fixed income - 27.8%       Bond, Class NAV, JHVIT       402,286,568       607         Gore Bond, Series NAV, JHVIT (MIM US) (B)       87,524,153       1,029,284,039       1,571,058,8			
(MIM US) (B)       25,422,262       230,325,698         Equity Income, Series NAV, JHVIT       22,798,472       322,826,366         Fundamental Large Cap Core, Class NAV, JHIT       6,007,463       385,138,445         Mid Cap Growth, Series NAV,       11,378,529       121,977,828         Multifactor Developed International ETF,       11,378,529       121,977,828         Multifactor Developed International ETF,       11,378,529       123,637,091         Multifactor Small Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHVIT       (Redwood) (C)       2,797,804       38,805,543         Small Cap Value, Series NAV,       JHVIT       102,307,053       1,772,981,220         MIM US) (B)       102,307,053       1,772,981,220       3,857,908,908         Fixed income - 27.8%       Bond, Class NAV, JHVIT       102,397,053       1,772,981,220         Salect Bond, Series NAV, JHVIT (MIM US) (B)       29,954,324       402,286,568         Core Bond, Series NAV, JHVIT (MIM US) (B)       87,524,153       1,029,284,039         (Allspring Investments)       12,398,956       139,488,250         Select Bond, Series NAV, JHVIT (MIM US) (B)       87,524,153       1,029,284,039 <td>(T. Rowe Price)</td> <td>9,548,056</td> <td>\$ 233,927,375</td>	(T. Rowe Price)	9,548,056	\$ 233,927,375
Equity Income, Series NAV, JHVIT (T. Rowe Price)       22,798,472       322,826,366         Fundamental Large Cap Core, Class NAV, JHIT (MIM US) (B)       6,007,463       385,138,445         Mid Cap Growth, Series NAV, JHVIT (Wellington)       10,872,941       95,029,506         Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF, JHETF (DFA)       6,565,716       204,193,768         Multifactor Emerging Markets ETF, JHETF (DFA)       4,999,478       123,637,091         Multifactor Small Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHV II       (Redwood) (C)       2,797,804       38,805,543         Small Cap Value, Series NAV, JHVIT (Wellington)       5,541,397       76,914,591         Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)       102,307,053       1,772,981,220         3,857,908,908       5       3,857,908,908       3,857,908,908         Fixed income - 27.8%       30,248,250       139,488,250       1,029,284,039       1,571,058,857         Select Bond, Series NAV, JHVIT (MIM US) (B)       87,524,153       1,029,284,039       1,571,058,857         TOTAL AFFILIATED INVESTMENT COMPANIES       1,571,058,857	Emerging Markets Equity, Class NAV, JHIT		
(T. Rowe Price)       22,798,472       322,826,366         Fundamental Large Cap Core, Class NAV, JHIT       6,007,463       385,138,445         Mid Cap Growth, Series NAV,       10,872,941       95,029,506         Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF,       11,878,529       121,977,828         Multifactor Emerging Markets ETF,       6,565,716       204,193,768         Multifactor Small Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHVIT       (Redwood) (C)       2,797,804       38,805,543         Small Cap Value, Series NAV,       JHVIT       102,307,053       1,772,981,220         JHVIT (Wellington)       5,541,397       76,914,591       3,857,908,908         Fixed income - 27.8%       80       3,857,908,908       3,857,908,908         Solect Bond, Series NAV, JHVIT       10,239,8956       139,488,250       1,029,284,039         Allspring Investments)       12,398,956       1,029,284,039       1,571,058,857         TOTAL AFFILIATED INVESTMENT COMPANIES       1,029,284,039       1,571,058,857	(MIM US) (B)	25,422,262	230,325,698
Fundamental Large Cap Core, Class NAV, JHIT (MIM US) (B)       6,007,463       385,138,445         Mid Cap Growth, Series NAV, JHVIT (Wellington)       10,872,941       95,029,506         Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF, JHETF (DFA)       6,565,716       204,193,768         Multifactor Emerging Markets ETF, JHETF (DFA)       4,999,478       123,637,091         Multifactor Small Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHF II       (Redwood) (C)       2,797,804       38,805,543         Small Cap Value, Series NAV, JHVIT (Wellington)       5,541,397       76,914,591         Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)       102,307,053       1,772,981,220         MUMI Sole       2,398,956       3,857,908,908       3,857,908,908         Fixed income - 27.8%       Bond, Class NAV, JHVIT       10,239,89,56       1,029,284,039         Nalspring Investments)       12,398,956       139,488,250       1,029,284,039         Select Bond, Series NAV, JHVIT (MIM US) (B)       87,524,153       1,029,284,039       1,571,058,857         TOTAL AFFILIATED INVESTMENT COMPANIES       1,571,058,857	Equity Income, Series NAV, JHVIT		
(MIM US) (B)       6,007,463       385,138,445         Mid Cap Growth, Series NAV,       10,872,941       95,029,506         Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF,       11,378,529       121,977,828         Multifactor Emerging Markets ETF,       6,565,716       204,193,768         Multifactor Mid Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHF II       (Redwood) (C)       2,797,804       38,805,543         Small Cap Value, Series NAV,       JHVIT       38,805,543       3,857,908,908         Fixed income - 27.8%       Bond, Class NAV, JHVIT       102,307,053       1,772,981,220         Mill MUS) (B)       29,954,324       402,286,568       2,286,568         Core Bond, Series NAV, JHVIT       10,398,956       139,488,250       1,029,284,039         Allspring Investments)       12,398,956       139,488,250       1,029,284,039       1,571,058,857         TOTAL AFFILIATED INVESTMENT COMPANIES       1,571,058,857       1,571,058,857       1,571,058,857	(T. Rowe Price)	22,798,472	322,826,366
Mid Cap Growth, Series NAV, JHVIT (Wellington)       10,872,941       95,029,506         Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF, JHETF (DFA)       6,565,716       204,193,768         Multifactor Emerging Markets ETF, JHETF (DFA)       4,999,478       123,637,091         Multifactor Mid Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHF II (Redwood) (C)       2,797,804       38,805,543         Small Cap Value, Series NAV, JHVIT (Wellington)       5,541,397       76,914,591         Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)       102,307,053       1,772,981,220         MIM US (B)       102,307,053       1,772,981,220       3,857,908,908         Fixed income - 27.8% Bond, Class NAV, JHVIT (Allspring Investments)       12,398,956       139,488,250         Select Bond, Series NAV, JHVIT (MIM US) (B)       87,524,153       1,029,284,039         (Allspring Investments)       12,398,956       1,029,284,039         Select Bond, Series NAV, JHVIT (MIM US) (B)       87,524,153       1,029,284,039         (ATT)       1,571,058,857       1,029,284,039       1,571,058,857	Fundamental Large Cap Core, Class NAV, JHIT		
JHVIT (Wellington)       10,872,941       95,029,506         Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF,       1,1378,529       121,977,828         Multifactor Emerging Markets ETF,       6,565,716       204,193,768         Multifactor Mid Cap ETF, JHETF (DFA)       4,999,478       123,637,091         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHF II       (Redwood) (C)       2,797,804       38,805,543         Small Cap Value, Series NAV,       JHVIT (Wellington)       5,541,397       76,914,591         Strategic Equity Allocation, Series NAV, JHVIT       102,307,053       1,772,981,220         MIM US) (B)       102,307,053       1,772,981,220         Select Bond, Series NAV, JHVIT       38,855,648       204,286,568         Core Bond, Series NAV, JHVIT       10,399,956       139,488,250         Select Bond, Series NAV, JHVIT (MIM US) (B)       87,524,153       1,029,284,039         I,571,058,857       107AL AFFILIATED INVESTMENT COMPANIES       1,571,058,857	(MIM US) (B)	6,007,463	385,138,445
Mid Value, Series NAV, JHVIT (T. Rowe Price)       11,378,529       121,977,828         Multifactor Developed International ETF,	Mid Cap Growth, Series NAV,		
Multifactor Developed International ETF, JHETF (DFA)         6,565,716         204,193,768           Multifactor Emerging Markets ETF, JHETF (DFA)         4,999,478         123,637,091           Multifactor Small Cap ETF, JHETF (DFA)         2,619,225         130,149,290           Multifactor Small Cap ETF, JHETF (DFA)         3,646,210         122,002,187           Small Cap Growth, Class NAV, JHF II (Redwood) (C)         2,797,804         38,805,543           Small Cap Value, Series NAV, JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)         102,307,053         1,772,981,220           Skoot, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT (Allspring Investments)         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857		10,872,941	95,029,506
JHETF (DFA)       6,565,716       204,193,768         Multifactor Emerging Markets ETF,       JHETF (DFA)       4,999,478       123,637,091         Multifactor Mid Cap ETF, JHETF (DFA)       2,619,225       130,149,290         Multifactor Small Cap ETF, JHETF (DFA)       3,646,210       122,002,187         Small Cap Growth, Class NAV, JHF II       (Redwood) (C)       2,797,804       38,805,543         Small Cap Value, Series NAV,       JHVIT (Wellington)       5,541,397       76,914,591         Strategic Equity Allocation, Series NAV, JHVIT       102,307,053       1,772,981,220         MIM US) (B)       102,307,053       1,772,981,220         Skopendee       27,8%       3,857,908,908         Fixed income - 27.8%       402,286,568         Core Bond, Series NAV, JHVIT       12,398,956       139,488,250         Select Bond, Series NAV, JHVIT (MIM US) (B)       87,524,153       1,029,284,039         I,571,058,857       107AL AFFILIATED INVESTMENT COMPANIES       1,571,058,857		11,378,529	121,977,828
Multifactor Emerging Markets ETF, JHETF (DFA)         4,999,478         123,637,091           Multifactor Mid Cap ETF, JHETF (DFA)         2,619,225         130,149,290           Multifactor Small Cap ETF, JHETF (DFA)         3,646,210         122,002,187           Small Cap Growth, Class NAV, JHF II (Redwood) (C)         2,797,804         38,805,543           Small Cap Value, Series NAV, JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)         102,307,053         1,772,981,220           Skotome - 27.8%         38,857,908,908         3,857,908,908           Fixed income - 27.8%         402,286,568         29,954,324           Bond, Class NAV, JHVIT (Allspring Investments)         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857			
JHETF (DFA)         4,999,478         123,637,091           Multifactor Mid Cap ETF, JHETF (DFA)         2,619,225         130,149,290           Multifactor Small Cap ETF, JHETF (DFA)         3,646,210         122,002,187           Small Cap Growth, Class NAV, JHF II         (Redwood) (C)         2,797,804         38,805,543           Small Cap Value, Series NAV,         JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT         102,307,053         1,772,981,220           MIM US) (B)         102,307,053         1,772,981,220           Small cap Series NAV, JHVIT         3,857,908,908         3,857,908,908           Fixed income - 27.8%         Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT         1,029,284,039         1,029,284,039         1,571,058,857           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039         1,571,058,857           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857         1,571,058,857         1,571,058,857		6,565,716	204,193,768
Multifactor Mid Cap ETF, JHETF (DFA)         2,619,225         130,149,290           Multifactor Small Cap ETF, JHETF (DFA)         3,646,210         122,002,187           Small Cap Growth, Class NAV, JHF II         (Redwood) (C)         2,797,804         38,805,543           Small Cap Value, Series NAV,         JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT         102,307,053         1,772,981,220           (MIM US) (B)         102,307,053         1,772,981,220           Sas57,908,908         3,857,908,908           Fixed income - 27.8%         33,857,908,908           Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT         1,029,984,039         1,029,284,039           (Allspring Investments)         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           (Affiliated Investments)         12,398,956         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857			
Multifactor Small Cap ETF, JHETF (DFA)         3,646,210         122,002,187           Small Cap Growth, Class NAV, JHF II         (Redwood) (C)         2,797,804         38,805,543           Small Cap Value, Series NAV,         JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT         102,307,053         1,772,981,220         3,857,908,908           Fixed income - 27.8%         Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857		, ,	
Small Cap Growth, Class NAV, JHF II (Redwood) (C)         2,797,804         38,805,543           Small Cap Value, Series NAV, JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)         102,307,053         1,772,981,220           Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)         102,307,053         1,772,981,220           Series NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT (Allspring Investments)         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857			
(Redwood) (C)         2,797,804         38,805,543           Small Cap Value, Series NAV, JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)         102,307,053         1,772,981,220           Skore         3,857,908,908         3,857,908,908           Fixed income - 27.8%         402,286,568         402,286,568           Core Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT (Allspring Investments)         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857		3,646,210	122,002,187
Small Cap Value, Series NAV, JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)         102,307,053         1,772,981,220           Strate income - 27.8%         3,857,908,908           Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT (Allspring Investments)         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857			
JHVIT (Wellington)         5,541,397         76,914,591           Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)         102,307,053         1,772,981,220           Strategic income - 27.8%         3,857,908,908         3,857,908,908           Fixed income - 27.8%         402,286,568         402,286,568           Core Bond, Series NAV, JHVIT (Allspring Investments)         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857		2,797,804	38,805,543
Strategic Equity Allocation, Series NAV, JHVIT (MIM US) (B)         102,307,053         1,772,981,220 <b>Fixed income - 27.8%</b> 3,857,908,908           Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT (Allspring Investments)         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1			
(MIM UŠ) (B)         102,307,053         1,772,981,220           3,857,908,908         3,857,908,908           Fixed income - 27.8%         402,286,568           Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857		5,541,397	76,914,591
Fixed income - 27.8%         3,857,908,908           Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857			
Fixed income - 27.8%         402,286,568           Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857	(MIM US) (B)	102,307,053	
Bond, Class NAV, JHSB (MIM US) (B)         29,954,324         402,286,568           Core Bond, Series NAV, JHVIT         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           TOTAL AFFILIATED INVESTMENT COMPANIES         1,571,058,857			3,857,908,908
Core Bond, Series NAV, JHVIT (Allspring Investments)12,398,956139,488,250Select Bond, Series NAV, JHVIT (MIM US) (B)87,524,1531,029,284,039TOTAL AFFILIATED INVESTMENT COMPANIES1,571,058,857	Fixed income - 27.8%		
(Allspring Investments)         12,398,956         139,488,250           Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           1,571,058,857         1,571,058,857	Bond, Class NAV, JHSB (MIM US) (B)	29,954,324	402,286,568
Select Bond, Series NAV, JHVIT (MIM US) (B)         87,524,153         1,029,284,039           1,571,058,857         1,571,058,857	Core Bond, Series NAV, JHVIT		
1,571,058,857           TOTAL AFFILIATED INVESTMENT COMPANIES	(Allspring Investments)	12,398,956	139,488,250
TOTAL AFFILIATED INVESTMENT COMPANIES	Select Bond, Series NAV, JHVIT (MIM US) (B)	87,524,153	1,029,284,039
TOTAL AFFILIATED INVESTMENT COMPANIES			1,571,058,857
	TOTAL AFFILIATED INVESTMENT COMPANI	ES	
			\$ 5,428,967,765

# Managed Volatility Growth Portfolio (continued)

		Shares or Principal Amount		Value
UNAFFII	JATED INVESTMENT COMPANIE	S - 2.5%		
Equity - 2	2.5%			
2	00 Index Fund	679,114	\$	105,269,406
Fidelity In	ternational Index Fund	831,902		38,400,616
TOTAL U	NAFFILIATED INVESTMENT COMP	ANIES		
(Cost \$120	5,403,463)		\$	143,670,022
SHORT-T	ERM INVESTMENTS - 1.0%			
Short-terr	n funds - 1.0%			
John Hanc	cock Collateral Trust, 5.1773% (D)(E)	5,532,732		55,298,547
TOTAL SI	HORT-TERM INVESTMENTS (Cost \$	55,307,024)	\$	55,298,547
Total Inve	estments (Managed Volatility Growth			
	io) (Cost \$5,790,832,076) - 99.6%		\$	5,627,936,334
Other ass	ets and liabilities, net - 0.4%		_	22,040,575
TOTAL N	ET ASSETS - 100.0%		\$	5,649,976,909
Security A	Abbreviations and Legend			
JHETF	John Hancock Exchange-Traded F	Fund Trust		
JHF II	John Hancock Funds II			
JHIT				
JHSB				
JHVIT				
(A) The underlying portfolios' subadvisor is shown parenthetically.				
(B) The subadvisor is an affiliate of the advisor.				
(C) Non-income producing.				
(D) The rate shown is the annualized seven-day yield as of 6-30-23.				
(E) Investment is an affiliate of the fund, the advisor and/or subadvisor.				

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## DERIVATIVES

#### **FUTURES**

						Unrealized
	Number of		Expiration	Notional	Notional	appreciation
Open contracts	contracts	Position	date	basis^	value^	(depreciation)
Euro Currency Futures	253	Long	Sep 2023	\$34,626,735	\$34,638,863	\$12,128
Euro STOXX 50 Index Futures	730	Long	Sep 2023	34,687,705	35,264,431	576,726
FTSE 100 Index Futures	132	Long	Sep 2023	12,609,824	12,642,564	32,740
Japanese Yen Currency Futures	181	Long	Sep 2023	16,075,738	15,865,646	(210,092)
MSCI Emerging Markets Index Futures	860	Long	Sep 2023	43,247,203	42,909,700	(337,503)
Nikkei 225 Index Futures	69	Long	Sep 2023	15,785,651	15,985,793	200,142
Pound Sterling Currency Futures	157	Long	Sep 2023	12,452,771	12,460,894	8,123
Russell 2000 E-Mini Index Futures	196	Long	Sep 2023	18,426,533	18,656,260	229,727
S&P 500 E-Mini Index Futures	907	Long	Sep 2023	199,793,236	203,542,138	3,748,902
S&P Mid 400 E-Mini Index Futures	145	Long	Sep 2023	37,610,688	38,339,450	728,762
						\$4,989,655

^ Notional basis refers to the contractual amount agreed upon at inception of open contracts; notional value represents the current value of the open contract.

See Notes to financial statements regarding investment transactions and other derivatives information.

# Managed Volatility Balanced Portfolio

	Shares or Principal Amount	Value
AFFILIATED INVESTMENT COMPANIES (A	A) - 96.8%	
Equity - 48.7%		
Blue Chip Growth, Series NAV, JHVIT		
(T. Rowe Price)	6,041,634	\$ 148,020,045
Emerging Markets Equity, Class NAV, JHIT		
(MIM US) (B)	12,434,511	112,656,665
Equity Income, Series NAV, JHVIT		
(T. Rowe Price)	14,686,268	207,957,554
Fundamental Large Cap Core, Class NAV, JHIT		
(MIM US) (B)	3,470,078	222,466,726
Mid Cap Growth, Series NAV,		
JHVIT (Wellington)	4,673,168	40,843,488
Mid Value, Series NAV, JHVIT (T. Rowe Price)	5,399,057	57,877,886
Multifactor Developed International ETF,		
JHETF (DFA)	2,801,514	87,127,085
Multifactor Emerging Markets ETF,		
JHETF (DFA)	2,480,470	61,342,023
Multifactor Mid Cap ETF, JHETF (DFA)	1,463,742	72,733,340
Multifactor Small Cap ETF, JHETF (DFA)	1,699,747	56,873,535
Small Cap Growth, Class NAV, JHF II		
(Redwood) (C)	1,542,841	21,399,210
Small Cap Value, Series NAV,	2 522 524	10.024.202
JHVIT (Wellington)	3,532,724	49,034,203
Strategic Equity Allocation, Series NAV, JHVIT	56 200 514	075 (52 254
(MIM US) (B)	56,298,514	975,653,254
		2,113,985,014
Fixed income - 48.1%		
Bond, Class NAV, JHSB (MIM US) (B)	39,998,639	537,181,727
Core Bond, Series NAV, JHVIT		
(Allspring Investments)	16,521,784	185,870,071
Select Bond, Series NAV, JHVIT (MIM US) (B)	116,231,780	1,366,885,732
		2,089,937,530
TOTAL AFFILIATED INVESTMENT COMPANI	ES	
(Cost \$4,485,264,224)		\$ 4,203,922,544

# Managed Volatility Balanced Portfolio (continued)

		Shares or Principal Amount		Value
UNAFFIL	JATED INVESTMENT COMPANIE	S - 2.0%		
Equity - 2	.0%			
Fidelity 50	00 Index Fund	559,858	\$	86,783,533
TOTAL U	NAFFILIATED INVESTMENT COMP.	ANIES		
(Cost \$76,	436,220)		\$	86,783,533
SHORT-T	ERM INVESTMENTS - 0.9%			
Short-terr	n funds - 0.9%			
John Hanc	ock Collateral Trust, 5.1773% (D)(E)	3,667,535		36,656,274
TOTAL SI	HORT-TERM INVESTMENTS (Cost \$3	36,661,196)	\$	36,656,274
	estments (Managed Volatility ed Portfolio) (Cost \$4,598,361,640) -			
99.7%			\$	4,327,362,351
Other ass	ets and liabilities, net - 0.3%		·	14,849,304
TOTAL N	ET ASSETS - 100.0%		\$	4,342,211,655
Security A	Abbreviations and Legend			
JHETF	John Hancock Exchange-Traded F	und Trust		
JHF II	John Hancock Funds II			
JHIT	John Hancock Investment Trust			
JHSB	John Hancock Sovereign Bond Fu			
JHVIT	John Hancock Variable Insurance			
(A)	The underlying portfolios' subadvisor is shown parenthetically.			
(B)	The subadvisor is an affiliate of th	ne advisor.		
(C)	Non-income producing.			
(D)	The rate shown is the annualized		as o	of 6-30-23.
(E)	Investment is an affiliate of the fu			/

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### DERIVATIVES

#### **FUTURES**

						Unrealized
	Number of		Expiration	Notional	Notional	appreciation
Open contracts	contracts	Position	date	basis^	value^	(depreciation)
Euro Currency Futures	126	Long	Sep 2023	\$17,064,416	\$17,250,899	\$186,483
Euro STOXX 50 Index Futures	369	Long	Sep 2023	17,480,191	17,825,445	345,254
FTSE 100 Index Futures	63	Long	Sep 2023	6,050,026	6,033,951	(16,075)
Japanese Yen Currency Futures	87	Long	Sep 2023	7,863,617	7,626,094	(237,523)
MSCI Emerging Markets Index Futures	416	Long	Sep 2023	20,913,438	20,756,320	(157,118)
Nikkei 225 Index Futures	33	Long	Sep 2023	7,440,036	7,645,379	205,343
Pound Sterling Currency Futures	76	Long	Sep 2023	5,962,947	6,032,025	69,078
Russell 2000 E-Mini Index Futures	108	Long	Sep 2023	10,137,614	10,279,980	142,366
S&P 500 E-Mini Index Futures	528	Long	Sep 2023	115,040,792	118,489,800	3,449,008
S&P Mid 400 E-Mini Index Futures	79	Long	Sep 2023	20,265,787	20,888,390	622,603
						\$4,609,419

^ Notional basis refers to the contractual amount agreed upon at inception of open contracts; notional value represents the current value of the open contract.

See Notes to financial statements regarding investment transactions and other derivatives information.

# Managed Volatility Moderate Portfolio

_	Shares or Principal Amount	Value
AFFILIATED INVESTMENT COMPANIES (A)	- 97.0%	
Equity - 38.7%		
Blue Chip Growth, Series NAV, JHVIT		
(T. Rowe Price)	1,435,671	\$ 35,173,946
Emerging Markets Equity, Class NAV, JHIT		
(MIM US) (B)	2,663,180	24,128,413
Equity Income, Series NAV, JHVIT		
(T. Rowe Price)	3,683,784	52,162,376
Fundamental Large Cap Core, Class NAV, JHIT		
(MIM US) (B)	802,761	51,464,985
Mid Cap Growth, Series NAV,		
JHVIT (Wellington)	1,264,198	11,049,090
Mid Value, Series NAV, JHVIT (T. Rowe Price)	1,336,853	14,331,069
Multifactor Developed International ETF,		
JHETF (DFA)	349,109	10,857,290
Multifactor Emerging Markets ETF,		
JHETF (DFA)	427,486	10,571,729
Multifactor Mid Cap ETF, JHETF (DFA)	182,952	9,090,885
Multifactor Small Cap ETF, JHETF (DFA)	224,920	7,525,823
Small Cap Growth, Class NAV, JHF II		
(Redwood) (C)	358,747	4,975,815
Small Cap Value, Series NAV,		
JHVIT (Wellington)	749,175	10,398,545
Strategic Equity Allocation, Series NAV, JHVIT		
(MIM US) (B)	12,622,558	218,748,929
		460,478,895
Fixed income - 58.3%		
Bond, Class NAV, JHSB (MIM US) (B)	13,237,475	177,779,294
Core Bond, Series NAV, JHVIT	,,.,	
(Allspring Investments)	5,490,149	61,764,176
Select Bond, Series NAV, JHVIT (MIM US) (B)	38,585,223	453,762,223
,	- , ,	693,305,693
TOTAL AFFILIATED INVESTMENT COMPANIES	2	070,000,075
(Cost \$1,258,633,770)	3	\$ 1,153,784,588
(COSt #1,230,033,770)		φ 1,135,704,500

# Managed Volatility Moderate Portfolio (continued)

		Shares or Principal Amount		Value
UNAFFIL	JATED INVESTMENT COMPANIE	S - 1.9%		
Equity - 1	.9%			
Fidelity 50	00 Index Fund	149,015	\$	23,098,783
TOTAL U	NAFFILIATED INVESTMENT COMP	ANIES		
(Cost \$19,	976,433)		\$	23,098,783
SHORT-T	ERM INVESTMENTS - 0.8%			
Short-terr	n funds - 0.8%			
John Hanc	ock Collateral Trust, 5.1773% (D)(E)	951,126		9,506,312
TOTAL SI	HORT-TERM INVESTMENTS (Cost \$	9,508,279)	\$	9,506,312
TOTAL N	ets and liabilities, net - 0.3% IET ASSETS - 100.0% Abbreviations and Legend		\$ 	1,186,389,683 3,233,549 1,189,623,232
JHETF	John Hancock Exchange-Traded F	und Trust		
JHF II	John Hancock Funds II			
JHIT	John Hancock Investment Trust			
JHSB	John Hancock Sovereign Bond Fu	ind		
JHVIT	John Hancock Variable Insurance	11400		
(A)	The underlying portfolios' subadv	1	aren	thetically.
(B)	The subadvisor is an affiliate of th	ne advisor.		
(C)	Non-income producing.			
(D)	The rate shown is the annualized			
(E)	Investment is an affiliate of the fu	ind, the advisor	and	or subadvisor.

## DERIVATIVES

#### **FUTURES**

						Unrealized
	Number of		Expiration	Notional	Notional	appreciation
Open contracts	contracts	Position	date	basis^	value^	(depreciation)
Euro Currency Futures	26	Long	Sep 2023	\$3,522,708	\$3,559,719	\$37,011
Euro STOXX 50 Index Futures	75	Long	Sep 2023	3,560,148	3,623,058	62,910
FTSE 100 Index Futures	12	Long	Sep 2023	1,156,343	1,149,324	(7,019)
Japanese Yen Currency Futures	17	Long	Sep 2023	1,536,949	1,490,156	(46,793)
MSCI Emerging Markets Index Futures	81	Long	Sep 2023	4,089,561	4,041,495	(48,066)
Nikkei 225 Index Futures	6	Long	Sep 2023	1,359,517	1,390,069	30,552
Pound Sterling Currency Futures	15	Long	Sep 2023	1,178,359	1,190,531	12,172
Russell 2000 E-Mini Index Futures	21	Long	Sep 2023	1,983,365	1,998,885	15,520
S&P 500 E-Mini Index Futures	120	Long	Sep 2023	26,201,136	26,929,500	728,364
S&P Mid 400 E-Mini Index Futures	15	Long	Sep 2023	3,869,375	3,966,150	96,775
						\$881.426

^ Notional basis refers to the contractual amount agreed upon at inception of open contracts; notional value represents the current value of the open contract.

See Notes to financial statements regarding investment transactions and other derivatives information.

# Managed Volatility Conservative Portfolio

	Shares or Principal Amount		Value
AFFILIATED INVESTMENT COMPANIES (A	A) - 98.0%		
Equity - 19.4%			
Blue Chip Growth, Series NAV, JHVIT			
(T. Rowe Price)	413,503	\$	10,130,826
Emerging Markets Equity, Class NAV, JHIT			
(MIM US) (B)	644,142		5,835,926
Equity Income, Series NAV, JHVIT (T. Rowe Price)	1 150 107		16 200 022
Fundamental Large Cap Core, Class NAV, JHIT	1,158,187		16,399,932
(MIM US) (B)	215.619		13,823,304
Multifactor Emerging Markets ETF,	215,017		15,025,504
JHETF (DFA)	100,555		2,486,725
Multifactor Mid Cap ETF, JHETF (DFA)	181,249		9,006,263
Multifactor Small Cap ETF, JHETF (DFA)	213,230		7,134,676
Strategic Equity Allocation, Series NAV, JHVIT			
(MIM US) (B)	3,374,897	_	58,486,973
			123,304,625
Fixed income - 78.6%			
Bond, Class NAV, JHSB (MIM US) (B)	9,587,454		128,759,514
Core Bond, Series NAV, JHVIT			
(Allspring Investments)	3,962,001		44,572,514
Select Bond, Series NAV, JHVIT (MIM US) (B)	27,867,334	_	327,719,845
			501,051,873
TOTAL AFFILIATED INVESTMENT COMPANY	IES		
(Cost \$695,585,860)		\$	624,356,498
UNAFFILIATED INVESTMENT COMPANIE	S - 0.8%		
Equity - 0.8%			
Fidelity 500 Index Fund	34,507		5,348,880
TOTAL UNAFFILIATED INVESTMENT COMP.	ANIES		
(Cost \$4,732,162)		\$	5,348,880

# Managed Volatility Conservative Portfolio (continued)

	Principal Amount		Value		
SHORT-TERM INVESTMENTS - 1.0%					
Short-term funds - 1.0%					
John Hancock Collateral Trust, 5.1773% (C)(D)	618,628	\$	6,183,061		
TOTAL SHORT-TERM INVESTMENTS (Cost \$	6,183,865)	\$	6,183,061		
Total Investments (Managed Volatility Conservative Portfolio) (Cost \$706,501,887) 99.8%	-	\$	635,888,439		
Other assets and liabilities, net - 0.2%		Ψ	1,396,023		
TOTAL NET ASSETS - 100.0%		\$	637,284,462		
Security Abbreviations and Legend					
JHETF John Hancock Exchange-Traded 1	Fund Trust				
JHIT John Hancock Investment Trust					
JHSB John Hancock Sovereign Bond Fr	und				
JHVIT John Hancock Variable Insurance	Trust				
(A) The underlying portfolios' subady	arentl	hetically.			
(B) The subadvisor is an affiliate of the advisor.					
(C) The rate shown is the annualized	(C) The rate shown is the annualized seven-day yield as of 6-30-23.				
(D) Investment is an affiliate of the f	und, the advisor	and/o	or subadvisor.		

Shares or

Unroalized

## DERIVATIVES

#### **FUTURES**

						Unrealized
	Number of		Expiration	Notional	Notional	appreciation
Open contracts	contracts	Position	date	basis^	value^	(depreciation)
Euro Currency Futures	2	Short	Sep 2023	\$(273,895)	\$(273,825)	\$70
Euro STOXX 50 Index Futures	5	Short	Sep 2023	(235,311)	(241,537)	(6,226)
FTSE 100 Index Futures	1	Short	Sep 2023	(94,849)	(95,777)	(928)
Japanese Yen Currency Futures	2	Short	Sep 2023	(177,789)	(175,253)	2,536
MSCI Emerging Markets Index Futures	6	Short	Sep 2023	(298,246)	(299,370)	(1,124)
Nikkei 225 Index Futures	1	Short	Sep 2023	(222,270)	(231,678)	(9,408)
Pound Sterling Currency Futures	1	Short	Sep 2023	(79,429)	(79,369)	60
Russell 2000 E-Mini Index Futures	2	Short	Sep 2023	(184,765)	(190,370)	(5,605)
S&P 500 E-Mini Index Futures	9	Short	Sep 2023	(1,975,699)	(2,019,713)	(44,014)
S&P Mid 400 E-Mini Index Futures	2	Short	Sep 2023	(512,016)	(528,820)	(16,804)
						\$(81,443)

^ Notional basis refers to the contractual amount agreed upon at inception of open contracts; notional value represents the current value of the open contract.

See Notes to financial statements regarding investment transactions and other derivatives information.

## **Investment companies**

#### Subadvisors of Affiliated Underlying Funds

Allspring Global Investments, LLC	(Allspring Investments)
Dimensional Fund Advisors, LP	(DFA)
Manulife Investment Management (US) LLC	(MIM US)
Redwood Investments, LLC	(Redwood)
T. Rowe Price Associates, Inc.	(T. Rowe Price)
Wellington Management Company LLP	(Wellington)

## Statements of assets and liabilities — June 30, 2023 (unaudited)

Assets	Managed Volatility Growth Portfolio	Managed Volatility Balanced Portfolio	Managed Volatility Moderate Portfolio	Managed Volatility Conservative Portfolio
Unaffiliated investments, at value Affiliated investments, at value <b>Total investments, at value</b> Receivable for futures variation margin Foreign currency, at value Collateral held at broker for futures contracts Dividends and interest receivable Receivable for investments sold Other assets <b>Total assets</b>	\$143,670,022 5,484,266,312 <b>5,627,936,334</b> 3,902,191 3,967,586 20,410,000 1,689,694 1,437,018 265,365 <b>5,659,608,188</b>	\$86,783,533 4,240,578,818 <b>4,327,362,351</b> 	\$23,098,783 1,163,290,900 <b>1,186,389,683</b> 464,018 530,660 2,372,000 686,387 790,816 60,870 <b>1,191,294,434</b>	\$5,348,880 630,539,559 <b>635,888,439</b> 
		5 204 747		25 200
Payable for futures variation margin Due to custodian	_	5,381,747	_	35,300 1,008
Payable for investments purchased Payable for fund shares repurchased Payable to affiliates	7,942,692 1,417,808	4,563,556 784,383	809,174 783,459	509,267 601,295
Accounting and legal services fees	164,205	125,574	33,874	18,247
Trustees' fees	112	188	133	101
Other liabilities and accrued expenses Total liabilities	106,462 <b>9,631,279</b>	95,475 <b>10,950,923</b>	44,562 <b>1,671,202</b>	36,585 <b>1,201,803</b>
Net assets	\$5,649,976,909	\$4,342,211,655	\$1,189,623,232	\$637,284,462
Net assets consist of Paid-in capital Total distributable earnings (loss) Net assets Unaffiliated investments, at cost Affiliated investments, at cost	\$5,426,846,851 223,130,058 <b>\$5,649,976,909</b> \$126,403,463 \$5,664,428,613	\$4,437,121,677 (94,910,022) <b>\$4,342,211,655</b> \$76,436,220 \$4,521,925,420	\$1,261,765,651 (72,142,419) <b>\$1,189,623,232</b> \$19,976,433 \$1,268,142,049	\$723,671,451 (86,386,989) <b>\$637,284,462</b> \$4,732,162 \$701,769,725
Foreign currency, at cost	\$3,984,102	\$4,521,925,420	\$1,200,142,049 \$531,433	\$412,212
<b>Net asset value per share</b> The portfolios have an unlimited number of shares authorized wi \$0.01 per share. Net asset value is calculated by dividing the net a shares by the number of outstanding shares in the class.	th par value of			
Series I				
Net assets Shares outstanding Net asset value, offering price and redemption price per share	\$454,543,123 39,181,167 \$11.60	\$359,792,096 33,839,253 \$10.63	\$145,651,948 14,355,994 \$10.15	\$107,119,363 10,772,888 \$9.94
<b>Series II</b> Net assets Shares outstanding Net asset value, offering price and redemption price per share	\$4,262,415,839 369,428,246 \$11.54	\$2,937,451,339 278,858,837 \$10.53	\$922,935,012 91,874,142 \$10.05	\$477,307,309 48,482,276 \$9.84
<b>Series NAV</b> Net assets Shares outstanding Net asset value, offering price and redemption price per share	\$933,017,947 80,254,209 \$11.63	\$1,044,968,220 97,920,590 \$10.67	\$121,036,272 11,910,358 \$10.16	\$52,857,790 5,298,909 \$9.98

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# Statements of operations — For the six months ended June 30, 2023 (unaudited)

Investment income Dividends from affiliated investments Interest Dividends from unaffiliated investments	Managed Volatility Growth Portfolio \$17,172,969 1,766,992 385,659	Managed Volatility Balanced Portfolio \$15,499,721 973,037 318,989	Managed Volatility Moderate Portfolio \$4,444,286 241,689 85,783	Managed Volatility Conservative Portfolio \$2,936,926 154,221 20,437
Less foreign taxes withheld	(40,677)	(9,599)	(2,461)	(797)
Total investment income	19,284,943	16,782,148	4,769,297	3,110,787
Expenses				
Investment management fees	5,346,216	3,852,645	1,003,766	555,648
Distribution and service fees	5,380,618	3,757,953	1,197,047	636,442
Accounting and legal services fees	477,535	370,928	102,366	55,727
Trustees' fees	68,689	53,526	14,950	8,155
Custodian fees	18,229	18,183	18,182	18,169
Printing and postage	54,108	49,582	19,000	14,492
Professional fees Other	63,119	52,992	26,492	21,816
	114,755 <b>11,523,269</b>	84,451 <b>8,240,260</b>	24,889 <b>2,406,692</b>	17,529 <b>1,327,978</b>
Total expenses Less expense reductions	(2,481,335)	(1,772,756)	(454,300)	(245,216)
Net expenses	9,041,934	6,467,504	1,952,392	1,082,762
Net investment income	10,243,009	10,314,644	2,816,905	2,028,025
Realized and unrealized gain (loss)				
Net realized gain (loss) on	4 400 575	2 0 0 0 5 0 7	005 450	206 402
Unaffiliated investments and foreign currency transactions	1,408,676	2,868,507	886,460	206,192
Affiliated investments Futures contracts	(46,440,598) (71,017,073)	(31,453,201) (33,794,333)	(10,523,088) (8,394,822)	(8,064,333) (6,913,448)
Futures contracts	(116,048,995)	(53,794,555) (62,379,027)	(18,031,450)	(14,771,589)
Change in net unrealized appreciation (depreciation) of Unaffiliated investments and translation of assets and liabilities in	(110,040,555)	(02,575,027)	(10,051,450)	(14,771,505)
foreign currencies	18,727,331	10,152,916	2,621,835	622,730
Affiliated investments	533,603,607	331,463,768	83,332,247	35,108,632
Futures contracts	(43,397,353)	(22,938,614)	(5,921,230)	(3,294,710)
	508,933,585	318,678,070	80,032,852	32,436,652
Net realized and unrealized gain (loss)	392,884,590	256,299,043	62,001,402	17,665,063
Increase in net assets from operations	\$403,127,599	\$266,613,687	\$64,818,307	\$19,693,088

### Statements of changes in net assets

	Growth Portfolio Bala Six months Six mor			l Volatility Portfolio		Volatility Portfolio
	ended 6-30-23 (unaudited)	Year ended 12-31-22	6-30-23 (unaudited)	Year ended 12-31-22	6-30-23 (unaudited)	Year ended 12-31-22
Increase (decrease) in net assets						
From operations						
Net investment income	\$10,243,009	\$91,070,770	\$10,314,644	\$90,089,637	\$2,816,905	\$27,257,650
Net realized gain (loss)	(116,048,995)	624,831,973	(62,379,027)	314,326,649	(18,031,450)	70,856,917
Change in net unrealized appreciation (depreciation)			210 670 070		00 000 050	(222 664 774)
Increase (decrease) in net assets resulting	508,933,585	(1,781,532,434)	318,678,070	(1,249,517,918)	80,032,852	(333,664,771)
from operations	403,127,599	(1,065,629,691)	266,613,687	(845,101,632)	64,818,307	(235,550,204)
Distributions to shareholders	100/12//000	(1/000/020/001)	200,010,007	(015)101,052)	0 1,0 10,507	(200700072017
From earnings						
Series I	—	(20,688,808)	—	(21,054,525)	_	(9,278,308)
Series II	—	(188,720,320)	—	(168,108,762)	—	(56,172,680)
Series NAV	_	(41,176,056)	_	(59,310,423)	_	(7,064,870)
Total distributions From portfolio share transactions	—	(250,585,184)	—	(248,473,710)	—	(72,515,858)
Portfolio share transactions	(339,680,002)	(391,915,950)	(272,128,559)	(294,196,264)	(88,952,458)	(93,298,506)
Total increase (decrease)	63,447,597	(1,708,130,825)	(5,514,872)	(1,387,771,606)	(24,134,151)	(401,364,568)
Net assets						
Beginning of period	5,586,529,312	7,294,660,137	4,347,726,527	5,735,498,133	1,213,757,383	1,615,121,951
End of period	\$5,649,976,909	\$5,586,529,312	\$4,342,211,655	\$4,347,726,527	\$1,189,623,232	\$1,213,757,383
						Volatility ve Portfolio Year ended 12-31-22
Increase (decrease) in net assets						
From operations						
Net investment income					\$2,028,025	\$17,668,894
Net realized gain (loss)					(14,771,589)	11,488,796
Change in net unrealized appreciation (depr					32,436,652	(156,894,826)
Increase (decrease) in net assets resulting fr	om operations				19,693,088	(127,737,136)
Distributions to shareholders From earnings						
Series I					_	(3,234,492)
Series II					_	(13,926,746)
Series NAV					—	(1,581,162)
Total distributions					_	(18,742,400)
From portfolio share transactions Portfolio share transactions					(43,188,249)	(82,479,687)
Total increase (decrease)					(43,188,249) (23,495,161)	(228,959,223)
Net assets						
Beginning of period					660,779,623	889,738,846
End of period					\$637,284,462	\$660,779,623

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## **Financial highlights**

Per share operat	ting performan	ce for a sha	re outstand	ding throug	hout each pe	eriod				Ratios and	d suppleme	ntal data		
		Income (loss) investment o			Less distributi	ons				Ratios to av	erage net as	sets		
Period ended	Net asset value, beginning of period (\$)	Net investment income (loss) (\$) <sup>1, 2</sup>	Net real- ized and unrealized gain (loss) on invest- ments (\$)	Total from investment operations (\$)	From net investment income (\$)	From net realized gain (\$)	Total distribu- tions (\$)	Net asset value, end of period (\$)	Total return (%) <sup>3</sup>	Expenses before reductions (%) <sup>4</sup>	Expenses including reductions (%) <sup>4</sup>	Net invest- ment income (loss) (%) <sup>2</sup>	Net assets, end of period (in millions)	Portfolio turnover (%)
Managed Vo	latility Grov	wth Port	folio											
Series I	-													
Series II           06-30-2023 <sup>5</sup> 12-31-2021           12-31-2020           12-31-2019           12-31-2018           Series II           06-30-2023 <sup>5</sup> 12-31-2021           12-31-2021           12-31-2021           12-31-2020           12-31-2020           12-31-2020           12-31-2020           12-31-2019           12-31-2018	10.79 13.28 12.03 13.28 12.20 14.55 10.74 13.22 11.98 13.23 12.16 14.51	0.03 0.19 0.21 0.24 0.24 0.24 0.24 0.02 0.17 0.18 0.18 0.21 0.21	0.78 (2.17) 1.33 (0.46) 2.06 (1.08) 0.78 (2.16) 1.33 (0.46) 2.06 (1.07)	0.81 (1.98) 1.54 (0.25) 2.30 (0.84) 0.80 (1.99) 1.51 (0.28) 2.27 (0.86)	(0.20) (0.21) (0.24) (0.23) (0.23) (0.18) (0.19) (0.21) (0.19) (0.21)	(0.31) (0.08) (0.76) (1.01) (1.28) (0.31) (0.08) (0.76) (1.01) (1.28)	(0.51) (0.29) (1.00) (1.22) (1.51) (0.49) (0.27) (0.27) (1.20) (1.49)	11.60 10.79 13.28 12.03 13.28 12.20 11.54 10.74 13.22 11.98 13.23 12.16	7.51 <sup>6</sup> (14.86) 12.82 (1.42) 19.56 (6.54) 7.45 <sup>6</sup> (15.03) 12.58 (1.60) 19.32 (6.70)	0.27 0.25 0.28 0.27 0.15	0.18 <sup>7</sup> 0.18 0.16 0.15 0.13 0.10 0.38 <sup>7</sup> 0.38 0.36 0.35 0.33 0.30	0.51 <sup>7</sup> 1.64 1.64 1.75 1.85 1.67 0.31 <sup>7</sup> 1.43 1.53 1.53 1.53 1.54 1.45	455 450 589 545 627 591 4,262 4,246 5,630 5,886 7,116 6,931	3 14 12 <sup>8</sup> 13 8 37 3 14 12 <sup>8</sup> 13 8 37
	14.51	0.21	(1.07)	(0.00)	(0.21)	(1.20)	(1.+5)	12.10	(0.70)	0.55	0.50	1.45	0,551	
Series NAV	10.01	0.02	0.70	0.00				11.00	7 506	0.227	0.107	0.577	022	
06-30-2023 <sup>5</sup> 12-31-2022 12-31-2021 12-31-2020	10.81 13.30 12.05 13.30	0.03 0.20 0.23 0.22	0.79 (2.17) 1.32 (0.47)	0.82 (1.97) 1.55 (0.25)	(0.21) (0.22) (0.24)	(0.31) (0.08) (0.76)	(0.52) (0.30) (1.00)	11.63 10.81 13.30 12.05	7.59 <sup>6</sup> (14.79) 12.85 (1.37)	0.22 0.20 0.23	0.13 <sup>7</sup> 0.13 0.11 0.10	0.57 <sup>7</sup> 1.72 1.80 1.85	933 891 1,075 769	3 14 12 <sup>8</sup> 13
12-31-2019 12-31-2018	12.21	0.26 0.25	2.06 (1.09)	2.32 (0.84)	(0.22) (0.24)	(1.01) (1.28)	(1.23) (1.52)	13.30 12.21	19.68 (6.55)	0.22	0.08	1.95 1.76	817 703	8 37

**1.** Based on average daily shares outstanding. **2.** Net investment income is affected by the timing and frequency of the declaration of dividends by the underlying funds in which the portfolio invests. **3.** Total returns exclude insurance-related fees and expenses and would have been lower had certain expenses not been reduced during the applicable periods. **4.** Ratios do not include expenses indirectly incurred from underlying funds and can vary based on the mix of underlying funds held by the portfolio. **5.** Six months ended 6-30-23. Unaudited. **6.** Not annualized. **7.** Annualized. **8.** Excludes merger activity.

## Managed Volatility Balanced Portfolio

#### Series I

Berrest														
06-30-2023 <sup>5</sup>	9.99	0.03	0.61	0.64	_	_	_	10.63	6.41 <sup>6</sup>	0.267	0.18 <sup>7</sup>	0.60 <sup>7</sup>	360	2
12-31-2022	12.48	0.22	(2.11)	(1.89)	(0.23)	(0.37)	(0.60)	9.99	(15.08)	0.25	0.17	2.01	360	11
12-31-2021	11.66	0.23	0.91	1.14	(0.25)	(0.07)	(0.32)	12.48	9.76	0.24	0.15	1.89	476	11
12-31-2020	12.41	0.25	(0.07)	0.18	(0.27)	(0.66)	(0.93)	11.66	1.81	0.26	0.15	2.11	498	12
12-31-2019	11.23	0.25	1.73	1.98	(0.23)	(0.57)	(0.80)	12.41	17.92	0.26	0.13	2.07	556	8
12-31-2018	12.96	0.25	(0.82)	(0.57)	(0.25)	(0.91)	(1.16)	11.23	(4.89)	0.15	0.10	1.95	531	36
Series II														
06-30-20235	9.91	0.02	0.60	0.62	_	_	_	10.53	6.26 <sup>6</sup>	0.46 <sup>7</sup>	0.38 <sup>7</sup>	0.40 <sup>7</sup>	2,937	2
12-31-2022	12.38	0.20	(2.09)	(1.89)	(0.21)	(0.37)	(0.58)	9.91	(15.22)	0.45	0.37	1.79	2,969	11
12-31-2021	11.57	0.20	0.90	1.10	(0.22)	(0.07)	(0.29)	12.38	9.54	0.44	0.35	1.66	3,991	11
12-31-2020	12.33	0.22	(0.08)	0.14	(0.24)	(0.66)	(0.90)	11.57	1.55	0.46	0.35	1.89	4,288	12
12-31-2019	11.16	0.22	1.72	1.94	(0.20)	(0.57)	(0.77)	12.33	17.73	0.46	0.33	1.86	4,957	8
12-31-2018	12.89	0.22	(0.82)	(0.60)	(0.22)	(0.91)	(1.13)	11.16	(5.04)	0.35	0.30	1.73	4,900	36
Series NAV														
06-30-20235	10.03	0.03	0.61	0.64	_	_	_	10.67	6.38 <sup>6</sup>	0.21 <sup>7</sup>	0.13 <sup>7</sup>	0.65 <sup>7</sup>	1,045	2
12-31-2022	12.52	0.23	(2.11)	(1.88)	(0.24)	(0.37)	(0.61)	10.03	(14.98)	0.20	0.12	2.08	1,019	11
12-31-2021	11.69	0.24	0.91	1.15	(0.25)	(0.07)	(0.32)	12.52	9.88	0.19	0.10	1.97	1,269	11
12-31-2020	12.45	0.26	(0.09)	0.17	(0.27)	(0.66)	(0.93)	11.69	1.77	0.21	0.10	2.20	1,217	12
12-31-2019	11.26	0.26	1.73	1.99	(0.23)	(0.57)	(0.80)	12.45	18.02	0.21	0.08	2.16	1,261	8
12-31-2018	12.99	0.26	(0.83)	(0.57)	(0.25)	(0.91)	(1.16)	11.26	(4.82)	0.10	0.05	2.04	1,133	36

1. Based on average daily shares outstanding. 2. Net investment income is affected by the timing and frequency of the declaration of dividends by the underlying funds in which the portfolio invests. 3. Total returns exclude insurance-related fees and expenses and would have been lower had certain expenses not been reduced during the applicable periods. 4. Ratios do not include expenses indirectly incurred from underlying funds and can vary based on the mix of underlying funds held by the portfolio. 5. Six months ended 6-30-23. Unaudited. 6. Not annualized. 7. Annualized.

## **Financial highlights**

Per share operati	ing performan	ce for a sha	re outstand	ding throug	hout each pe	eriod				Ratios and	l suppleme	ntal data		
		Income (loss) investment o			Less distributi	ons				Ratios to av	erage net as	sets		
Period ended	Net asset value, beginning of period (\$)	Net investment income (loss) (\$) <sup>1, 2</sup>		Total from investment operations (\$)	From net investment income (\$)	From net realized gain (\$)	Total distribu- tions (\$)	Net asset value, end of period (\$)	Total return (%) <sup>3</sup>	Expenses before reductions (%) <sup>4</sup>	Expenses including reductions (%) <sup>4</sup>	Net invest- ment income (loss) (%) <sup>2</sup>	Net assets, end of period (in millions)	Portfolio turnover (%)
Managed Vol	atility Mod	lerate Po	rtfolio											
Series I	-													
06-30-2023 <sup>5</sup> 12-31-2022 12-31-2021 12-31-2019 12-31-2019 12-31-2018 Series II 06-30-2023 <sup>5</sup> 12-31-2022 12-31-2021 12-31-2020 12-31-2020	9,61 12.01 11.44 10.84 12.33 9.52 11.91 11.34 11.85 10.77	0.03 0.23 0.24 0.26 0.26 0.26 0.26 0.22 0.21 0.22 0.23	0.51 (2.03) 0.66 0.10 1.53 (0.71) 0.51 (2.02) 0.66 0.10	0.54 (1.80) 0.90 0.36 1.79 (0.45) 0.53 (1.81) 0.88 0.33 1.33	(0.24) (0.25) (0.28) (0.24) (0.26) (0.22) (0.23) (0.23) (0.26)	(0.36) (0.08) (0.58) (0.45) (0.78) (0.78) (0.36) (0.08) (0.58) (0.58)	(0.60) (0.33) (0.86) (0.69) (1.04) (0.58) (0.58) (0.31) (0.84) (0.84)	10.15 9.61 12.01 11.44 10.84 10.05 9.52 11.91 11.34	5.62 <sup>6</sup> (14.87) 7.90 3.31 16.72 (3.99) 5.57 <sup>6</sup> (15.10) 7.76 3.05	0.45 0.44 0.45	0.18 <sup>7</sup> 0.17 0.15 0.14 0.13 0.09 0.38 <sup>7</sup> 0.37 0.35 0.34	0.62 <sup>7</sup> 2.19 2.02 2.18 2.12 0.42 <sup>7</sup> 1.95 1.82 2.06 1.07	146 153 196 208 234 230 923 945 1,277 1,379	2 10 10 11 8 35 2 10 10 10 11
12-31-2019 12-31-2018	10.77 12.25	0.23 0.23	1.52 (0.69)	1.75 (0.46)	(0.22) (0.24)	(0.45) (0.78)	(0.67) (1.02)	11.85 10.77	16.43 (4.12)	0.45 0.34	0.33 0.29	1.97 1.89	1,552 1,557	8 35
Series NAV					. ,		. ,		. /					
06-30-2023 <sup>5</sup> 12-31-2022 12-31-2021 12-31-2020 12-31-2019 12-31-2018	9.62 12.03 11.45 11.96 10.85 12.34	0.03 0.24 0.25 0.27 0.27 0.26	0.51 (2.04) 0.67 0.08 1.54 (0.70)	0.54 (1.80) 0.92 0.35 1.81 (0.44)	(0.25) (0.26) (0.28) (0.25) (0.27)	(0.36) (0.08) (0.58) (0.45) (0.78)	(0.61) (0.34) (0.86) (0.70) (1.05)	10.16 9.62 12.03 11.45 11.96 10.85	5.61 <sup>6</sup> (14.89) 8.03 3.27 16.85 (3.94)	0.20 <sup>7</sup> 0.20 0.19 0.20 0.20 0.20 0.09	0.13 <sup>7</sup> 0.12 0.10 0.09 0.08 0.04	0.67 <sup>7</sup> 2.27 2.12 2.38 2.29 2.15	121 116 142 139 137 119	2 10 10 11 8 35

**1.** Based on average daily shares outstanding. **2.** Net investment income is affected by the timing and frequency of the declaration of dividends by the underlying funds in which the portfolio invests. **3.** Total returns exclude insurance-related fees and expenses and would have been lower had certain expenses not been reduced during the applicable periods. **4.** Ratios do not include expenses indirectly incurred from underlying funds and can vary based on the mix of underlying funds held by the portfolio. **5.** Six months ended 6-30-23. Unaudited. **6.** Not annualized. **7.** Annualized.

# Managed Volatility Conservative Portfolio

Series I

Series i														
06-30-2023 <sup>5</sup>	9.64	0.04	0.26	0.30	_	_	_	9.94	3.11 <sup>6</sup>	0.26 <sup>7</sup>	0.19 <sup>7</sup>	0.77 <sup>7</sup>	107	1
12-31-2022	11.66	0.26	(1.99)	(1.73)	(0.28)	(0.01)	(0.29)	9.64	(14.80)	0.25	0.18	2.53	109	8
12-31-2021	11.62	0.28	0.12	0.40	(0.29)	(0.07)	(0.36)	11.66	3.48	0.25	0.16	2.33	145	7
12-31-2020	11.75	0.30	0.09	0.39	(0.33)	(0.19)	(0.52)	11.62	3.39	0.26	0.14	2.57	154	10
12-31-2019	10.61	0.29	1.13	1.42	(0.26)	(0.02)	(0.28)	11.75	13.38	0.25	0.14	2.50	166	8
12-31-2018	11.48	0.27	(0.51)	(0.24)	(0.28)	(0.35)	(0.63)	10.61	(2.18)	0.15	0.09	2.43	155	34
Series II														
06-30-2023 <sup>5</sup>	9.56	0.03	0.25	0.28	_	_	_	9.84	2.93 <sup>6</sup>	0.46 <sup>7</sup>	0.39 <sup>7</sup>	0.57 <sup>7</sup>	477	1
12-31-2022	11.56	0.24	(1.97)	(1.73)	(0.26)	(0.01)	(0.27)	9.56	(14.93)	0.45	0.38	2.31	499	8
12-31-2021	11.52	0.25	0.13	0.38	(0.27)	(0.07)	(0.34)	11.56	3.31	0.45	0.36	2.10	683	7
12-31-2020	11.66	0.27	0.09	0.36	(0.31)	(0.19)	(0.50)	11.52	3.13	0.46	0.34	2.36	794	10
12-31-2019	10.53	0.25	1.14	1.39	(0.24)	(0.02)	(0.26)	11.66	13.18	0.45	0.34	2.23	888	8
12-31-2018	11.40	0.25	(0.52)	(0.27)	(0.25)	(0.35)	(0.60)	10.53	(2.39)	0.35	0.29	2.19	908	34
Series NAV														
06-30-2023 <sup>5</sup>	9.67	0.04	0.27	0.31	_	_	_	9.98	3.21 <sup>6</sup>	0.21 <sup>7</sup>	0.14 <sup>7</sup>	0.82 <sup>7</sup>	53	1
12-31-2022	11.69	0.28	(2.00)	(1.72)	(0.29)	(0.01)	(0.30)	9.67	(14.72)	0.20	0.13	2.67	53	8
12-31-2021	11.65	0.29	0.12	0.41	(0.30)	(0.07)	(0.37)	11.69	3.52	0.20	0.11	2.44	62	7
12-31-2020	11.78	0.31	0.09	0.40	(0.34)	(0.19)	(0.53)	11.65	3.43	0.21	0.09	2.71	59	10
12-31-2019	10.64	0.29	1.14	1.43	(0.27)	(0.02)	(0.29)	11.78	13.50	0.20	0.09	2.55	56	8
12-31-2018	11.51	0.27	(0.51)	(0.24)	(0.28)	(0.35)	(0.63)	10.64	(2.21)	0.10	0.04	2.42	51	34
								<i>c</i> .						

1. Based on average daily shares outstanding. 2. Net investment income is affected by the timing and frequency of the declaration of dividends by the underlying funds in which the portfolio invests. 3. Total returns exclude insurance-related fees and expenses and would have been lower had certain expenses not been reduced during the applicable periods. 4. Ratios do not include expenses indirectly incurred from underlying funds and can vary based on the mix of underlying funds held by the portfolio. 5. Six months ended 6-30-23. Unaudited. 6. Not annualized. 7. Annualized.

## Notes to financial statements (unaudited)

### 1. Organization

John Hancock Variable Insurance Trust (the Trust) is a no-load, open-end management investment company organized as a Massachusetts business trust. The Trust is registered under the Investment Company Act of 1940, as amended (the 1940 Act). It is a series company with multiple investment series, four of which are presented in this report (collectively, Managed Volatility Portfolios, or the portfolios and individually, the portfolio). The portfolios operate as "funds of funds" that may invest in affiliated underlying funds of the Trust, other funds in the John Hancock group of funds complex, non-John Hancock funds and certain other permitted investments.

The portfolios may offer multiple classes of shares: Series I, Series II, and Series NAV. The shares currently offered by each portfolio are shown on the Statements of assets and liabilities. Shares of the portfolios are presently offered only to certain affiliates of John Hancock Variable Trust Advisers LLC (the Advisor). Shareholders of each class have exclusive voting rights to matters that affect that class. The distribution and service fees, if any, for each class may differ.

The investment objectives of the portfolios are as follows:

#### Managed Volatility Growth Portfolio

To seek long term growth of capital while seeking to both manage the volatility of return and limit the magnitude of portfolio losses.

#### Managed Volatility Balanced Portfolio

To seek growth of capital and current income while seeking to both manage the volatility of return and limit the magnitude of portfolio losses.

#### Managed Volatility Moderate Portfolio

To seek current income and growth of capital while seeking to both manage the volatility of return and limit the magnitude of portfolio losses.

#### Managed Volatility Conservative Portfolio

To seek current income and growth of capital while seeking to both manage the volatility of return and limit the magnitude of portfolio losses.

The accounting policies of the underlying funds in which the portfolios invest are outlined in the underlying funds' shareholder reports, which include the underlying funds' financial statements. These are available on the Securities and Exchange Commission (SEC) website at sec.gov. John Hancock underlying funds' shareholder reports are also available without charge by calling 800-344-1029 or visiting jhannuities.com. The underlying funds are not covered by this report.

#### 2. Significant accounting policies

The financial statements have been prepared in conformity with accounting principles generally accepted in the United States of America (US GAAP), which require management to make certain estimates and assumptions as of the date of the financial statements. Actual results could differ from those estimates and those differences could be significant. The portfolios qualify as investment companies under Topic 946 of Accounting Standards Codification of US GAAP.

Events or transactions occurring after the end of the fiscal period through the date that the financial statements were issued have been evaluated in the preparation of the financial statements. The following summarizes the significant accounting policies of the portfolios:

Security valuation. Investments are stated at value as of the scheduled close of regular trading on the New York Stock Exchange (NYSE), normally at 4:00 P.M., Eastern Time. In case of emergency or other disruption resulting in the NYSE not opening for trading or the NYSE closing at a time other than the regularly scheduled close, the net asset value (NAV) may be determined as of the regularly scheduled close of the NYSE pursuant to the Advisor's Valuation Policies and Procedures.

In order to value the securities, the portfolios use the following valuation techniques: Investments in affiliated underlying funds and/or other open-end management investment companies, other than exchange-traded funds (ETFs), are valued at their respective NAVs each business day. Equity securities, including exchange-traded or closed-end funds, are typically valued at the last sale price or official closing price on the exchange or principal market where the security trades. In the event there were no sales during the day or closing prices are not available, the securities are valued using the last available bid price. Futures contracts whose settlement prices are determined as of the close of the NYSE are typically valued based on the settlement price while other futures contracts are typically valued at the last traded price on which they trade. Foreign equity index futures that trade in the electronic trading market subsequent to the close of regular trading may be valued at the last traded price in the electronic trading market as of 4:00 p.m. ET, or may be fair valued based on fair value adjustment factors provided by an independent pricing vendor in order to adjust for events that may occur between the close of foreign exchanges or markets and the close of the NYSE. Foreign securities and currencies are valued in U.S. dollars based on foreign currency exchange rates supplied by an independent pricing vendor.

In certain instances, the Pricing Committee of the Advisor may determine to value equity securities using prices obtained from another exchange or market if trading on the exchange or market on which prices are typically obtained did not open for trading as scheduled, or if trading closed earlier than scheduled, and trading occurred as normal on another exchange or market.

Other portfolio securities and assets, for which reliable market quotations are not readily available, are valued at fair value as determined in good faith by the Pricing Committee following procedures established by the Advisor and adopted by the Board of Trustees. The frequency with which these fair valuation procedures are used cannot be predicted and fair value of securities may differ significantly from the value that would have been used had a ready market for such securities existed.

The portfolios use a three tier hierarchy to prioritize the pricing assumptions, referred to as inputs, used in valuation techniques to measure fair value. Level 1 includes securities valued using quoted prices in active markets for identical securities, including registered investment companies. Level 2 includes securities valued using other significant observable inputs. Observable inputs may include quoted prices for similar securities, interest rates, prepayment

#### Significant accounting policies, continued

speeds and credit risk. Prices for securities valued using these inputs are received from independent pricing vendors and brokers and are based on an evaluation of the inputs described. Level 3 includes securities valued using significant unobservable inputs when market prices are not readily available or reliable, including the Advisor's assumptions in determining the fair value of investments. Factors used in determining value may include market or issuer specific events or trends, changes in interest rates and credit quality. The inputs or methodology used for valuing securities are not necessarily an indication of the risks associated with investing in those securities. Changes in valuation techniques and related inputs may result in transfers into or out of an assigned level within the disclosure hierarchy.

The following is a summary of the values by input classification of the portfolios' investments as of June 30, 2023, by major security category or type:

	Total value at 6-30-23	Level 1 quoted price	Level 2 significant observable inputs	Level 3 significant unobservable inputs
Managed Volatility Growth Portfolio				
Investments in securities:				
Assets				
Affiliated investment companies	\$5,428,967,765	\$5,428,967,765	_	_
Unaffiliated investment companies	143,670,022	143,670,022	—	—
Short-term investments	55,298,547	55,298,547	—	
Total investments in securities	\$5,627,936,334	\$5,627,936,334	_	_
Derivatives:				
Assets				
Futures	\$5,537,250	\$5,537,250	—	—
Liabilities		<i>(</i> )		
Futures	(547,595)	(547,595)	_	—
Managed Volatility Balanced Portfolio				
Investments in securities:				
Assets				
Affiliated investment companies	\$4,203,922,544	\$4,203,922,544	—	—
Unaffiliated investment companies	86,783,533	86,783,533	—	—
Short-term investments	36,656,274	36,656,274	_	
Total investments in securities	\$4,327,362,351	\$4,327,362,351	—	_
Derivatives:				
Assets				
Futures	\$5,020,135	\$5,020,135	—	—
Liabilities	(			
Futures	(410,716)	(410,716)	_	_
Managed Volatility Moderate Portfolio				
Investments in securities:				
Assets				
Affiliated investment companies	\$1,153,784,588	\$1,153,784,588	—	—
Unaffiliated investment companies	23,098,783	23,098,783	—	—
Short-term investments	9,506,312	9,506,312		
Total investments in securities	\$1,186,389,683	\$1,186,389,683	—	—
Derivatives:				
Assets				
Futures	\$983,304	\$983,304	—	—
Liabilities Futures	(101,878)	(101,878)	_	_
Tatales	(101,070)	(101,070)		
Managed Volatility Conservative Portfolio				
Investments in securities:				
Assets		Aco		
Affiliated investment companies	\$624,356,498	\$624,356,498	_	_
Unaffiliated investment companies Short-term investments	5,348,880	5,348,880	—	—
Total investments in securities	6,183,061 \$635,888,439	6,183,061 <b>\$635,888,439</b>		
וסנמו ווואכטנווכוונט ווו טכנעוונופט	\$05 <b>5,000,45</b> 9	JUJJ,000,435	—	—

#### Significant accounting policies, continued

	Total value at 6-30-23	Level 1 quoted price	Level 2 significant observable inputs	Level 3 significant unobservable inputs
Managed Volatility Conservative Portfolio (continued)				
Derivatives:				
Assets				
Futures	\$2,666	\$2,666	—	—
Liabilities				
Futures	(84,109)	(84,109)	—	—

Security transactions and related investment income. Investment security transactions are accounted for on a trade date plus one basis for daily NAV calculations. However, for financial reporting purposes, investment transactions are reported on trade date. Interest income is accrued as earned. Capital gain distributions from underlying funds are recorded on ex-date. Dividend income is recorded on ex-date, except for dividends of certain foreign securities where the dividend may not be known until after the ex-date. In those cases, dividend income, net of withholding taxes, is recorded when the portfolio becomes aware of the dividends. Non-cash dividends, if any, are recorded at the fair market value of the securities received. Gains and losses on securities sold are determined on the basis of identified cost and may include proceeds from litigation. Return of capital distributions from underlying funds, if any, are treated as a reduction of cost.

Foreign investing. Assets, including investments, and liabilities denominated in foreign currencies are translated into U.S. dollar values each day at the prevailing exchange rate. Purchases and sales of securities, income and expenses are translated into U.S. dollars at the prevailing exchange rate on the date of the transaction. The effect of changes in foreign currency exchange rates on the value of securities is reflected as a component of the realized and unrealized gains (losses) on investments. Foreign investments are subject to a decline in the value of a foreign currency versus the U.S. dollar, which reduces the dollar value of securities denominated in that currency.

Portfolios that invest internationally generally carry more risk than portfolios that invest strictly in U.S. securities. Risks can result from differences in economic and political conditions, regulations, market practices (including higher transaction costs), accounting standards and other factors.

Foreign taxes. The portfolios may be subject to withholding tax on income, capital gains or repatriations imposed by certain countries, a portion of which may be recoverable. Foreign taxes are accrued based upon the portfolios' understanding of the tax rules and rates that exist in the foreign markets in which it invests. Taxes are accrued based on gains realized by the portfolios as a result of certain foreign security sales. In certain circumstances, estimated taxes are accrued based on unrealized appreciation of such securities. Investment income is recorded net of foreign withholding taxes.

**Overdraft**. The portfolios may have the ability to borrow from banks for temporary or emergency purposes, including meeting redemption requests that otherwise might require the untimely sale of securities. Pursuant to the portfolios' custodian agreement, the custodian may loan money to the portfolios to make properly authorized payments. The portfolios are obligated to repay the custodian for any overdraft, including any related costs or expenses. The custodian may have a lien, security interest or security entitlement in any portfolio property that is not otherwise segregated or pledged, to the extent of any overdraft, and to the maximum extent permitted by law. Overdrafts at period end, if any, are presented under the caption Due to custodian in the Statements of assets and liabilities.

Line of credit. The portfolios and other affiliated funds have entered into a syndicated line of credit agreement with Citibank, N.A. as the administrative agent that enables them to participate in a \$1 billion unsecured committed line of credit. Excluding commitments designated for a certain fund and subject to the needs of all other affiliated funds, a portfolio can borrow up to an aggregate commitment amount of \$750 million, subject to asset coverage and other limitations as specified in the agreement. A commitment fee payable at the end of each calendar quarter, based on the average daily unused portion of each line of credit, is charged to each participating portfolio based on a combination of fixed and asset-based allocations and is reflected in Other expenses on the Statements of operations. For the six months ended June 30, 2023, the portfolios had no borrowings under the line of credit.

Commitment fees for the six months ended June 30, 2023 were as follows:

Portfolio	Commitment fee
Managed Volatility Growth Portfolio	\$9,561
Managed Volatility Balanced Portfolio	7,799
Managed Volatility Moderate Portfolio	3,411
Managed Volatility Conservative Portfolio	2,642

**Expenses**. Within the John Hancock group of funds complex, expenses that are directly attributable to an individual portfolio are allocated to such portfolio. Expenses that are not readily attributable to a specific portfolio are allocated among all portfolios in an equitable manner, taking into consideration, among other things, the nature and type of expense and each portfolio's relative net assets. Expense estimates are accrued in the period to which they relate and adjustments are made when actual amounts are known.

**Class allocations.** Income, common expenses and realized and unrealized gains (losses) are determined at the portfolio level and allocated daily to each class of shares based on the net assets of the class. Class-specific expenses, such as distribution and service fees, if any, for all classes, are charged daily at the class level based on the net assets of each class and the specific expense rates applicable to each class.

Federal income taxes. Each portfolio intends to continue to qualify as a regulated investment company by complying with the applicable provisions of the Internal Revenue Code and will not be subject to federal income tax on taxable income that is distributed to shareholders. Therefore, no federal income tax provision is required.

As of December 31, 2022, the portfolios had no uncertain tax positions that would require financial statement recognition, derecognition or disclosure. The portfolios' federal tax returns are subject to examination by the Internal Revenue Service for a period of three years.

For federal income tax purposes, the costs of investments owned on June 30, 2023, including short-term investments, were as follows:

#### Significant accounting policies, continued

				Net unrealized
	Aggregate	Unrealized	Unrealized	appreciation/
Portfolio	cost	appreciation	(depreciation)	(depreciation)
Managed Volatility Growth Portfolio	\$5,917,479,403	\$255,198,038	\$(539,751,452)	\$(284,553,414)
Managed Volatility Balanced Portfolio	4,694,117,374	142,228,701	(504,374,305)	(362,145,604)
Managed Volatility Moderate Portfolio	1,317,313,545	27,581,123	(157,623,559)	(130,042,436)
Managed Volatility Conservative Portfolio	720,432,073	8,790,371	(93,415,448)	(84,625,077)

**Distribution of income and gains**. Distributions to shareholders from net investment income and net realized gains, if any, are recorded on the ex-date. The portfolios generally declare and pay dividends and capital gain distributions, if any, annually.

Distributions paid by the portfolios with respect to each class of shares are calculated in the same manner, at the same time and in the same amount, except for the effect of class level expenses that may be applied differently to each class.

Such distributions, on a tax basis, are determined in conformity with income tax regulations, which may differ from US GAAP. Distributions in excess of tax basis earnings and profits, if any, are reported in the portfolios' financial statements as a return of capital. The final determination of tax characteristics of the portfolio's distribution will occur at the end of the year and will subsequently be reported to shareholders. Short-term gains from underlying funds are treated as ordinary income for tax purposes.

Capital accounts within the financial statements are adjusted for permanent book-tax differences. These adjustments have no impact on net assets or the results of operations. Temporary book-tax differences, if any, will reverse in a subsequent period. Book-tax differences are primarily attributable to wash sale loss deferrals and derivative transactions.

#### 3. Derivative instruments

The portfolios may invest in derivatives in order to meet their investment objective. Derivatives include a variety of different instruments that may be traded in the over-the-counter (OTC) market, on a regulated exchange or through a clearing facility. The risks in using derivatives vary depending upon the structure of the instruments, including the use of leverage, optionality, the liquidity or lack of liquidity of the contract, the creditworthiness of the counterparty or clearing organization and the volatility of the position. Some derivatives involve risks that are potentially greater than the risks associated with investing directly in the referenced securities or other referenced underlying instrument. Specifically, the portfolios are exposed to the risk that the counterparty to an OTC derivatives contract will be unable or unwilling to make timely settlement payments or otherwise honor its obligations. OTC derivatives transactions typically can only be closed out with the other party to the transaction.

Certain derivatives are traded or cleared on an exchange or central clearinghouse. Exchange-traded or centrally-cleared transactions generally present less counterparty risk to a portfolio than OTC transactions. The exchange or clearinghouse stands between the portfolios and the broker to the contract and therefore, credit risk is generally limited to the failure of the exchange or clearinghouse and the clearing member.

**Futures**. A futures contract is a contractual agreement to buy or sell a particular currency or financial instrument at a pre-determined price in the future. Futures are traded on an exchange and cleared through a central clearinghouse. Risks related to the use of futures contracts include possible illiquidity of the futures markets and contract prices that can be highly volatile and imperfectly correlated to movements in the underlying financial instrument and potential losses in excess of the amounts recognized on the Statements of assets and liabilities. Use of long futures contracts subjects the portfolios to the risk of loss up to the notional value of the futures contracts. Use of short futures contracts subjects the portfolios to unlimited risk of loss.

Upon entering into a futures contract, the portfolio is required to deposit initial margin with the broker in the form of cash or securities. The amount of required margin is set by the broker and is generally based on a percentage of the contract value. The margin deposit must then be maintained at the established level over the life of the contract. Cash that has been pledged by a portfolio, if any, is detailed in the Statements of assets and liabilities as Collateral held at broker for futures contracts. Securities pledged by the portfolios, if any, are identified in the Portfolios of investments. Subsequent payments, referred to as variation margin, are made or received by a portfolio periodically and are based on changes in the market value of open futures contracts. Futures contracts are marked-to-market daily and unrealized gain or loss is recorded by the portfolio. Receivable/Payable for futures variation margin is included in the Statements of assets and liabilities. When the contract is closed, a portfolio 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.

The following table details how the portfolios used futures contracts during the six months ended June 30, 2023. In addition, the table summarizes the range of notional contract amounts held by the portfolios, as measured at each quarter end:

Portfolio	Reason	USD Notional range
Managed Volatility Growth Portfolio	To manage volatility of returns and gain exposure to foreign currencies.	\$430.3 million to \$2.3 billion
Managed Volatility Balanced Portfolio	To manage volatility of returns and gain exposure to foreign currencies.	\$232.8 million to \$1.3 billion
Managed Volatility Moderate Portfolio	To manage volatility of returns and gain exposure to foreign currencies.	\$49.3 million to \$309.2 million
Managed Volatility Conservative Portfolio	To manage volatility of returns and gain exposure to foreign currencies.	\$4.1 million to \$145.9 million

#### Derivative instruments, continued

#### Fair value of derivative instruments by risk category

The table below summarizes the fair value of derivatives held by the portfolios at June 30, 2023 by risk category:

Portfolio	Risk	Statements of assets and liabilities location	Financial instruments location	Assets derivatives fair value	Liabilities derivatives fair value
Managed Volatility Growth Portfolio	Currency	Receivable/payable for futures variation margin <sup>1</sup>	Futures	\$20,251	\$(210,092)
	Equity	Receivable/payable for futures variation margin <sup>1</sup>	Futures	5,516,999	(337,503)
				\$5,537,250	\$(547,595)
Managed Volatility Balanced Portfolio	Currency	Receivable/payable for futures variation margin <sup>1</sup>	Futures	\$255,561	\$(237,523)
	Equity	Receivable/payable for futures variation margin <sup>1</sup>	Futures	4,764,574	(173,193)
				\$5,020,135	\$(410,716)
Managed Volatility Moderate Portfolio	Currency	Receivable/payable for futures variation margin <sup>1</sup>	Futures	\$49,183	\$(46,793)
	Equity	Receivable/payable for futures variation margin <sup>1</sup>	Futures	934,121	(55,085)
				\$983,304	\$(101,878)
Managed Volatility Conservative Portfolio	Currency	Receivable/payable for futures variation margin <sup>1</sup>	Futures	\$2,666	_
	Equity	Receivable/payable for futures variation margin <sup>1</sup>	Futures	—	\$(84,109)
				\$2,666	\$(84,109)

<sup>1</sup> Reflects cumulative appreciation/depreciation on open futures as disclosed in the Derivatives section of the Portfolios of investments. Only the period end variation margin receivable/payable is separately reported on the Statements of assets and liabilities.

#### Effect of derivative instruments on the Statements of operations

The table below summarizes the net realized gain (loss) included in the net increase (decrease) in net assets from operations, classified by derivative instrument and risk category, for the six months ended June 30, 2023:

		Statements of operations location - Net realized gain (loss) on:
Portfolio	Risk	Futures contracts
Managed Volatility Growth Portfolio	Currency	\$(7,096,807)
	Equity	(63,920,266)
	Total	\$(71,017,073)
Managed Volatility Balanced Portfolio	Currency	\$(3,636,010)
	Equity	(30,158,323)
	Total	\$(33,794,333)
Managed Volatility Moderate Portfolio	Currency	\$(862,151)
	Equity	(7,532,671)
	Total	\$(8,394,822)
Managed Volatility Conservative Portfolio	Currency	\$(194,006)
	Equity	(6,719,442)
	Total	\$(6,913,448)

The table below summarizes the net change in unrealized appreciation (depreciation) included in the net increase (decrease) in net assets from operations, classified by derivative instrument and risk category, for the six months ended June 30, 2023:

# Statements of operations location - Change in net unrealized

Chatemants of encysticus location. Not vealized usin (loca) on

		appreciation (depreciation) of:
Portfolio	Risk	Futures contracts
Managed Volatility Growth Portfolio	Currency	\$5,864,754
	Equity	(49,262,107)
	Total	\$(43,397,353)
Managed Volatility Balanced Portfolio	Currency	\$3,064,352
	Equity	(26,002,966)
	Total	\$(22,938,614)
Managed Volatility Moderate Portfolio	Currency	\$735,602
	Equity	(6,656,832)
	Total	\$(5,921,230)

#### Statements of operations location - Change in net unrealized appreciation (depreciation) of:

Futures contracts
Futures contracts
\$289,075
(3,583,785)
\$(3,294,710)

#### 4. Guarantees and indemnifications

Under the Trust's organizational documents, its Officers and Trustees are indemnified against certain liabilities arising out of the performance of their duties to the Trust, including the portfolios. Additionally, in the normal course of business, the Trust enters into contracts with service providers that contain general indemnification clauses. The Trust's maximum exposure under these arrangements is unknown, as this would involve future claims that may be made against the Trust that have not yet occurred. The risk of material loss from such claims is considered remote.

#### 5. Fees and transactions with affiliates

John Hancock Variable Trust Advisers LLC (the Advisor) serves as investment advisor for the portfolios. John Hancock Distributors, LLC (the Distributor), an affiliate of the Advisor, serves as principal underwriter of the portfolios. The Advisor and the Distributor are wholly owned subsidiaries of John Hancock Life Insurance Company (U.S.A.), which in turn is a subsidiary of Manulife Financial Corporation.

**Management fee**. The portfolios have an investment management agreement with the Advisor under which the portfolios pay a daily management fee to the Advisor as detailed below. The Advisor has a subadvisory agreement with Manulife Investment Management (US) LLC, an indirect, wholly owned subsidiary of Manulife Financial Corporation and an affiliate of the Advisor. The portfolios are not responsible for payment of the subadvisory fees.

The management fee has two components: (a) a fee on assets invested in affiliated funds (Affiliated Funds Assets) and (b) a fee on assets not invested in affiliated funds (Other Assets). Affiliated funds are any fund of the Trust (excluding 500 Index Trust, International Equity Index Trust and Total Bond Market Trust), John Hancock Funds II (JHF II) and John Hancock Funds III. Aggregate net assets include the net assets of the portfolios and the net assets of similar funds of the Trust and JHF II.

Management fees are determined in accordance with the following schedule:

	First \$7.5 billion of aggregate net assets	Excess over \$7.5 billion of aggregate net assets
Affiliated Funds Assets	0.050%	0.040%
Other assets	0.500%	0.490%

**Expense reimbursements**. The Advisor has voluntarily agreed to waive its management fee or reimburse the portfolios so that the aggregate management fee retained by the Advisor with respect to both the portfolios and the underlying investments does not exceed 0.50% of the portfolios' first \$7.5 billion of aggregate daily net assets and 0.49% of the portfolios' aggregate net assets in excess of \$7.5 billion. In addition, the Advisor voluntarily agreed to waive its management fees and/or reduce expenses by 0.01% of each portfolio's average net assets. These voluntary waivers may be terminated at any time by the Advisor upon notice to the Trust.

For the six months ended June 30, 2023, the expense reductions described above amounted to the following:

		Expense reimb	ursement by class	
Portfolio	Series I	Series II	Series NAV	Total
Managed Volatility Growth Portfolio	\$200,181	\$1,878,223	\$402,931	\$2,481,335
Managed Volatility Balanced Portfolio	146,953	1,204,810	420,993	1,772,756
Managed Volatility Moderate Portfolio	56,451	352,913	44,936	454,300
Managed Volatility Conservative Portfolio	40,933	184,345	19,938	245,216

Expenses waived or reimbursed in the current fiscal period are not subject to recapture in future fiscal periods.

The investment management fees, including the impact of the waivers and reimbursements as described above, incurred for the six months ended June 30, 2023, were equivalent to a net annual effective rate of the portfolios' average daily net assets as follows:

Portfolio	Net Annual Effective Rate
Managed Volatility Growth Portfolio	0.10%
Managed Volatility Balanced Portfolio	0.10%
Managed Volatility Moderate Portfolio	0.09%
Managed Volatility Conservative Portfolio	0.10%

Accounting and legal services. Pursuant to a service agreement, the portfolios reimburse the Advisor for all expenses associated with providing the administrative, financial, legal, compliance, accounting and recordkeeping services to the portfolios, including the preparation of all tax returns, periodic reports to shareholders and regulatory reports, among other services. These expenses are allocated to each share class based on its relative net assets at the time the expense was incurred. These accounting and legal services fees incurred, for the six months ended June 30, 2023, amounted to an annual rate of 0.02% of the portfolios' average daily net assets.

**Distribution and service plans**. The portfolios have a distribution agreement with the Distributor. The portfolios have adopted distribution and service plans for certain classes as detailed below pursuant to Rule 12b-1 under the 1940 Act, to pay the Distributor for services provided as the distributor of shares of the portfolios. The portfolios may pay up to the following contractual rates of distribution and service fees under these arrangements, expressed as an annual percentage of average daily net assets for each class of the portfolios' shares:

#### Fees and transactions with affiliates, continued

Class	Rule 12b-1 Fee
Series I	0.15%
Series II	0.35%

Currently only 0.05% for Series I shares and 0.25% for Series II shares are charged for 12b-1 fees.

Distribution and service fees for the six months ended June 30, 2023 were as follows:

	Distribu	tion and service fees by class	
Portfolio	Series I	Series II	Total
Managed Volatility Growth Portfolio	\$112,285	\$5,268,333	\$5,380,618
Managed Volatility Balanced Portfolio	89,481	3,668,472	3,757,953
Managed Volatility Moderate Portfolio	37,123	1,159,924	1,197,047
Managed Volatility Conservative Portfolio	27,052	609,390	636,442

**Trustee expenses.** The portfolios compensate each Trustee who is not an employee of the Advisor or its affiliates. The costs of paying Trustee compensation and expenses are allocated to each portfolio based on their net assets relative to other funds within the John Hancock group of funds complex.

#### 6. Portfolio share transactions

Transactions in portfolios' shares for the six months ended June 30, 2023 and for the year ended December 31, 2022 were as follows:

Managed Volatility Growth Portfolio	Six Months E	nded 6-30-23	5-30-23 Year Ended 12-31-22		
	Shares	Amount	Shares	Amount	
Series I shares					
Sold	62,029	\$692,893	259,078	\$2,984,326	
Distributions reinvested	_	_	1,918,864	20,688,808	
Repurchased	(2,544,174)	(28,482,418)	(4,880,461)	(57,921,518)	
Net decrease	(2,482,145)	\$(27,789,525)	(2,702,519)	\$(34,248,384)	
Series II shares					
Sold	_	_	78,113	\$959,213	
Distributions reinvested	_	_	17,599,553	188,720,320	
Repurchased	(25,906,771)	(287,760,247)	(48,297,668)	(562,034,353)	
Net decrease	(25,906,771)	\$(287,760,247)	(30,620,002)	\$(372,354,820)	
Series NAV shares					
Sold	448,705	\$4,993,971	1,073,406	\$12,537,510	
Distributions reinvested	_	_	3,812,191	41,176,056	
Repurchased	(2,595,409)	(29,124,201)	(3,334,321)	(39,026,312)	
Net increase (decrease)	(2,146,704)	\$(24,130,230)	1,551,276	\$14,687,254	
Total net decrease	(30,535,620)	\$(339,680,002)	(31,771,245)	\$(391,915,950)	
Managed Volatility Balanced Portfolio	Six Months E	nded 6-30-23	Year Ender	d 12-31-22	
	Shares	Amount	Shares	Amount	
Series I shares					
Sold	8,952	\$92,811	479,900	\$5,258,284	
Distributions reinvested	_	—	2,106,503	21,054,525	
Repurchased	(2,198,529)	(22,715,298)	(4,687,107)	(51,341,147)	
Net decrease	(2,189,577)	\$(22,622,487)	(2,100,704)	\$(25,028,338)	
Series II shares					
Sold	—	—	142,911	\$1,451,809	
Distributions reinvested			16,973,528	168,108,762	
Repurchased	(20,655,331)	(211,295,051)	(39,924,506)	(436,099,427)	
Net decrease	(20,655,331)	\$(211,295,051)	(22,808,067)	\$(266,538,856)	
Series NAV shares	1 4 4 5 4 4	¢1 400 220	245 770	¢2,400,000	
Sold Distributions reinvested	144,611	\$1,499,339	315,779 5,916,577	\$3,499,099 59,310,423	
Repurchased	(2 922 502)	(39,710,360)			
Net increase (decrease)	(3,833,593) <b>(3,688,982)</b>	\$(38,211,021)	(5,978,105) <b>254,251</b>	(65,438,592) <b>\$(2,629,070)</b>	
Total net decrease	(26,533,890)	\$(272,128,559)	(24,654,520)	\$(294,196,264)	
	(20,000,000)	(Z1Z, 120, 333)	(24,034,320)	\$(234,130,204)	

#### Portfolio share transactions, continued

Managed Volatility Moderate Portfolio	Six Months Ended 6-30-23		folio Six Months Ended 6-30-23 Year Ended 12-31-			12-31-22
	Shares	Shares Amount		Amount		
Series I shares						
Sold	90,067	\$893,012	351,661	\$3,689,042		
Distributions reinvested	—	—	965,629	9,278,308		
Repurchased	(1,607,478)	(15,942,293)	(1,753,009)	(18,605,765)		
Net decrease	(1,517,411)	\$(15,049,281)	(435,719)	\$(5,638,415)		
Series II shares						
Sold	59,802	\$592,665	204,166	\$2,142,213		
Distributions reinvested	—	—	5,901,847	56,172,680		
Repurchased	(7,440,132)	(72,991,496)	(14,061,271)	(147,959,580)		
Net decrease	(7,380,330)	\$(72,398,831)	(7,955,258)	\$(89,644,687)		
Series NAV shares						
Sold	117,847	\$1,164,833	265,734	\$2,820,935		
Distributions reinvested	_	_	733,767	7,064,870		
Repurchased	(268,854)	(2,669,179)	(745,182)	(7,901,209)		
Net increase (decrease)	(151,007)	\$(1,504,346)	254,319	\$1,984,596		
Total net decrease	(9,048,748)	\$(88,952,458)	(8,136,658)	\$(93,298,506)		
Manager (Malastilia) Company day Dantfalls	Six Months Ended 6-30-23		Year Ended 12-31-22			
Managed Volatility Conservative Portfolio	Six Months En	ded 6-30-23	Year Ended	12-31-22		
wanaged volatility Conservative Portfolio	Six Months En Shares	ded 6-30-23 Amount	Year Ended Shares	12-31-22 Amount		
Managed Volatility Conservative Portfolio Series I shares						
Series I shares	Shares	Amount	Shares	Amount		
Series I shares Sold	Shares	Amount	Shares 1,069,136	Amount \$11,311,610		
Series I shares Sold Distributions reinvested	Shares 295,093	Amount \$2,916,369	Shares 1,069,136 335,555	Amount \$11,311,610 3,234,492		
Series I shares Sold Distributions reinvested Repurchased	Shares 295,093 	Amount \$2,916,369 	Shares 1,069,136 335,555 (2,502,774)	Amount \$11,311,610 3,234,492 (25,900,921)		
Series I shares Sold Distributions reinvested Repurchased Net decrease	Shares 295,093 	Amount \$2,916,369 	Shares 1,069,136 335,555 (2,502,774)	Amount \$11,311,610 3,234,492 (25,900,921)		
Series I shares Sold Distributions reinvested Repurchased Net decrease Series II shares	Shares 295,093 — (818,533) (523,440)	Amount \$2,916,369 	Shares 1,069,136 335,555 (2,502,774) (1,098,083)	Amount \$11,311,610 3,234,492 (25,900,921) \$(11,354,819)		
Series I shares Sold Distributions reinvested Repurchased Net decrease Series II shares Sold	Shares 295,093 — (818,533) (523,440)	Amount \$2,916,369 	Shares 1,069,136 335,555 (2,502,774) (1,098,083) 499,644	Amount \$11,311,610 3,234,492 (25,900,921) \$(11,354,819) \$5,259,833		
Series I shares Sold Distributions reinvested Repurchased Net decrease Series II shares Sold Distributions reinvested	Shares 295,093 (818,533) (523,440) 79,698 	Amount \$2,916,369 	Shares 1,069,136 335,555 (2,502,774) (1,098,083) 499,644 1,457,151	Amount \$11,311,610 3,234,492 (25,900,921) \$(11,354,819) \$5,259,833 13,926,746		
Series I shares Sold Distributions reinvested Repurchased Net decrease Series II shares Sold Distributions reinvested Repurchased	Shares 295,093 (818,533) (523,440) 79,698 (3,817,369)	Amount \$2,916,369 (8,081,861) \$(5,165,492) \$777,168 (37,329,657)	Shares 1,069,136 335,555 (2,502,774) (1,098,083) 499,644 1,457,151 (8,841,447)	Amount \$11,311,610 3,234,492 (25,900,921) \$(11,354,819) \$5,259,833 13,926,746 (91,501,271)		
Series I shares Sold Distributions reinvested Repurchased Series II shares Sold Distributions reinvested Repurchased Net decrease Net decrease	Shares 295,093 (818,533) (523,440) 79,698 (3,817,369)	Amount \$2,916,369 (8,081,861) \$(5,165,492) \$777,168 (37,329,657)	Shares 1,069,136 335,555 (2,502,774) (1,098,083) 499,644 1,457,151 (8,841,447)	Amount \$11,311,610 3,234,492 (25,900,921) \$(11,354,819) \$5,259,833 13,926,746 (91,501,271)		
Series I shares Sold Distributions reinvested Repurchased Sold Distributions reinvested Repurchased Repurchased Net decrease Series NAV shares	Shares 295,093 (818,533) (523,440) 79,698 (3,817,369) (3,737,671)	Amount \$2,916,369 	Shares 1,069,136 335,555 (2,502,774) (1,098,083) 499,644 1,457,151 (8,841,447) (6,884,652)	Amount \$11,311,610 3,234,492 (25,900,921) \$(11,354,819) \$(11,354,819) \$(11,354,819) \$(11,354,819) \$(11,354,819) \$(1,354,819) \$(1,501,271) \$(72,314,692)		
Series I shares Sold Distributions reinvested Repurchased Net decrease Sold Distributions reinvested Repurchased Net decrease Series NAV shares Sold	Shares 295,093 (818,533) (523,440) 79,698 (3,817,369) (3,737,671)	Amount \$2,916,369 	Shares 1,069,136 335,555 (2,502,774) (1,098,083) 499,644 1,457,151 (8,841,447) (6,884,652) 342,401	Amount \$11,311,610 3,234,492 (25,900,921) \$(11,354,819) \$5,259,833 13,926,746 (91,501,271) \$(72,314,692) \$3,635,581		
Series I shares Sold Distributions reinvested Repurchased Net decrease Sold Distributions reinvested Repurchased Net decrease Series NAV shares Sold Distributions reinvested	Shares 295,093 (818,533) (523,440) 79,698 (3,817,369) (3,737,671) 86,603 —	Amount \$2,916,369 (8,081,861) \$(5,165,492) \$777,168 (37,329,657) \$(36,552,489) \$857,709 —	Shares 1,069,136 335,555 (2,502,774) (1,098,083) 499,644 1,457,151 (8,841,447) (6,884,652) 342,401 163,525	Amount \$11,311,610 3,234,492 (25,900,921) \$(11,354,819) \$(5,259,833 13,926,746 (91,501,271) \$(72,314,692) \$3,635,581 1,581,162		

Affiliates of the Trust owned 100% of shares of the portfolios on June 30, 2023. Such concentration of shareholders' capital could have a material effect on the portfolios if such shareholders redeem from the portfolios.

#### 7. Purchase and sale of securities

Purchases and sales of securities, other than short-term investments, amounted to the following for the six months ended June 30, 2023:

Portfolio	Purchases	Sales
Managed Volatility Growth Portfolio	\$147,343,738	\$392,267,323
Managed Volatility Balanced Portfolio	76,377,270	287,269,527
Managed Volatility Moderate Portfolio	21,311,327	95,027,513
Managed Volatility Conservative Portfolio	9,148,600	50,525,398

#### 8. Investment in affiliated underlying funds

The portfolios invest primarily in affiliated underlying funds that are managed by the Advisor and its affiliates. The portfolios do not invest in the affiliated underlying funds for the purpose of exercising management or control; however, the portfolios' investment may represent a significant portion of each affiliated underlying funds' net assets. At June 30, 2023, the following portfolios held 5% or more of the net assets of the affiliated underlying funds shown below:

		Percentage of underlying fund
Portfolio	Affiliated Class NAV	net assets
Managed Volatility Growth Portfolio		
	Strategic Equity Allocation Trust	24.2%
	Equity Income Trust	23.3%
	Mid Value Trust	20.0%

### Investment in affiliated underlying funds, continued

		Percentage of
Portfolio	Affiliated Class NAV	underlying fund net assets
	Core Bond Trust	17.8%
	Small Cap Value Trust	17.2%
	Select Bond Trust	17.2%
	Mid Cap Growth Trust	15.6%
	Emerging Markets Equity Fund	14.1%
	Blue Chip Growth Trust	13.6%
	Small Cap Growth Fund	9.0%
	Fundamental Large Cap Core Fund	7.5%
Managed Volatility Balanced Portfolio		
	Core Bond Trust	23.8%
	Select Bond Trust	22.8%
	Equity Income Trust	15.0%
	Strategic Equity Allocation Trust	13.3%
	Small Cap Value Trust	11.0%
	Mid Value Trust	9.5%
	Blue Chip Growth Trust	8.6%
	Emerging Markets Equity Fund	6.9%
	Mid Cap Growth Trust	6.7%
Managed Volatility Moderate Portfolio		
	Core Bond Trust	7.9%
	Select Bond Trust	7.6%
Managed Volatility Conservative Portfolio		
	Core Bond Trust	5.7%
	Select Bond Trust	5.5%

Information regarding the portfolios' fiscal year to date purchases and sales of the affiliated underlying funds as well as income and capital gains earned by the portfolios, if any, is as follows:

							Dividends and d	listributions	
Affiliate	Ending share amount	Beginning value	Cost of purchases	Proceeds from shares sold	Realized gain (loss)	Change in unrealized appreciation (depreciation)	Income distributions received	Capital gain distributions received	Ending value
Managed Volat	tility Growth P	Portfolio							
Blue Chip									
Growth	9,548,056	\$225,414,175	\$7,409,378	\$(68,403,143)	\$(39,903,543)	\$109,410,508	—	_	\$233,927,375
Bond	29,954,324	393,922,318	18,043,422	(12,585,198)	(1,431,524)	4,337,550	\$8,282,726	—	402,286,568
Core Bond	12,398,956	137,251,685	3,756,402	(4,915,293)	(854,075)	4,249,531	—	—	139,488,250
Emerging									
Markets Equity	25,422,262	246,575,823	6,355,367	(30,636,777)	(4,142,710)	12,173,995	—	—	230,325,698
Equity Income	22,798,472	310,000,756	13,330,050	(8,427,664)	(1,532,204)	9,455,428	_	—	322,826,366
Fundamental Large Cap Core	6,007,463	351,203,755	7,917,302	(41,586,282)	9,989,130	57,614,540	_	_	385,138,445
John Hancock									
Collateral Trust	5,532,732	117,855,450	496,367,972	(558,932,334)	15,473	(8,014)	1,794,421	_	55,298,547
Mid Cap									
Growth	10,872,941	88,502,091	1,429,309	(7,617,813)	(7,947,272)	20,663,191	—	_	95,029,506
Mid Value	11,378,529	105,443,905	7,713,838	(1,132,209)	(6,044)	9,958,338	—	—	121,977,828
Multifactor Developed International									
ETF Multifactor Emerging	6,565,716	167,365,251	27,759,051	(8,567,786)	1,292,726	16,344,526	4,242,840	_	204,193,768
Markets ETF	4,999,478	125,731,565	932	(10,104,717)	191,928	7,817,383	1,691,273	_	123,637,091
Multifactor Mid Cap ETF Multifactor	2,619,225	122,564,300	5,862,380	(7,035,744)	2,233,648	6,524,706	649,307	_	130,149,290
Small Cap ETF Select Bond	3,646,210	113,408,081	6,380,267	(8,963,814)	2,001,191	9,176,462	512,402	—	122,002,187
Trust	87,524,153	1,010,373,238	26,998,961	(35,486,310)	(6,774,287)	34,172,437	_	_	1,029,284,039

## Investment in affiliated underlying funds, continued

						Dividends and distributions			
Affiliate	Ending share	Beginning value	Cost of	Proceeds from shares sold	Realized gain	Change in unrealized appreciation	Income distributions received	Capital gain distributions received	Ending value
Small Cap	amount	value	purchases	Solu	(loss)	(depreciation)	Teceiveu	Teceiveu	value
Growth	2,797,804	\$33,961,098	\$2,856,805	\$(119,276)	\$(31,270)	\$2,138,186	_	_	\$38,805,543
Small Cap Value	5,541,397	64,986,863	10,848,397	(1,344,234)	394,885	2,028,680	_	_	76,914,591
Strategic Equity									
Allocation Trust	102,307,053	1,677,074,319	_	(131,702,609)	63,350 <b>\$(46,440,598)</b>	227,546,160 <b>\$533,603,607</b>		_	1,772,981,220 <b>\$5,484,266,312</b>
Managed Volat	tility Balanced	Portfolio							
Blue Chip Growth	6,041,634	\$143,501,447	\$5,767,513	\$(45,579,230)	\$(24,298,769)	\$68,629,084	_	_	\$148,020,045
Bond	39,998,639	539,030,673	13,540,034	(19,436,478)	(2,324,222)	6,371,720	\$11,153,487	_	537,181,727
Core Bond	16,521,784	187,375,576	1,087,576	(7,189,673)	(1,199,774)	5,796,366	÷11,155,167	_	185,870,071
Emerging	10,521,704	107,575,570	1,007,570	(7,105,075)	(1,155,774)	5,750,500			105,670,071
Markets Equity	12,434,511	119,426,144	2,830,790	(13,640,387)	(1,677,296)	5,717,414	_	_	112,656,665
Equity Income	14,686,268	200,741,171	9,763,459	(7,784,693)	(811,631)	6,049,248	_	_	207,957,554
Fundamental	11,000,200	200,7 11,171	5,705,155	(1,101,000)	(011,051)	0,015,210			201,551,551
Large Cap Core John Hancock	3,470,078	206,103,381	6,837,432	(29,980,586)	7,878,322	31,628,177	—	—	222,466,726
Collateral Trust Mid Cap	3,667,535	72,390,026	277,364,597	(313,103,895)	10,637	(5,091)	1,089,512	_	36,656,274
Growth	4,673,168	38,234,440	466,809	(3,340,174)	(3,440,296)	8,922,709	_	_	40,843,488
Mid Value	5,399,057	48,113,770	6,281,769	(1,141,531)	(61,398)	4,685,276	_		57,877,886
Multifactor Developed International	100,000	-0,113,770	0,201,705		(01,550)	4,003,270			57,077,000
ETF Multifactor	2,801,514	76,139,932	6,678,585	(3,665,310)	515,436	7,458,442	1,813,602	_	87,127,085
Emerging Markets ETF	2,480,470	61,770,902	1,467	(4,454,691)	119,391	3,904,954	839,118	_	61,342,023
Multifactor Mid Cap ETF	1,463,742	68,636,680	3,330,151	(4,142,841)	1,310,859	3,598,491	365,137	_	72,733,340
Multifactor Small Cap ETF	1,699,747	53,105,953	2,938,802	(4,398,491)	968,938	4,258,333	238,865	—	56,873,535
Select Bond Trust Small Cap	116,231,780	1,375,208,322	7,520,363	(52,903,846)	(9,212,616)	46,273,509	_	_	1,366,885,732
Growth	1,542,841	19,012,810	1,455,829	(267,357)	(5,071)	1,202,999	_	_	21,399,210
Small Cap Value		41,269,394	7,559,439	(1,376,450)	319,109	1,262,711		_	49,034,203
Strategic Equity									
Allocation Trust	56,298,514	929,122,886	_	(79,634,238)	455,180 <b>\$(31,453,201</b> )	125,709,426 \$331,463,768		_	975,653,254 <b>\$4,240,578,818</b>
Managed Volat Blue Chip	tility Moderat	e Portfolio			\$(51, <del>4</del> 55,201)	\$ <b>551,405,700</b>	\$13, <del>4</del> 33,721		\$4,240,570,010
Growth	1,435,671	\$34,809,656	\$944,145	\$(11,223,792)	\$(6,085,429)	\$16,729,366	_	_	\$35,173,946
Bond	13,237,475	181,529,102	4,296,442	(9,453,961)	(1,108,432)	2,516,143	\$3,719,191	_	177,779,294
Core Bond	5,490,149	63,168,483	390,641	(3,348,132)	(635,721)	2,188,905	\$5,719,191	_	61,764,176
Emerging	5,450,145	05,100,405	550,041	(3,540,152)	(055,721)	2,100,905			01,704,170
Markets Equity	2,663,180	23,107,086	2,417,702	(2,241,345)	(258,176)	1,103,146	_	_	24,128,413
Equity Income	3,683,784	51,193,151	2,936,945	(3,352,933)	(190,815)	1,576,028	_	_	52,162,376
Fundamental									
Large Cap Core John Hancock	802,761	49,139,934	1,282,579	(8,264,544)	2,744,769	6,562,247	_	_	51,464,985
Collateral Trust Mid Cap	951,126	18,389,625	70,547,874	(79,432,406)	3,250	(2,031)	273,197	—	9,506,312
Growth	1,264,198	10,563,279	143,884	(1,161,192)	(1,255,600)	2,758,719	_	_	11,049,090
Mid Value	1,336,853	12,378,930	1,302,305	(525,400)	9,903	1,165,331	—	—	14,331,069
Multifactor Developed International									
ETF	349,109	11,112,924	1,424,692	(2,890,640)	456,611	753,703	230,884	_	10,857,290

## Investment in affiliated underlying funds, continued

	Ending share amount	Beginning value	Cost of purchases	Proceeds from shares sold	Realized gain (loss)	Change in unrealized appreciation (depreciation)	Dividends and distributions		-
Affiliate							Income distributions received	Capital gain distributions received	Ending value
Multifactor			-						
Emerging Markets ETF	427,486	\$9,716,077	\$695,802	\$(506,327)	\$12,965	\$653,212	\$143,709	_	\$10,571,729
Multifactor Mid Cap ETF	182,952	8,745,704	442,889	(723,008)	224,473	400,827	45,691	_	9,090,885
Multifactor Small Cap ETF Select Bond	224,920	7,160,599	409,364	(745,950)	159,256	542,554	31,614	_	7,525,823
Trust Small Cap	38,585,223	463,737,362	2,056,825	(24,559,973)	(4,325,269)	16,853,278	_	—	453,762,223
Growth	358,747	4,519,197	310,384	(135,290)	(28,743)	310,267	_	_	4,975,815
Small Cap Value Strategic Equity	749,175	8,420,067	2,128,338	(445,498)	99,000	196,638	_	_	10,398,545
Allocation Trust	12,622,558	212,747,460	—	(22,677,315)	(345,130) <b>\$(10,523,088)</b>	29,023,914 <b>\$83,332,247</b>	 \$4,444,286		218,748,929 <b>\$1,163,290,900</b>
Managed Volati	ility Conservat	tive Portfolio							
Blue Chip				+ <i>/</i>	+/)				
Growth	413,503	\$10,559,819	\$312,812	\$(3,877,984)	\$(3,478,937)	\$6,615,116		—	\$10,130,826
Bond	9,587,454	132,513,178	2,900,397	(7,714,432)	(879,741)	1,940,112	\$2,704,253	—	128,759,514
Core Bond Emerging	3,962,001	45,937,623	131,263	(2,632,997)	(429,003)	1,565,628	—	_	44,572,514
Markets Equity	644,142	6,291,977	327,611	(1,003,755)	(212,607)	432,700	_	_	5,835,926
Equity Income Fundamental	1,158,187	15,524,399	1,833,712	(1,392,069)	38,536	395,354		_	16,399,932
Large Cap Core John Hancock	215,619	13,591,175	286,163	(2,607,256)	525,612	2,027,610	_	_	13,823,304
Collateral Trust Multifactor Emerging	618,628	7,838,254	44,610,957	(46,266,143)	791	(798)	123,764	_	6,183,061
Markets ETF Multifactor Mid	100,555	2,582,276	95,269	(360,131)	4,470	164,841	33,445	—	2,486,725
Cap ETF Multifactor	181,249	8,809,696	778,641	(1,225,176)	320,706	322,396	45,207	—	9,006,263
Small Cap ETF Select Bond	213,230	6,955,921	615,140	(1,124,772)	499,329	189,058	30,257	_	7,134,676
Trust Strategic Equity	27,867,334	337,573,471	312,570	(19,352,221)	(3,203,656)	12,389,681	_	_	327,719,845
Allocation Trust	3,374,897	57,614,450	1,416,702	(8,361,280)	(1,249,833) <b>\$(8,064,333)</b>	9,066,934 <b>\$35,108,632</b>	 \$2,936,926		58,486,973 <b>\$630,539,559</b>

# Evaluation of Advisory and Subadvisory Agreements by the Board of Trustees

This section describes the evaluation by the Board of Trustees (the Board) of John Hancock Variable Insurance Trust (the Trust) of the Advisory Agreement (the Advisory Agreement) and the Subadvisory Agreement (the Subadvisory Agreement) with respect to each of the portfolios of the Trust included in this report (the Funds). The Advisory and Subadvisory Agreements are collectively referred to as the Agreements. Prior to the June 26 - 29, 2023 meeting at which the Agreements were approved, the Board also discussed and considered information regarding the proposed continuation of the Agreements at a meeting held on May 30 - June 1, 2023. The Board also receives information relating to the proposed continuation of the agreements noted above throughout the year on an on-going basis. The Trustees who are not "interested persons" of the Trust as defined by the Investment Company Act of 1940, as amended (the "1940 Act") (the "Independent Trustees") also met separately to evaluate and discuss the information presented, including with counsel to the Independent Trustees and a third-party consulting firm.

### Approval of Advisory and Subadvisory Agreements

At meetings held on June 26 - 29, 2023, the Board, including the Independent Trustees, reapproved for an annual period, the continuation of the Advisory Agreement between the Trust and the Advisor and the Subadvisory Agreement between the Advisor and the Subadvisor with respect to each of the Funds in this report.

In considering the Advisory Agreement and the Subadvisory Agreement with respect to each Fund, the Board received in advance of the meetings a variety of materials relating to each Fund, the Advisor and the Subadvisor, including comparative performance, fee and expense information for peer groups of similar funds prepared by an independent third-party provider of fund data; performance information for the Funds' benchmark indices; and, with respect to the Subadvisor, comparative performance information for comparably managed accounts, as applicable; and other information provided by the Advisor and the Subadvisor regarding the nature, extent and quality of services provided by the Advisor and the Subadvisor under their respective Agreements, as well as information regarding the Advisor's revenues and costs of providing services to the Funds and any compensation paid to affiliates of the Advisor. At the meetings at which the renewal of the Advisory Agreement and Subadvisory Agreement are considered, particular focus is given to information concerning Fund performance, comparability of fees and total expenses, and profitability. However, the Board noted that the evaluation process with respect to the Advisor and the Subadvisor is an ongoing one. In this regard, the Board also took into account discussions with management and information provided to the Board (including its various committees) at prior meetings with respect to the services provided by the Advisor and the Subadvisor to the Funds, including quarterly performance reports prepared by management containing reviews of investment results, and periodic presentations from the Subadvisor with respect to the Funds. The information received and considered by the Board both in conjunction with the May and June meetings and throughout the year was both written and oral. The Board noted the affiliation of the Subadvisor with the Advisor, noting any potential conflicts of interest. The Board also considered the nature, quality, and extent of the non-advisory services, if any, to be provided to the Funds by the Advisor's affiliates, including distribution services. The Board considered the Advisory Agreement and the Subadvisory Agreement separately in the course of its review. In doing so, the Board noted the respective roles of the Advisor and the Subadvisor in providing services to the Funds. In addition, although the Board approved the renewal of the Agreements for all of the Funds at the June meeting, the Board considered each Fund separately.

Throughout the process, the Board asked questions of and requested additional information from management. The Board is assisted by counsel for the Trust and the Independent Trustees are also separately assisted by independent legal counsel throughout the process. The Independent Trustees also received a memorandum from their independent counsel discussing the legal standards for their consideration of the proposed continuation of the Agreements and discussed the proposed continuation of the Agreements in private sessions with their independent legal counsel at which no representatives of management were present.

## **Approval of Advisory Agreement**

In approving the Advisory Agreement with respect to each Fund, the Board, including the Independent Trustees, considered a variety of factors, including those discussed below. The Board also considered other factors (including conditions and trends prevailing generally in the economy, the securities markets and the industry) and did not treat any single factor as determinative, and each Trustee may have attributed different weights to different factors. The Board's conclusions may be based in part on its consideration of the advisory and subadvisory arrangements in prior years and on the Board's ongoing regular review of Fund performance and operations throughout the year.

Nature, extent, and quality of services. Among the information received by the Board from the Advisor relating to the nature, extent, and quality of services provided to the Funds, the Board reviewed information provided by the Advisor relating to its operations and personnel, descriptions of its organizational and management structure, and information regarding the Advisor's compliance and regulatory history, including its Form ADV. The Board also noted that on a regular basis it receives and reviews information from the Trust's Chief Compliance Officer (CCO) regarding the Funds' compliance policies and procedures established pursuant to Rule 38a-1 under the 1940 Act. The Board observed that the scope of services provided by the Advisor, and of the undertakings required of the Advisor in connection with those services, including maintaining and monitoring its own and the Fund's compliance programs, risk management programs, liquidity management programs and cybersecurity programs, had expanded over time as a result of regulatory, market and other developments. The Board considered that the Advisor is responsible for the management of the day-to-day operations of the Funds, including but not limited to, general supervision of and coordination of the services provided by the Subadvisor, and is also responsible for monitoring and reviewing the activities of the Subadvisor and third-party service providers. The Board also considered the significant risks assumed by the Advisor in connection with the services provided to the Funds including entrepreneurial risk in sponsoring new Funds and ongoing risks including investment, operational, enterprise, litigation, regulatory and compliance risks with respect to all Funds.

In considering the nature, extent, and quality of the services provided by the Advisor, the Trustees also took into account their knowledge of the Advisor's management and the quality of the performance of the Advisor's duties, through Board meetings, discussions and reports during the preceding year and through each Trustee's experience as a Trustee of the Trust and of the other trusts in the complex.

In the course of their deliberations regarding the Advisory Agreement, the Board considered, among other things:

(a) the skills and competency with which the Advisor has in the past managed the Trust's affairs and its subadvisory relationships, the Advisor's oversight and monitoring of the Subadvisor's investment performance and compliance programs, such as the Subadvisor's compliance with fund policies and objectives, review of brokerage matters including with respect to trade allocation and best execution, and the Advisor's timeliness in responding to performance issues;

(b) the background, qualifications and skills of the Advisor's personnel;

(c) the Advisor's compliance policies and procedures and its responsiveness to regulatory changes and fund industry developments;

(d) the Advisor's administrative capabilities, including its ability to supervise the other service providers for the Funds, as well as the Advisor's oversight of any securities lending activity, its monitoring of class action litigation and collection of class action settlements on behalf of the Funds, and bringing loss recovery actions on behalf of the Funds;

(e) the financial condition of the Advisor and whether it has the financial wherewithal to provide a high level and quality of services to the Funds;

## Evaluation of Advisory and Subadvisory Agreements by the Board of Trustees

(f) the Advisor's initiatives intended to improve various aspects of the Trust's operations and investor experience with the Funds; and

(g) the Advisor's reputation and experience in serving as an investment advisor to the Trust and the benefit to contract holders of investing in funds that are part of a family of variable insurance portfolios offering a variety of investments.

The Board concluded that the Advisor may reasonably be expected to continue to provide a high quality of services under the Advisory Agreement with respect to the Funds.

*Investment performance*. In considering each Fund's performance, the Board noted that it reviews at its regularly scheduled meetings information about the Funds' performance results. In connection with the consideration of the Advisory Agreement, the Board:

(a) reviewed information prepared by management regarding the Funds' performance;

(b) considered the comparative performance of each Fund's respective benchmark;

(c) considered the performance of comparable funds, if any, as included in the report prepared by an independent third-party provider of fund data; and

(d) took into account the Advisor's analysis of each Fund's performance and its plans and recommendations regarding the Trust's subadvisory arrangements generally and with respect to particular Funds.

The Board noted that while it found the data provided by the independent third-party generally useful it recognized its limitations, including in particular that the data may vary depending on the end date selected and that the results of the performance comparisons may vary depending on the selection of the peer group. The Board concluded that while each Fund has underperformed the historical performance of comparable funds based on the median percentile, the Board considered steps the Advisor had taken or plans to take to address performance and concluded that such performance is being monitored and reasonably being addressed.

<u>Fees and expenses</u>. The Board reviewed comparative information prepared by an independent third-party provider of fund data including, among other data, each Fund's contractual and net management fees (and subadvisory fees, to the extent available) and total expenses as compared to similarly situated investment companies deemed to be comparable to the Fund in light of the nature, extent and quality of the management and subadvisory services provided by the Advisor and the Subadvisors. The Board considered each Fund's ranking within a smaller group of peer funds chosen by the independent third-party provider, as well as the Fund's ranking within broader groups of funds. In comparing each Fund's contractual and net management fees to that of comparable funds, the Board noted that such fee includes both advisory and administrative costs.

The Board took into account management's discussion with respect to the overall management fee, the fees of the Subadvisor, including the amount of the advisory fees retained by the Advisor after payment of the subadvisory fee, in each case in light of the services rendered for those amounts and the risks undertaken by the Advisor. The Board also noted that, in addition, the Advisor is currently waiving fees and/or reimbursing expenses with respect to certain of the Funds. The Board also noted that the Advisor pays the subadvisory fee of the Funds. In addition, the Board noted that the Advisor continued advisory and subadvisory fee reductions in the past year with respect to several Funds. The Board also took into account that management had agreed to implement an overall fee waiver across the complex, which is discussed further below. The Board also noted management's discussion of the Funds' expenses, as well as certain actions taken over the past several years to reduce the Funds' operating expenses. The Board reviewed information provided by the Advisor concerning investment advisory fees charged to other clients (including other funds in the complex) having similar investment mandates, if any. The Board considered any differences between the Advisor's and Subadvisor's services to a Fund and

the services they provide to other such comparable clients or funds. The Board concluded that the advisory fee paid with respect to each of the Funds is reasonable in light of the nature, extent and quality of the services provided to the Funds under the Advisory Agreement.

In addition, in the case of each Managed Volatility Portfolio (each a Fund of Funds), the Trustees reviewed the advisory fee to be paid to the Advisor for each Fund of Funds and noted that the Advisor has evaluated the complexity of the structure and fees and expenses associated with the Fund of Funds' investments in the underlying portfolios, and made a finding that the Funds of Funds' expenses do not duplicate the fees and expenses of the underlying portfolios.

<u>Profitability/Fall out benefits</u>. In considering the costs of the services to be provided and the profits to be realized by the Advisor and its affiliates (including the Subadvisor) from the Advisor's relationship with the Trust, the Board:

(a) reviewed financial information of the Advisor;

(b) reviewed and considered (i) information presented by the Advisor regarding the net profitability to the Advisor and its affiliates, of each Fund; and (ii) the representation by the John Hancock insurance companies in registration statements for registered variable insurance contracts using the Funds as investment options in registered separate accounts, that the fees and charges deducted under their variable insurance contracts (including the fees and expenses of the Trust), in the aggregate, are reasonable in relation to the services rendered, the expenses expected to be incurred and the risks assumed by such companies;

(c) received and reviewed profitability information with respect to the John Hancock fund complex as a whole and with respect to each Fund;

(d) received information with respect to the Advisor's allocation methodologies used in preparing the profitability data and considered that the Advisor hired an independent third-party consultant to provide an analysis of the Advisor's allocation methodologies;

(e) considered fall out benefits to the Advisor, including (but not limited to), benefits to affiliates, such as: (i) that the John Hancock insurance companies that are affiliates of the Advisor, as shareholders of the Trust directly or through their separate accounts, receive certain tax credits or deductions relating to foreign taxes paid and dividends received by certain Funds of the Trust and noted that these tax benefits, which are not available to contract holders under applicable income tax law, are reflected in the profitability analysis reviewed by the Board; and (ii) that the investment strategies employed by the JHVIT Managed Volatility Portfolios, which are intended to reduce portfolio volatility and the magnitude of portfolio losses, may benefit the John Hancock insurance companies by reducing the likelihood or extent to which an insurer would have to make payments out of its own resources to cover the guarantees under the variable annuity and/or insurance contracts;

(f) considered that the Advisor also provides administrative services to the Funds on a cost basis pursuant to an administrative services agreement;

(g) noted that the Funds' Subadvisor is an affiliate of the Advisor;

(h) noted that affiliates of the Advisor provide distribution services to the Funds, and that the Trust's distributor also receives Rule 12b-1 payments to support distribution of the products;

(i) noted that the Advisor also derives reputational and other indirect benefits from providing advisory services to the Funds;

(j) noted that the subadvisory fees for the Funds are paid by the Advisor;

(k) with respect to each Fund of Funds, the Board noted that the advisory fee is in addition to the fees received by the Advisor and its affiliates with regard to the underlying portfolios in which the Funds may invest;

# Evaluation of Advisory and Subadvisory Agreements by the Board of Trustees

(l) considered the Advisor's ongoing costs and expenditures necessary to improve services, meet new regulatory and compliance requirements, and adapt to other challenges impacting the fund industry; and

(m) considered that the Advisor should be entitled to earn a reasonable level of profits in exchange for the level of services it provides to each Fund and the risks that it assumes as Advisor, including entrepreneurial, operational, reputational, litigation and regulatory risk.

Based upon its review, the Board concluded that the level of profitability, if any, of the Advisor and its affiliates, from their relationship with each Fund was reasonable and not excessive.

<u>Economies of scale</u>. In considering the extent to which economies of scale would be realized as a Fund grows and whether fee levels reflect these economies of scale for the benefit of Fund shareholders, the Board:

(a) with respect to the John Hancock underlying portfolios in which the Fund invests (except those discussed specifically below), considered that the Advisor has agreed to waive a portion of its management fee for such Fund and for each of the other John Hancock funds in the complex (except as discussed below) (the Participating Portfolios) or otherwise reimburse the expenses of the Participating Portfolios (the Reimbursement). This waiver is based on the aggregate net assets of all the Participating Portfolios. The Board also noted that the Advisor had implemented additional breakpoints to the complex-wide fee waiver in recent years.

(The Funds that are not Participating Portfolios as of the date of this annual report are each Fund and each of the other funds of funds of the Trust and John Hancock Funds II and John Hancock Collateral Trust. These funds of funds also benefit from such overall management fee waiver through their investment in underlying portfolios that include certain of the Participating Portfolios, which are subject to the Reimbursement.)

(b) reviewed the Funds' advisory fee structure and concluded that: (i) the Funds' fee structure contains breakpoints at the subadvisory fee level and that such breakpoints are reflected as breakpoints in the advisory fees for the Funds; and (ii) although economies of scale cannot be measured with precision, these arrangements permit shareholders of the Funds to benefit from economies of scale if the Funds grow. The Board also took into account management's discussion of the Funds' advisory fee structure; and

(c) the Board also considered the effect of the Funds' growth in size on their performance and fees. The Board also noted that if the Funds' assets increase over time, the Funds may realize other economies of scale.

## Approval of Subadvisory Agreement

In making its determination with respect to approval of the Subadvisory Agreement, the Board reviewed:

- information relating to the Subadvisor's business, including current subadvisory services to the Trust (and other funds in the John Hancock group of funds);
- (2) the historical and current performance of each Fund and comparative performance information relating to the Fund's benchmark and comparable funds based on the median percentile; and
- (3) the subadvisory fee for each Fund, including any breakpoints, and comparative fee information, where available, prepared by an independent third-party provider of fund data.

<u>Nature, extent, and quality of services</u>. With respect to the services provided by the Subadvisor, the Board received information provided to the Board by the Subadvisor, including the Subadvisor's Form ADV, as well as took into account information presented throughout the past year. The Board considered the Subadvisor's current level of staffing and its overall resources, as well as received information relating to the Subadvisor's compensation program. The Board reviewed the Subadvisor's history and investment experience, as well as information regarding the qualifications, background and responsibilities of the Subadvisor's investment and compliance personnel who provide services to the Funds. The Board also considered, among other things, the Subadvisor's compliance program and any disciplinary history. The Board also considered the Subadvisor's risk assessment and monitoring process. The Board reviewed the Subadvisor's regulatory history, including whether it was currently involved in any regulatory actions or investigations as well as material litigation, and any settlements and amelioratory actions undertaken, as appropriate. The Board noted that the Advisor conducts regular, periodic reviews of the Subadvisor and its operations, including regarding investment processes and organizational and staffing matters. The Board also noted that the CCO and his staff conduct regular, periodic compliance reviews with the Subadvisor and present reports to the Independent Trustees regarding the same, which includes evaluating the regulatory compliance systems of the Subadvisors and procedures reasonably designed by them to assure compliance with the federal securities laws. The Board also took into account the financial condition of the Subadvisor

The Board considered the Subadvisor's investment process and philosophy. The Board took into account that the Subadvisor's responsibilities include the development and maintenance of an investment program for the applicable Fund which is consistent with the Fund's investment objectives, the selection of investment securities and the placement of orders for the purchase and sale of such securities, as well as the implementation of compliance controls related to performance of these services. The Board also received information with respect to the Subadvisor's brokerage policies and practices, including with respect to best execution and soft dollars.

<u>Subadvisor compensation</u>. In considering the cost of services to be provided by the Subadvisor and the profitability to that Subadvisor of its relationship with the Fund, the Board noted that the fees under the Subadvisory Agreements are paid by the Advisor and not the Funds. The Board also received information and took into account any other potential conflicts of interest the Advisor might have in connection with the Subadvisory Agreement.

In addition, the Board considered other potential indirect benefits that the Subadvisor and its affiliates may receive from the Subadvisor's relationship with the Fund, such as the opportunity to provide advisory services to additional portfolios of the Trusts and reputational benefits.

<u>Subadvisory fees</u>. The Board considered that the Fund pays an advisory fee to the Advisor and that, in turn, the Advisor pays a subadvisory fee to the Subadvisor. As noted above, the Board also considered, if available, each Fund's sub-advisory fees as compared to similarly situated investment companies deemed to be comparable to the Fund as included in the report prepared by the independent third party provider of fund data. The Board also took into account the sub-advisory fees paid by the Advisor to fees charged by the Fund's Subadvisor to manage other sub-advised portfolios and portfolios not subject to regulation under the 1940 Act, as applicable.

<u>Subadvisor performance</u>. As noted above, the Board considered each Fund's performance as compared to the Fund's respective peer group based on the median percentile and benchmark and noted that the Board reviews information about the Fund's performance results at its regularly scheduled meetings. The Board noted the Advisor's expertise and resources in monitoring the performance, investment style, and risk-adjusted performance of the Subadvisor. The Board also noted the Subadvisor's long-term performance record for similar accounts, as applicable.

The Board's decision to approve the Subadvisory Agreement with respect to each Fund was based on a number of determinations, including the following:

 The Subadvisor has extensive experience and demonstrated skills as a manager;

# Evaluation of Advisory and Subadvisory Agreements by the Board of Trustees

- (2) Although each Fund has underperformed the historical performance of comparable funds based on the median percentile, the Board considered the steps the Subadvisor had taken or plans to take to address performance and concluded that performance is being monitored and reasonably being addressed;
- (3) The subadvisory fees are reasonable in relation to the level and quality of services being provided under the Subadvisory Agreement; and
- (4) The subadvisory fees are paid by the Advisor and not the Funds and that the subadvisory fee breakpoints are reflected as breakpoints in the advisory fees for the Funds in order to permit shareholders to benefit from economies of scale if the Funds grow.

In addition, in the case of each Fund, the Trustees reviewed the subadvisory fee to be paid to the Subadvisor for the Fund and concluded that the subadvisory fee to be paid to the Subadvisor with respect to each Fund is based on services provided that are in addition to, rather than duplicative of, the services provided pursuant to the advisory agreements and subadvisory agreements for the underlying portfolios of the Fund and that the additional services are necessary because of the differences between the investment policies, strategies and techniques of a Fund and those of its underlying portfolios.

Additional information relating to each Fund's fees and expenses and performance that the Board considered in approving the Advisory Agreement and Subadvisory Agreement for a particular Fund is set forth in Appendix A.

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Based on their evaluation of all factors that they deemed to be material, including those factors described above, the Board, including the Independent Trustees, concluded that renewal of the Advisory Agreement and the Subadvisory Agreement with respect to each Fund would be in the best interest of each of the respective Funds and its shareholders. Accordingly, the Board, and the Independent Trustees voting separately, approved the Advisory Agreement and Subadvisory Agreement with respect to each Fund for an additional one-year period.

# Appendix A

Portfolio (Subadviser)	Performance as of 12.31.2022	Fees and Expenses	Comments	
Managed Volatility Balanced Portfolio (Manulife Investment Management (US) LLC)	Benchmark Index – The Trust outperformed the benchmark index for the one-year period and underperformed the benchmark index for the three-, five- and ten-year periods. Broadridge Category – The Trust outperformed the peer group median for the one-year period and underperformed the peer group median for the three-, five- and ten-year periods.	Subadviser fee comparative data not provided due to limited size of Broadridge peer group for this purpose. Net management fees for this Trust are lower than the peer group median. Net total expenses for this Trust are lower than the peer group median.	The Board took into account management's discussion of the factors that contributed to the Trust's performance for the three-, five- and ten-year periods relative to the benchmark index and to the peer group median including the impact of past and current market conditions on the Fund's strategy and management's outlook for the Trust. The Board noted the Trust's favorable performance relative to the benchmark index and to the peer group median for the one-year period. The Board noted the Trust's net management fees and net total expenses are lower than the peer group median.	
Managed Volatility Conservative Portfolio (Manulife Investment Management (US) LLC)	Benchmark Index – The Trust underperformed the benchmark index for the one-, three-, five- and ten-year periods. Broadridge Category – The Trust underperformed the peer group median for the one-, three-, five- and ten-year periods.	Subadviser fee comparative data not provided due to limited size of Broadridge peer group for this purpose. Net management fees for this Trust are lower than the peer group median. Net total expenses for this Trust are lower than the peer group median.	The Board took into account management's discussion of the factors that contributed to the Trust' performance for the one-, three-, five- and ten-year periods relative to the benchmark index and to the peer group median including the impact of past and current market conditions on the Trust's strategy and management's plans for the Trust. The Board noted the Trust's net management fees and net total expenses are lower than the peer group median.	

# Appendix A

Portfolio (Subadviser)	Performance as of 12.31.2022	Fees and Expenses	Comments		
Managed Volatility Growth Portfolio (Manulife Investment Management (US) LLC)	Benchmark Index – The Trust outperformed the benchmark index for the one-year period and underperformed the benchmark index for the three-, five- and ten-year periods.	Subadviser fee comparative data not provided due to limited size of Broadridge peer group for this purpose. Net management fees for this Trust are lower than the peer group	The Board took into account management's discussion of the factors that contributed to the Trust's performance for the three-, five- and ten-year periods relative to the benchmark index and to the peer		
	Broadridge Category – The Trust outperformed the peer group median for the one-year period and underperformed the peer group median for the three-, five- and	Net total expenses for this Trust are lower than the peer group median.	group median including the impact of past and current market conditions on the Fund's strategy and management's outlook for the Trust.		
	ten-year periods.		The Board noted the Trust's favorable performance relative to the benchmark index and to the peer group median for the one-year period.		
			The Board noted the Trust's net management fees and net total expenses are lower than the peer group median.		
Managed Volatility Moderate Portfolio	Benchmark Index – The Trust underperformed the benchmark	Subadviser fee comparative data not provided due to limited size of	The Board took into account management's discussion of the factors that contributed to the Trust's performance for the one-, three-, five- and ten-year periods relative to the benchmark index and to the peer group median including the impact of past and current market		
(Manulife Investment Management (US) LLC)	index for the one-, three-, five- and ten-year periods.	Broadridge peer group for this purpose.			
(00) 120)	Broadridge Category – The Trust underperformed the peer group median for the one-, three-, five- and ten-year periods.	Net management fees for this Trust are lower than the peer group median.			
		Net total expenses for this Trust are lower than the peer group median.	conditions on the Trust's strategy and management's plans for the Trust.		
			The Board noted the Trust's net management fees and net total expenses are lower than the peer group median.		

# STATEMENT REGARDING LIQUIDITY RISK MANAGEMENT

## **Operation of the Liquidity Risk Management Program**

This section describes the operation and effectiveness of the Liquidity Risk Management Program (LRMP) established in accordance with Rule 22e-4 under the Investment Company Act of 1940, as amended (the Liquidity Rule). The Board of Trustees (the Board) of each Fund in the John Hancock Group of Funds (each a Fund and collectively, the Funds) that is subject to the requirements of the Liquidity Rule has appointed John Hancock Investment Management LLC and John Hancock Variable Trust Advisers LLC (together, the Advisor) to serve as Administrator of the LRMP with respect to each of the Funds, including Managed Volatility Balanced Portfolio, Managed Volatility Conservative Portfolio, Managed Volatility Growth Portfolio, Managed Volatility Moderate Portfolio, subject to the oversight of the Board. In order to provide a mechanism and process to perform the functions necessary to administer the LRMP, the Advisor established the Liquidity Risk Management Committee (the Committee). Each Fund's subadvisor, Manulife Investment Management (US) LLC, (the Subadvisor) executes the day-to-day investment management and security-level activities of the Fund it manages in accordance with the requirements of the LRMP, subject to the supervision of the Advisor and the Board.

The Committee receives monthly reports and holds quarterly in person meetings to: (1) review the day-to-day operations of the LRMP; (2) monitor current market and liquidity conditions and assess liquidity risks; (3) review and approve month-end liquidity classifications; (4) monitor illiquid investment levels against the 15% limit on illiquid investments and established Highly Liquid Investment Minimums (HLIMs), if any; (5) review quarterly testing and determinations, as applicable; (6) review redemption-in-kind activities; and (7) review other LRMP related material. The Advisor also conducts daily, monthly, quarterly, and annual quantitative and qualitative assessments of each subadvisor to a Fund that is subject to the requirements of the Liquidity Rule and is a part of the LRMP to monitor investment performance issues, risks and trends. In addition, the Advisor may conduct ad-hoc reviews and meetings with subadvisors as issues and trends are identified, including potential liquidity issues. The Committee also monitors global events, such as the ongoing Russian invasion of Ukraine and related U.S. imposed sanctions on the Russian government, companies and oligarchs, and other amendments to the Office of Foreign Assets Control sanctioned company lists, that could impact the markets and liquidity of portfolio investments and their classifications. In addition, the Committee monitors macro events and assesses their potential impact on liquidity brought on by fear of contagion (e.g. regional banking crisis).

The Committee provided the Board at a meeting held on March 28-30, 2023 with a written report which addressed the Committee's assessment of the

adequacy and effectiveness of the implementation and operation of the LRMP and any material changes to the LRMP. The report, which covered the period January 1, 2022 through December 31, 2022, included an assessment of important aspects of the LRMP including, but not limited to: (1) Security-level liquidity classifications; (2) Fund-level liquidity risk assessment; (3) Reasonably Anticipated Trade Size (RATS) determination; (4) HLIM determination and daily monitoring; (5) Daily compliance with the 15% limit on illiquid investments; (6) Operation of the Fund's Redemption-In-Kind Procedures; and (7) Review of liquidity management facilities.

The report provided an update on Committee activities over the previous year. Additionally, the report included a discussion of notable changes and enhancements to the LRMP implemented during 2022 and key initiatives for 2023.

The report also covered material liquidity matters which occurred or were reported during this period applicable to the Fund, if any, and the Committee's actions to address such matters.

The report stated, in relevant part, that during the period covered by the report:

- The Fund's investment strategy remained appropriate for an open-end fund structure;
- The Fund was able to meet requests for redemption without significant dilution of remaining shareholders' interests in the Fund;
- The Fund did not experience any breaches of the 15% limit on illiquid investments, or any applicable HLIM, that would require reporting to the Securities and Exchange Commission;
- The Fund continued to qualify as a Primarily Highly Liquid Fund under the Liquidity Rule and therefore is not required to establish a HLIM; and
- The Chief Compliance Officer's office, as a part of their annual Rule 38a-1 assessment of the Fund's policies and procedures, reviewed the LRMP's control environment and deemed it to be operating effectively and in compliance with the Board approved procedures.

## Adequacy and Effectiveness

Based on the review and assessment conducted by the Committee, the Committee has determined that the LRMP and its controls have been implemented and are operating in a manner that is adequately and effectively managing the liquidity risk of the Fund.

## For more information

The Statement of Additional Information, a separate document with supplemental information not contained in the prospectus, includes additional information on the Board of Trustees and can be obtained without charge by calling 800-344-1029 or on the Securities and Exchange Commission (SEC) website at www.sec.gov.

**PROXY VOTING POLICY** A description of the trust's proxy voting policies and procedures and information regarding how the trust voted proxies relating to portfolio securities during the most recent twelve-month period ended June 30 is available without charge, upon request, by calling 800-344-1029 or on the SEC website at www.sec.gov.

QUARTERLY PORTFOLIO DISCLOSURE All of each fund's holdings as of the end of the third month of every fiscal quarter are filed with the SEC on Form N-PORT within 60 days of the end of the fiscal quarter. Each fund's Form N-PORT filings are available on the SEC's website, www.sec.gov.

The report is certified under the Sarbanes-Oxley Act, which requires mutual funds and other public companies to affirm that, to the best of their knowledge, the information in their financial reports is fairly and accurately stated in all material respects.

John Hancock.

John Hancock Annuities Service Center P.O. Box 55444 Boston, MA 02205-5444

#### More information

#### Trustees

Hassell H. McClellan, *Chairperson* Steven R. Pruchansky, *Vice Chairperson* Andrew G. Arnott<sup>†</sup> James R. Boyle William H. Cunningham<sup>\*</sup> Noni L. Ellison<sup>^</sup> Grace K. Fey Dean C. Garfield<sup>^</sup> Deborah C. Jackson Patricia Lizarraga<sup>\*,^</sup> Paul Lorentz<sup>‡</sup> Frances G. Rathke<sup>\*</sup> Gregory A. Russo

### Officers

Kristie M. Feinberg<sup>#</sup>, President Charles A. Rizzo, Chief Financial Officer Salvatore Schiavone, Treasurer Christopher (Kit) Sechler, Secretary and Chief Legal Officer Trevor Swanberg, Chief Compliance Officer

<sup>+</sup> Non-Independent Trustee

- \* Member of the Audit Committee
- Elected to serve as Independent Trustee effective as of September 9, 2022.
- \* Elected to serve as Non-Independent Trustee effective as of September 9, 2022.

# Effective June 29, 2023.

#### Investment advisor

John Hancock Variable Trust Advisers LLC

**Principal distributor** John Hancock Distributors, LLC