

Performance Update

As of December 31, 2024

MassMutual Transitions Select IISM Variable Annuity

- **Not a bank or credit union deposit or obligation**
- **Not insured by any federal government agency**
- **Not FDIC or NCUA-insured**
- **Not guaranteed by any bank or credit union**
- **May go down in value**



MassMutual Transitions Select IISM

A deferred variable annuity is a long-term investment designed to help you accumulate assets for retirement. It also offers a broad array of investment choices and asset classes, a DCA fixed account, a death benefit and multiple annuity options to turn those assets into a stream of guaranteed income at some point in the future. Guarantees are based on the claims-paying ability of the issuing company and do not apply to the investment performance or the safety of amounts held in the variable investment choices. Variable annuities are not appropriate for everyone. There are fees and charges associated with owning an annuity.

Variable annuities are subject to market risk, including the potential loss of principal. Withdrawals of earnings will be subject to income tax and may be subject to a 10 percent federal income tax penalty if taken prior to age 59 ½.

Transitions Select II has the following Share classes: a B-Share and an L-Share. Each share class is subject to different charges. The class that you select will be identified in your Contract. Not every share class or additional feature may be available to you.

MassMutual Transitions Select II first became available (in most states) on October 26, 2015, but many of the underlying funds were established before this date. For these funds, the total returns are computed using hypothetical variable annuity unit values which are based on the underlying fund's performance less separate account expenses for the periods shown, including periods before the product was available. For periods of one year or less, the total return is not annualized and is the percentage change in an Accumulation Unit. For periods greater than one year, the average annual total return for the time periods is shown.

Past performance is no indication of future results. This update contains the most recent month-end performance. Since performance changes daily, the current performance may be lower or higher than the performance reflected in this update. The investment return and principal value of an investment will fluctuate so that an investor's shares, when redeemed, may be worth more or less than their original cost. For the most recent month-end performance information, visit our website at www.massmutual.com or call the MassMutual Customer Service Center at (800) 272-2216, Monday – Friday, 8 a.m. to 8 p.m. Eastern Time.

Investing involves risk, including the loss of principal. Each investment choice underlying the variable annuity contract has broad risks that apply to all investment choices, such as market risk, as well as specific risks inherent in particular types of investment choices that may subject your variable annuity contract to greater risk and volatility than the general market.

Before purchasing MassMutual Transitions Select II, investors should carefully consider the investment objectives, risks, charges and expenses of the variable annuity contract. For this and other information, obtain the [MassMutual Transitions Select II prospectus](#) from your registered representative. The prospectus should be read carefully before investing or sending money. You may also obtain the [prospectuses \(or summary prospectuses, if available\)](#) for its underlying investment choices from your registered representative.

Market Indices as of December 31, 2024

	YTD	1 Year	3 Years	5 Years	10 Years
S&P 500 Index	25.02%	25.02%	8.94%	14.53%	13.10%
MSCI ACWI Ex USA NR USD	5.53%	5.53%	0.82%	4.10%	4.80%
Russell 2000 Total Return Index	11.54%	11.54%	1.24%	7.40%	7.82%
Bloomberg U.S. Aggregate Bond Index	1.25%	1.25%	-2.41%	-0.33%	1.35%

Market indices have been provided for informational purposes only; they are unmanaged and reflect no fees or expenses. Individuals cannot invest directly in an index.

The Standard & Poor's 500 Index is an unmanaged measure of common stock total return performance in the U.S.

The Russell 2000 Total Return Index is a broad based, unmanaged index comprised of 2000 of the smallest U.S. domiciled company common stocks (on the basis of capitalization) that are traded in the United States on the New York Stock Exchange, the American Stock Exchange, and NASDAQ.

The Bloomberg U.S. Aggregate Bond Index is an unmanaged index of U.S. corporate bond issues, U.S. Government Securities and mortgage-backed securities.

Non Standard Total Returns - B-Share

For the Period Ending: December 31, 2024

Total Returns reflect total annualized separate account expenses and all fund level expenses, including any 12 (b)-1 fees. The performance in the chart below is representative of a B Share Class. This share class carries a static M&E of 1.30% for all years. These returns do not reflect the charges for any optional contract features, contingent deferred sales charges, the annual maintenance charge, or premium taxes, if any. Their inclusion would reduce the returns shown.

Separate Account Sub-account	Fund Inception Date	Endnotes	Cumulative YTD	Average Annual					Since Inception
				1 Year	3 Years	5 Years	10 Years		
Money Market									
MML U.S. Government Money Market <i>7-day yield 2.74%</i>	12/15/1981	1	3.43%	3.43%	2.20%	0.83%	-0.24%	*	
Fixed Income									
Invesco V.I. Global Strategic Income Fund - SERIES II	3/19/2001	3	1.46%	1.46%	-2.11%	-2.06%	-0.38%	*	
MML Dynamic Bond Fund - Service 1	5/15/2015		-2.35%	-2.35%	-4.42%	-2.68%		-0.51%	
MML II High Yield Fund - Service 1	5/3/2010	2, 3	7.59%	7.59%	1.35%	2.89%	3.73%	*	
MML II Inflation-Protected and Income Fund - Service	8/15/2008	3	1.26%	1.26%	-3.94%	0.53%	0.84%	*	
MML II Managed Bond Fund - Service	8/15/2008	3	2.28%	2.28%	-3.82%	-1.44%	0.22%	*	
MML Short-Duration Bond Fund - Service 1	5/3/2010	2, 3	4.73%	4.73%	-0.29%	-0.23%	0.49%	*	
MML Total Return Bond Fund - Service 1	5/1/2012	3	-1.39%	-1.39%	-5.12%	-2.44%	-0.77%	*	
Asset Allocation									
MML Aggressive Allocation Fund - Service	8/15/2008	3, 4	11.08%	11.08%	2.31%	6.55%	6.34%	*	
MML American Funds Core Allocation Fund - Service 1	8/15/2008		10.42%	10.42%	2.02%	5.40%	5.43%	*	
MML Balanced Allocation Fund - Service	8/15/2008	3, 4	5.97%	5.97%	-0.83%	3.11%	3.56%	*	
MML Conservative Allocation Fund - Service	8/15/2008	4, 3	5.03%	5.03%	-1.38%	2.33%	2.92%	*	
MML Growth Allocation Fund - Service	8/15/2008	4, 3	9.07%	9.07%	1.34%	5.38%	5.34%	*	
MML Moderate Allocation Fund - Service	8/15/2008	3, 4	7.17%	7.17%	0.24%	3.84%	4.19%	*	
Balanced									
MML II Blend Fund - Service	8/15/2008	3	12.87%	12.87%	2.39%	6.20%	6.24%	*	
Large Cap Value									
MML Equity Income Fund - Service	8/15/2008	3, 5	9.96%	9.96%	4.04%	6.80%	6.60%	*	
MML Fundamental Value Fund - Service 1	5/1/2012	3, 2	13.68%	13.68%	6.06%	9.07%	7.13%	*	
MML II Equity Fund - Service	8/15/2008	3, 6	17.54%	17.54%	5.91%	9.10%	7.40%	*	
MML Income & Growth Fund - Service	8/15/2008	3, 5	13.06%	13.06%	6.07%	8.52%	7.66%	*	
Large Cap Blend									
Fidelity VIP Contrafund Portfolio (Svc II)	1/12/2000	3	31.72%	31.72%	7.89%	15.24%	11.87%	*	
Invesco V.I. Main Street Fund - SERIES II	7/13/2000	7, 3	21.79%	21.79%	5.12%	9.98%	9.53%	*	
MML Focused Equity Fund - Service 1	5/1/2012	2, 3	8.35%	8.35%	3.23%	8.01%	8.91%	*	
MML Fundamental Equity Fund - Service 1	5/1/2012	2, 3	21.76%	21.76%	5.03%	11.46%	11.69%	*	
MML Sustainable Equity Fund - Service	8/15/2008	5, 3	18.05%	18.05%	5.76%	10.79%	9.70%	*	
Large Cap Growth									
MML American Funds Growth Fund - Service 1	8/15/2008	4, 2, 8	29.41%	29.41%	6.64%	16.81%	14.60%	*	
MML Blue Chip Growth Fund - Service	8/15/2008	3, 5	33.62%	33.62%	5.42%	12.17%	12.75%	*	
MML Large Cap Growth Fund - Service	8/15/2008	3, 5	32.04%	32.04%	12.07%	16.32%	13.52%	*	
Small/Mid Cap Value									
MML Mid Cap Value Fund - Service	8/15/2008	5, 3	6.88%	6.88%	2.71%	5.66%	6.39%	*	
MML Small Company Value Fund - Service 1	2/27/2009	2, 3	5.58%	5.58%	0.43%	6.11%	6.65%	*	
MML Small/Mid Cap Value Fund - Service	8/15/2008	5, 3	8.46%	8.46%	1.28%	7.45%	6.16%	*	
Small/Mid Cap Growth									
Invesco V.I. Discovery Mid Cap Growth Fund - SERIES II	10/16/2000	3	22.31%	22.31%	-2.86%	8.50%	9.85%	*	
MML Mid Cap Growth Fund - Service	8/15/2008	3, 5	9.38%	9.38%	-1.23%	6.07%	8.50%	*	
MML Small Cap Growth Equity Fund - Service	8/15/2008	3	8.59%	8.59%	-2.20%	5.93%	7.56%	*	
Small/Mid Cap Blend									
MML II Small Cap Equity Fund - Service	8/15/2008	3	11.20%	11.20%	2.23%	8.94%	7.48%	*	
International/Global									

Separate Account Sub-account	Fund Inception Date	Endnotes	Cumulative	Average Annual				
			YTD	1 Year	3 Years	5 Years	10 Years	Since Inception
Invesco Oppenheimer V.I. International Growth Fund - SERIES II	3/19/2001	3	-3.43%	-3.43%	-6.36%	1.51%	2.80%	*
Invesco V.I. Global Fund - SERIES II	7/13/2000	3	14.28%	14.28%	0.63%	7.80%	8.16%	*
MML Foreign Fund - Service	8/15/2008	3, 5	1.78%	1.78%	-1.05%	2.61%	1.71%	*
MML Global Fund - Service 1	8/15/2008	3, 5	4.09%	4.09%	-2.08%	4.25%	5.90%	*
MML II Strategic Emerging Markets Fund - Service 1	8/27/2008	2	-3.27%	-3.27%	-8.90%	-4.70%	-0.37%	*
MML International Equity Fund - Service 1	5/1/2014		-1.00%	-1.00%	-1.38%	2.04%	2.70%	
Specialty								
Macquarie VIP Asset Strategy Series - Service	5/1/1995	2, 10, 11	12.44%	12.44%	2.98%	6.56%	5.27%	*
MML Managed Volatility Fund - Service	8/15/2008	9, 10, 3	13.08%	13.08%	2.86%	4.66%	3.74%	*

Non Standard Total Returns - L-Share

For the Period Ending: December 31, 2024

Total Returns reflect total annualized separate account expenses and all fund level expenses, including any 12(b)-1 fees. The performance in the chart below is representative of an L Share Class. This share class carries a tier M&E of 1.65% for the first 7 years and 1.30% thereafter. These returns do not reflect the charges for any optional contract features, contingent deferred sales charges, the annual maintenance charge, or premium taxes, if any. Their inclusion would reduce the returns shown.

Separate Account Sub-account	Fund Inception Date	Endnotes	Cumulative YTD	Average Annual				
				1 Year	3 Years	5 Years	10 Years	Since Inception
Money Market								
MML U.S. Government Money Market <i>7-day yield 2.39%</i>	12/15/1981	1	3.43%	3.43%	2.20%	0.83%	-0.24%	*
Fixed Income								
Invesco V.I. Global Strategic Income Fund - SERIES II	3/19/2001	3	1.46%	1.46%	-2.11%	-2.06%	-0.38%	*
MML Dynamic Bond Fund - Service 1	5/15/2015		-2.35%	-2.35%	-4.42%	-2.68%		-0.51%
MML II High Yield Fund - Service 1	5/3/2010	2, 3	7.59%	7.59%	1.35%	2.89%	3.73%	*
MML II Inflation-Protected and Income Fund - Service	8/15/2008	3	1.26%	1.26%	-3.94%	0.53%	0.84%	*
MML II Managed Bond Fund - Service	8/15/2008	3	2.28%	2.28%	-3.82%	-1.44%	0.22%	*
MML Short-Duration Bond Fund - Service 1	5/3/2010	2, 3	4.73%	4.73%	-0.29%	-0.23%	0.49%	*
MML Total Return Bond Fund - Service 1	5/1/2012	3	-1.39%	-1.39%	-5.12%	-2.44%	-0.77%	*
Asset Allocation								
MML Aggressive Allocation Fund - Service	8/15/2008	3, 4	11.08%	11.08%	2.31%	6.55%	6.34%	*
MML American Funds Core Allocation Fund - Service 1	8/15/2008		10.42%	10.42%	2.02%	5.40%	5.43%	*
MML Balanced Allocation Fund - Service	8/15/2008	3, 4	5.97%	5.97%	-0.83%	3.11%	3.56%	*
MML Conservative Allocation Fund - Service	8/15/2008	4, 3	5.03%	5.03%	-1.38%	2.33%	2.92%	*
MML Growth Allocation Fund - Service	8/15/2008	4, 3	9.07%	9.07%	1.34%	5.38%	5.34%	*
MML Moderate Allocation Fund - Service	8/15/2008	3, 4	7.17%	7.17%	0.24%	3.84%	4.19%	*
Balanced								
MML II Blend Fund - Service	8/15/2008	3	12.87%	12.87%	2.39%	6.20%	6.24%	*
Large Cap Value								
MML Equity Income Fund - Service	8/15/2008	3, 5	9.96%	9.96%	4.04%	6.80%	6.60%	*
MML Fundamental Value Fund - Service 1	5/1/2012	3, 2	13.68%	13.68%	6.06%	9.07%	7.13%	*
MML II Equity Fund - Service	8/15/2008	3, 6	17.54%	17.54%	5.91%	9.10%	7.40%	*
MML Income & Growth Fund - Service	8/15/2008	3, 5	13.06%	13.06%	6.07%	8.52%	7.66%	*
Large Cap Blend								
Fidelity VIP Contrafund Portfolio (Svc II)	1/12/2000	3	31.72%	31.72%	7.89%	15.24%	11.87%	*
Invesco V.I. Main Street Fund - SERIES II	7/13/2000	7, 3	21.79%	21.79%	5.12%	9.98%	9.53%	*
MML Focused Equity Fund - Service 1	5/1/2012	2, 3	8.35%	8.35%	3.23%	8.01%	8.91%	*
MML Fundamental Equity Fund - Service 1	5/1/2012	2, 3	21.76%	21.76%	5.03%	11.46%	11.69%	*
MML Sustainable Equity Fund - Service	8/15/2008	5, 3	18.05%	18.05%	5.76%	10.79%	9.70%	*
Large Cap Growth								
MML American Funds Growth Fund - Service 1	8/15/2008	4, 2, 8	29.41%	29.41%	6.64%	16.81%	14.60%	*
MML Blue Chip Growth Fund - Service	8/15/2008	3, 5	33.62%	33.62%	5.42%	12.17%	12.75%	*
MML Large Cap Growth Fund - Service	8/15/2008	3, 5	32.04%	32.04%	12.07%	16.32%	13.52%	*
Small/Mid Cap Value								
MML Mid Cap Value Fund - Service	8/15/2008	5, 3	6.88%	6.88%	2.71%	5.66%	6.39%	*
MML Small Company Value Fund - Service 1	2/27/2009	2, 3	5.58%	5.58%	0.43%	6.11%	6.65%	*
MML Small/Mid Cap Value Fund - Service	8/15/2008	5, 3	8.46%	8.46%	1.28%	7.45%	6.16%	*
Small/Mid Cap Growth								
Invesco V.I. Discovery Mid Cap Growth Fund - SERIES II	10/16/2000	3	22.31%	22.31%	-2.86%	8.50%	9.85%	*
MML Mid Cap Growth Fund - Service	8/15/2008	3, 5	9.38%	9.38%	-1.23%	6.07%	8.50%	*
MML Small Cap Growth Equity Fund - Service	8/15/2008	3	8.59%	8.59%	-2.20%	5.93%	7.56%	*
Small/Mid Cap Blend								
MML II Small Cap Equity Fund - Service	8/15/2008	3	11.20%	11.20%	2.23%	8.94%	7.48%	*
International/Global								

Separate Account Sub-account	Fund Inception Date	Endnotes	Cumulative	Average Annual				
			YTD	1 Year	3 Years	5 Years	10 Years	Since Inception
Invesco Oppenheimer V.I. International Growth Fund - SERIES II	3/19/2001	3	-3.43%	-3.43%	-6.36%	1.51%	2.80%	*
Invesco V.I. Global Fund - SERIES II	7/13/2000	3	14.28%	14.28%	0.63%	7.80%	8.16%	*
MML Foreign Fund - Service	8/15/2008	3, 5	1.78%	1.78%	-1.05%	2.61%	1.71%	*
MML Global Fund - Service 1	8/15/2008	3, 5	4.09%	4.09%	-2.08%	4.25%	5.90%	*
MML II Strategic Emerging Markets Fund - Service 1	8/27/2008	2	-3.27%	-3.27%	-8.90%	-4.70%	-0.37%	*
MML International Equity Fund - Service 1	5/1/2014		-1.00%	-1.00%	-1.38%	2.04%	2.70%	
Specialty								
Macquarie VIP Asset Strategy Series - Service	5/1/1995	2, 10, 11	12.44%	12.44%	2.98%	6.56%	5.27%	*
MML Managed Volatility Fund - Service	8/15/2008	9, 10, 3	13.08%	13.08%	2.86%	4.66%	3.74%	*

Standardized Total Returns - With Full Surrender - B-Share

For the Period Ending: December 31, 2024

Standardized Returns assume a single \$1,000 purchase payment made at the beginning of the periods shown, and full surrender on the last business day of the most recent calendar quarter. Standardized returns reflect total annualized separate account expenses, all fund level expenses including any 12(b)-1, annual maintenance charge (contract level charges) of \$40.00 allocated proportionately for each investment option, and Contingent Sales Charges (CDSC). Number of Full Years from Application of Purchase Payment:

0 1 2 3 4 5 6 7+
7% 7% 7% 6% 5% 4% 3% 0%

The performance in the chart below is representative of a B Share Class This share class carries a static M&E of 1.30% for all years. These returns do not reflect charges for any optional contract features or premium taxes, if any. Their inclusion would reduce the returns shown.

Separate Account Sub-account	Date Added Separate Account	Endnotes	Cumulative YTD	Average Annual				
				1 Year	3 Years	5 Years	10 Years	Since Date to Account
Money Market								
MML U.S. Government Money Market <i>7-day yield 2.74%</i>	5/1/2006	1	-4.03%	-4.03%	-0.23%	0.38%	-0.34%	-0.39%
Fixed Income								
Invesco V.I. Global Strategic Income Fund - SERIES II	8/31/1999	3	-6.00%	-6.00%	-4.35%	-2.69%	-0.47%	3.05%
MML Dynamic Bond Fund - Service 1	10/26/2015		-9.45%	-9.45%	-6.77%	-3.34%		-0.69%
MML II High Yield Fund - Service 1	5/3/2010	2, 3	0.49%	0.49%	-1.11%	2.44%	3.65%	4.75%
MML II Inflation-Protected and Income Fund - Service	8/15/2008	3	-6.19%	-6.19%	-6.27%	-0.36%	0.75%	1.19%
MML II Managed Bond Fund - Service	9/30/1999	3	-5.18%	-5.18%	-6.14%	-2.04%	-0.22%	2.94%
MML Short-Duration Bond Fund - Service 1	5/3/2010	2, 3	-2.73%	-2.73%	-2.45%	-0.79%	0.40%	0.56%
MML Total Return Bond Fund - Service 1	5/1/2012	3	-8.49%	-8.49%	-7.51%	-3.08%	-0.86%	-0.46%
Asset Allocation								
MML Aggressive Allocation Fund - Service	1/22/2008	3, 4	3.99%	3.99%	0.26%	6.10%	6.26%	6.02%
MML American Funds Core Allocation Fund - Service 1	9/8/2008		3.32%	3.32%	-0.41%	4.94%	5.35%	5.41%
MML Balanced Allocation Fund - Service	1/22/2008	3, 4	-1.49%	-1.49%	-3.01%	2.66%	3.48%	3.91%
MML Conservative Allocation Fund - Service	1/22/2008	4, 3	-2.44%	-2.44%	-3.59%	1.88%	2.84%	3.48%
MML Growth Allocation Fund - Service	1/22/2008	4, 3	1.97%	1.97%	-1.12%	4.92%	5.26%	5.27%
MML Moderate Allocation Fund - Service	1/22/2008	3, 4	-0.30%	-0.30%	-2.27%	3.38%	4.11%	4.45%
Balanced								
MML II Blend Fund - Service	4/30/1999	3	5.78%	5.78%	0.34%	5.75%	6.17%	4.96%
Large Cap Value								
MML Equity Income Fund - Service	5/31/2002	3, 5	2.86%	2.86%	2.06%	6.34%	6.52%	3.87%
MML Fundamental Value Fund - Service 1	5/1/2012	3, 2	6.59%	6.59%	4.15%	8.60%	7.05%	8.62%
MML II Equity Fund - Service	4/30/1999	3, 6	10.45%	10.45%	4.00%	8.63%	7.32%	4.77%
MML Income & Growth Fund - Service	8/31/1998	3, 5	5.96%	5.96%	4.17%	8.06%	7.58%	12.14%
Large Cap Blend								
Fidelity VIP Contrafund Portfolio (Svc II)	8/31/1998	3	24.62%	24.62%	6.03%	14.76%	11.80%	8.86%
Invesco V.I. Main Street Fund - SERIES II	8/31/1999	7, 3	14.70%	14.70%	3.17%	9.89%	9.46%	5.83%
MML Focused Equity Fund - Service 1	5/1/2012	2, 3	1.26%	1.26%	1.21%	7.55%	8.84%	10.67%
MML Fundamental Equity Fund - Service 1	5/1/2012	2, 3	14.66%	14.66%	3.08%	10.99%	11.62%	11.84%
MML Sustainable Equity Fund - Service	4/30/2003	5, 3	10.95%	10.95%	3.83%	10.32%	9.63%	5.56%
Large Cap Growth								
MML American Funds Growth Fund - Service 1	9/8/2008	4, 2, 8	22.31%	22.31%	4.73%	16.33%	14.54%	11.78%
MML Blue Chip Growth Fund - Service	5/31/2002	3, 5	26.53%	26.53%	3.46%	11.69%	12.69%	7.64%
MML Large Cap Growth Fund - Service	8/31/1999	3, 5	24.94%	24.94%	9.94%	15.84%	13.45%	14.96%
Small/Mid Cap Value								
MML Mid Cap Value Fund - Service	8/31/1999	5, 3	-0.59%	-0.59%	0.68%	5.21%	6.32%	12.17%
MML Small Company Value Fund - Service 1	5/1/2009	2, 3	-1.89%	-1.89%	-2.07%	5.65%	6.58%	9.43%
MML Small/Mid Cap Value Fund - Service	4/30/2003	5, 3	1.37%	1.37%	-1.18%	6.99%	6.09%	4.16%
Small/Mid Cap Growth								
Invesco V.I. Discovery Mid Cap Growth Fund - SERIES II	8/31/1999	3	15.22%	15.22%	-5.16%	8.04%	9.79%	5.57%
MML Mid Cap Growth Fund - Service	8/31/1998	3, 5	2.28%	2.28%	-3.44%	5.62%	8.44%	12.45%
MML Small Cap Growth Equity Fund - Service	5/3/1999	3	1.49%	1.49%	-4.46%	5.48%	7.49%	11.01%
Small/Mid Cap Blend								
MML II Small Cap Equity Fund - Service	8/31/1998	3	4.10%	4.10%	-0.20%	8.48%	7.41%	6.52%
International/Global								

Separate Account Sub-account	Date Added Separate Account	Endnotes	Cumulative	Average Annual				
			YTD	1 Year	3 Years	5 Years	10 Years	Since Date to Account
Invesco Oppenheimer V.I. International Growth Fund - SERIES II	8/31/1998	3	-10.52%	-10.52%	-8.82%	1.06%	2.72%	4.41%
Invesco V.I. Global Fund - SERIES II	8/31/1999	3	7.19%	7.19%	-1.87%	7.34%	8.09%	7.58%
MML Foreign Fund - Service	8/31/1999	3, 5	-5.67%	-5.67%	-3.24%	2.16%	1.62%	9.95%
MML Global Fund - Service 1	8/31/1999	3, 5	-3.37%	-3.37%	-4.32%	3.80%	5.83%	11.93%
MML II Strategic Emerging Markets Fund - Service 1	9/8/2008	2	-10.36%	-10.36%	-11.50%	-5.45%	-0.47%	0.25%
MML International Equity Fund - Service 1	5/1/2014		-8.09%	-8.09%	-3.59%	1.59%	2.62%	1.58%
Specialty								
MML Managed Volatility Fund - Service	4/30/2000	9, 10, 3	5.98%	5.98%	0.83%	4.20%	3.65%	11.54%

Standardized Total Returns - With Full Surrender - L-Share

For the Period Ending: December 31, 2024

Standardized Returns assume a single \$1,000 purchase payment made at the beginning of the periods shown, and full surrender on the last business day of the most recent calendar quarter. Standardized returns reflect total annualized separate account expenses, all fund level expenses including any 12(b)-1, annual maintenance charge (contract level charges) of \$40.00 allocated proportionately for each investment option, and Contingent Sales Charges (CDSC). Number of Full Years from Application of Purchase Payment:

0 1 2 3 4+
7% 7% 7% 6% 0%

The performance in the chart below is representative of an L Share Class. This share class carries a tier M&E of 1.65% for the first 7 years and 1.30% thereafter. These returns do not reflect charges for any optional contract features or premium taxes, if any. Their inclusion would reduce the returns shown.

Separate Account Sub-account	Date Added Separate Account	Endnotes	Cumulative		Average Annual			
			YTD	1 Year	3 Years	5 Years	10 Years	Since Date to Account
Money Market								
MML U.S. Government Money Market <i>7-day yield 2.39%</i>	5/1/2006	1	-4.03%	-4.03%	-0.23%	0.38%	-0.34%	-0.39%
Fixed Income								
Invesco V.I. Global Strategic Income Fund - SERIES II	8/31/1999	3	-6.00%	-6.00%	-4.35%	-2.69%	-0.47%	3.05%
MML Dynamic Bond Fund - Service 1	10/26/2015		-9.45%	-9.45%	-6.77%	-3.34%		-0.69%
MML II High Yield Fund - Service 1	5/3/2010	2, 3	0.49%	0.49%	-1.11%	2.44%	3.65%	4.75%
MML II Inflation-Protected and Income Fund - Service	8/15/2008	3	-6.19%	-6.19%	-6.27%	-0.36%	0.75%	1.19%
MML II Managed Bond Fund - Service	9/30/1999	3	-5.18%	-5.18%	-6.14%	-2.04%	-0.22%	2.94%
MML Short-Duration Bond Fund - Service 1	5/3/2010	2, 3	-2.73%	-2.73%	-2.45%	-0.79%	0.40%	0.56%
MML Total Return Bond Fund - Service 1	5/1/2012	3	-8.49%	-8.49%	-7.51%	-3.08%	-0.86%	-0.46%
Asset Allocation								
MML Aggressive Allocation Fund - Service	1/22/2008	3, 4	3.99%	3.99%	0.26%	6.10%	6.26%	6.02%
MML American Funds Core Allocation Fund - Service 1	9/8/2008		3.32%	3.32%	-0.41%	4.94%	5.35%	5.41%
MML Balanced Allocation Fund - Service	1/22/2008	3, 4	-1.49%	-1.49%	-3.01%	2.66%	3.48%	3.91%
MML Conservative Allocation Fund - Service	1/22/2008	4, 3	-2.44%	-2.44%	-3.59%	1.88%	2.84%	3.48%
MML Growth Allocation Fund - Service	1/22/2008	4, 3	1.97%	1.97%	-1.12%	4.92%	5.26%	5.27%
MML Moderate Allocation Fund - Service	1/22/2008	3, 4	-0.30%	-0.30%	-2.27%	3.38%	4.11%	4.45%
Balanced								
MML II Blend Fund - Service	4/30/1999	3	5.78%	5.78%	0.34%	5.75%	6.17%	4.96%
Large Cap Value								
MML Equity Income Fund - Service	5/31/2002	3, 5	2.86%	2.86%	2.06%	6.34%	6.52%	3.87%
MML Fundamental Value Fund - Service 1	5/1/2012	3, 2	6.59%	6.59%	4.15%	8.60%	7.05%	8.62%
MML II Equity Fund - Service	4/30/1999	3, 6	10.45%	10.45%	4.00%	8.63%	7.32%	4.77%
MML Income & Growth Fund - Service	8/31/1998	3, 5	5.96%	5.96%	4.17%	8.06%	7.58%	12.14%
Large Cap Blend								
Fidelity VIP Contrafund Portfolio (Svc II)	8/31/1998	3	24.62%	24.62%	6.03%	14.76%	11.80%	8.86%
Invesco V.I. Main Street Fund - SERIES II	8/31/1999	7, 3	14.70%	14.70%	3.17%	9.89%	9.46%	5.83%
MML Focused Equity Fund - Service 1	5/1/2012	2, 3	1.26%	1.26%	1.21%	7.55%	8.84%	10.67%
MML Fundamental Equity Fund - Service 1	5/1/2012	2, 3	14.66%	14.66%	3.08%	10.99%	11.62%	11.84%
MML Sustainable Equity Fund - Service	4/30/2003	5, 3	10.95%	10.95%	3.83%	10.32%	9.63%	5.56%
Large Cap Growth								
MML American Funds Growth Fund - Service 1	9/8/2008	4, 2, 8	22.31%	22.31%	4.73%	16.33%	14.54%	11.78%
MML Blue Chip Growth Fund - Service	5/31/2002	3, 5	26.53%	26.53%	3.46%	11.69%	12.69%	7.64%
MML Large Cap Growth Fund - Service	8/31/1999	3, 5	24.94%	24.94%	9.94%	15.84%	13.45%	14.96%
Small/Mid Cap Value								
MML Mid Cap Value Fund - Service	8/31/1999	5, 3	-0.59%	-0.59%	0.68%	5.21%	6.32%	12.17%
MML Small Company Value Fund - Service 1	5/1/2009	2, 3	-1.89%	-1.89%	-2.07%	5.65%	6.58%	9.43%
MML Small/Mid Cap Value Fund - Service	4/30/2003	5, 3	1.37%	1.37%	-1.18%	6.99%	6.09%	4.16%
Small/Mid Cap Growth								
Invesco V.I. Discovery Mid Cap Growth Fund - SERIES II	8/31/1999	3	15.22%	15.22%	-5.16%	8.04%	9.79%	5.57%
MML Mid Cap Growth Fund - Service	8/31/1998	3, 5	2.28%	2.28%	-3.44%	5.62%	8.44%	12.45%
MML Small Cap Growth Equity Fund - Service	5/3/1999	3	1.49%	1.49%	-4.46%	5.48%	7.49%	11.01%
Small/Mid Cap Blend								
MML II Small Cap Equity Fund - Service	8/31/1998	3	4.10%	4.10%	-0.20%	8.48%	7.41%	6.52%
International/Global								

Separate Account Sub-account	Date Added Separate Account	Endnotes	Cumulative	Average Annual				
			YTD	1 Year	3 Years	5 Years	10 Years	Since Date to Account
Invesco Oppenheimer V.I. International Growth Fund - SERIES II	8/31/1998	3	-10.52%	-10.52%	-8.82%	1.06%	2.72%	4.41%
Invesco V.I. Global Fund - SERIES II	8/31/1999	3	7.19%	7.19%	-1.87%	7.34%	8.09%	7.58%
MML Foreign Fund - Service	8/31/1999	3, 5	-5.67%	-5.67%	-3.24%	2.16%	1.62%	9.95%
MML Global Fund - Service 1	8/31/1999	3, 5	-3.37%	-3.37%	-4.32%	3.80%	5.83%	11.93%
MML II Strategic Emerging Markets Fund - Service 1	9/8/2008	2	-10.36%	-10.36%	-11.50%	-5.45%	-0.47%	0.25%
MML International Equity Fund - Service 1	5/1/2014		-8.09%	-8.09%	-3.59%	1.59%	2.62%	1.58%
Specialty								
MML Managed Volatility Fund - Service	4/30/2000	9, 10, 3	5.98%	5.98%	0.83%	4.20%	3.65%	11.54%

MML Asset Allocation Funds

For the Period Ending: December 31, 2024

The MassMutual Transitions Select II variable annuity contract contains six MML Asset Allocation Funds ("funds of funds") that are designed to help investors meet their financial goals. These funds consist of certain, but not all, underlying funds available within the MassMutual Transitions Select II variable annuity contract. The percentages may vary from the target allocation, which can be found in the corresponding fund prospectus. The percentages below are rounded so they may not total 100%.

	MML Aggressive Allocation Fund	MML American Funds Core Allocation Fund	MML Balanced Allocation Fund	MML Conservative Allocation Fund	MML Growth Allocation Fund	MML Moderate Allocation Fund
Fixed Income						
AMER FDS INS BOND FD		34.80				
INVESCO VI GLOBAL STRATEGIC IN	0.32		1.68	2.03	0.82	1.33
MML DYNAMIC BOND FUND	1.89		9.97	11.89	4.95	7.99
MML HIGH YIELD FUND	0.05		0.25	0.30	0.12	0.20
MML INFLATION PROTECTED BD FD	0.37		1.90	2.30	0.93	1.51
MML MANAGED BOND FUND	3.14		16.24	19.47	8.12	12.97
MML SHORT DURATION BOND FUND	0.85		4.52	5.47	2.26	3.59
MML TOTAL RETURN BOND FUND	2.73		14.15	16.98	7.01	11.29
PIMCO VARIABLE INSURANCE TRUST	0.60		1.20	1.35	0.81	1.06
Total Fixed Income	9.95	34.80	49.91	59.79	25.02	39.94
International/Global						
AMER FD INS INTERNATIONAL FD		9.41				
MML FOREIGN FD	3.95		2.14	1.73	3.11	2.53
MML GLOBAL FD	4.38		2.53	2.04	3.71	3.00
MML INTERNATIONAL EQUITY FUND	11.72		6.56	5.20	9.74	7.79
MML STRG EMERGING MARKETS FUND	1.76		0.92	0.74	1.45	1.10
Total International/Global	21.81	9.41	12.15	9.71	18.01	14.42
Large Cap Equity						
AMER FDS INS BLUE CHIP INC GRT		27.62				
AMER FDS INS GRWTH INC FD		28.17				
MML BLUE CHIP GROWTH FD	9.55		5.17	4.17	7.89	6.27
MML EQUITY INCOME FD	7.30		4.08	3.29	6.17	4.97
MML FOCUSED EQUITY FUND	12.68		7.30	5.81	10.79	8.72
MML FUNDAMENTAL GROWTH FUND	6.23		3.35	2.69	5.03	4.05
MML FUNDAMENTAL VALUE FUND	7.43		4.08	3.26	6.14	4.95
MML INCOME AND GROWTH FD	3.21		1.74	1.44	2.75	2.15
MML LARGE CAP GROWTH FD	7.54		4.06	3.27	6.07	4.84
Total Large Cap Equity	53.94	55.79	29.78	23.93	44.84	35.95
Mid Cap Equity						
MML MID CAP GROWTH FD	5.49		3.10	2.49	4.61	3.69
MML MID CAP VALUE FD	4.04		2.34	1.88	3.41	2.76
Total Mid Cap Equity	9.53		5.44	4.37	8.02	6.45
Small Cap Equity						
MML SMALL CAP GROWTH EQUITY FD	1.18		0.68	0.55	1.00	0.81
MML SMALL COMPANY VALUE FUND	2.24		1.28	1.04	1.98	1.52
MML SMALL/MID CAP VALUE	1.34		0.76	0.62	1.12	0.91
Total Small Cap Equity	4.76		2.72	2.21	4.10	3.24
Total Allocation	100	100	100	100	100	100

Credited Fixed Account Interest Rates**For the Period Ending: December 31, 2024**

Current interest rates and guaranteed minimum interest rates vary by issue state and issue date. Credited rates will not be less than the minimum guaranteed interest rate as of a contract's issue date.

	Previous	New	Change
DCA Fixed Accounts			
Rates for all states, where available, except New York			
6 Month DCA	3.00%	3.00%	0.00%
6 Month DCA Effective Yield	0.62%	0.62%	0.00%
12 Month DCA	3.00%	3.00%	0.00%
12 Month DCA Effective Yield	1.36%	1.36%	0.00%

Rates listed are applicable for new sales and subsequent payments. If a contract offered a guaranteed minimum interest rate different than the current applicable base interest rate listed, the contract holder will receive the higher of the two rates. The product, certain features and/or investment choices may not be available in all states or with all firms contracted with MassMutual.

1 Current rates on DCA Fixed Accounts are subject to change monthly. The 6-Month DCA Fixed Account rate is guaranteed for 6 months. The 12-Month DCA Fixed Account rate is guaranteed for 12 months. These rates are credited to the respective DCA Fixed Accounts and do not reflect the performance of any investment choices. Certain restrictions apply. The stated interest rate is not earned on the entire purchase payment amount due to regular transfers to the variable investment choices that will affect the daily accrual, lowering the effective yield. Additionally, any subsequent purchase payments applied to an existing DCA Fixed Account term will participate in only the remaining portion of that DCA term, lowering the effective yield further on the subsequent purchase payments. The effective yield is based on your initial deposit after the completion of your DCA Fixed Account transfers. Dollar Cost Averaging does not assure a profit or protect against loss in a declining market, and involves should consider his/her ability to continue investing continuous investment in securities regardless of fluctuating prices. An investor through periods of low price levels. See the appropriate product prospectus for complete details.

Endnotes

- 1 You could lose money by investing in the Fund. Although the seeks to preserve the value of your investment at \$1.00 per share, it cannot guarantee it will do so. An investment in the is not a bank account and is not insured or guaranteed by the Federal Deposit Insurance Corporation or any other government agency. The Fund's sponsor is not required to reimburse the Fund for losses, and you should not expect that the sponsor will provide financial support to the at any time, including during periods of market stress. The yield quotation for this more closely reflects the current earnings of the than the total return quotation. It is an annualized rate based on results over the last seven days of the period, and is net of all recurring contract fees and charges.
- 2 Performance reflects share classes with 12(b)-1 fees from inception which reduces the fund's performance. Please see the fund prospectus for more information about this fee.
- 3 The fund established a new class of shares, which is available with this contract, after it began its initial investment operations. The performance for the period prior to offering the new class shows the historical returns for the original class of shares, which were not subject to a 12b-1 fee. The performance shown from the inception date of the class available with this contract includes the fees and expenses of that share class, including a 12b-1 fee. A 12b-1 fee reduces a fund's performance.
- 4 Funds offered in a fund-of-funds structure may have higher expenses than a direct investment in the underlying funds because a fund-of-funds bears its own expenses and indirectly bears its proportionate share of expenses of the underlying funds in which it invests.
- 5 The historical performance shown reflects a combination of the current underlying fund's performance, as well as the performance of a prior fund. The current fund's performance is reflected beginning on 5/1/06. The prior fund's performance covers the period between the date listed in the performance table and 4/30/06. This Allocation Fund does not make an investment in the underlying fund. The Fund's allocation is below 0.5%. When the fund has 10 years of performance history the Since Inception return is no longer shown.
- 6 Although the MML Equity Fund commenced operations on 9/15/1971, the information necessary to calculate returns is available only for 1974 and later years.
- 7 Effective April 29, 2011, Invesco V.I. Financial Services Fund merged into Invesco V.I. Dividend Growth Fund. Performance prior to that day reflects performance of the Invesco V.I. Financial Services Fund and performance on and after that date reflects performance of the Invesco V.I. Dividend Growth Fund.
- 8 The underlying MML Fund does not buy investment securities directly, but instead invests in shares of a corresponding American Funds® "master" fund, which in turn purchases investment securities. The performance of the MML Fund will be lower than the American Funds® master fund because it represents an investment in the American Funds® master fund reduced by the MML Fund's fees. The performance for the period prior to inception of the MML Fund on August 15, 2008, shows the historical returns for the American Funds® master fund adjusted to reflect the MML Fund's fees at its inception (0.70%).
- 9 Formerly known as MML Large Cap Value Fund. The Fund's name, investment objective, and investment strategy changed on April 29, 2013. The performance results prior to April 29, 2013 would not necessarily have been achieved had the Fund's current strategy been in effect during that period.
- 10 Specialty funds are an all-encompassing category that consists of funds that forgo broad diversification to concentrate on a certain segment of the economy or a specific targeted strategy. For example, sector funds are targeted strategy funds aimed at specific sectors of the economy, such as financial, technology, healthcare, and so. Sector funds can, therefore, be more volatile than a more diversified equity fund since the stocks in a given sector tend to be highly correlated with each other.
- 11 Formerly known as Delaware Ivy VIP Asset Strategy.
- * When the fund has 10 years of performance history the Since Inception return is no longer shown.

MassMutual Transitions Select IISM [Contract Form #: FPVDA15-NVA and ICC15-FPVDA15-NVA (NC)] is a variable annuity contract issued by Massachusetts Mutual Life Insurance Company, 1295 State Street, Springfield, MA 01111-0001. The Contract may not be available in all states.

Principal Underwriters:

MML Investors Services, LLC
MML Strategic Distributors, LLC

Subsidiaries of Massachusetts Mutual Life Insurance Company, 1295 State Street, Springfield, MA 01111-0001

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