

Performance Update

As of April 30, 2019

MassMutual ElectrumSM
variable life insurance

- 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 ElectrumSM

MassMutual Electrum is a flexible premium variable adjustable life insurance policy. This report gives information only about the performance of the investment options available through the policy. It does not give, and should not be understood to give, information about the overall performance of any policy. **Before purchasing a MassMutual Electrum policy, you should request a personalized illustration from your financial representative to see examples of how policy charges can impact the performance of your policy.** The illustration will reflect the deduction of premium charges and the monthly administrative, face amount, mortality and expense risk charges, and insurance charges, as well as any applicable rider charges specific to the policy. Additionally, if you currently own a policy, you can obtain current illustrations of policy values by contacting your personal financial representative, or by clicking on "contact us" on our web site, or by calling us at (800) 548-0073, Monday – Friday, 8 a.m. to 5 p.m. Eastern Time.

The investment performance figures in this report are based on actual historical performance of the investment options for the periods shown, including for those time periods that begin prior to this policy's availability date. In most states, the policy first became available on June 26, 2017. For periods less than one year, the total return is not annualized. For periods one year and greater and is annualized, 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) 548-0073, Monday – Friday, 8 a.m. to 5 p.m. Eastern Time.

Investing involves risk, including the loss of principal. Each investment choice underlying the policy 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 policy to greater risk and volatility than the general market.

This material must be preceded or accompanied by the [current prospectus for the MassMutual Electrum insurance policy and the prospectus \(or summary prospectuses, if available\) for its underlying investment choices](#). Before purchasing a policy, investors should carefully consider the investment objectives, risks, charges and expenses of the policy and its underlying investment choices. Please read the prospectuses carefully before investing or sending money.

Interest Rates — Guaranteed Principal Account

The following are effective annual rates used to credit interest on amounts in the Guaranteed Principal Account. These rates do not apply to any policy loan amounts.

Effective annual rates used to credit interest on amounts in the Guaranteed Principal Account. These rates do not apply to any policy loan amounts. Current Interest Rate as of: 6/1/18 2.50%; 7/1/18 2.50%; 8/1/18 2.50%; 9/1/18 2.50%; 10/1/18 2.60%; 11/1/18 2.60%; 12/1/18 2.60%; 1/1/19 2.60%; 2/1/19 2.60%; 3/1/19 2.60%; 4/1/19 2.65%; 5/1/19 2.65%.

Market Indices as of April 30, 2019

	YTD	1 Year	3 Years	5 Years	10 Years
S&P 500 Index	18.25%	13.49%	14.87%	11.63%	15.32%
Morgan Stanley Capital International World Index	16.47%	6.48%	11.39%	7.31%	11.58%
Russell 2000 Total Return Index	18.48%	4.61%	13.60%	8.63%	14.10%
Bloomberg Barclays U.S. Aggregate Bond Index	2.97%	5.29%	1.90%	2.57%	3.72%

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 Morgan Stanley Capital International World Index is an unmanaged measure of total return performance in the global securities market.

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

Total Returns for each fund are the actual historical rates and are net of all fund management fees and other operating expenses. Those returns do not reflect policy charges. Policy charges include: premium charges and the monthly administrative, mortality and expense risk, face amount, and insurance charges and any applicable rider changes. If these charges were deducted, the returns would be significantly lower.

Asset Category	Investment Fund	Fund Inception Date	Endnotes	Cumulative YTD	Average Annual				
					1 Year	3 Years	5 Years	10 Years	Since Inception
Asset Allocation	Fidelity® VIP Freedom 2020 (Service Class)	4/26/2005		11.21%	5.68%	8.29%	5.88%	9.70%	6.38%
	Fidelity® VIP Freedom 2025 (Service Class)	4/26/2005		12.25%	5.88%	8.90%	6.28%	10.52%	6.89%
	Fidelity® VIP Freedom 2030 (Service Class)	4/26/2005		14.19%	6.19%	10.28%	7.00%	11.21%	7.06%
	Fidelity® VIP Freedom 2035 (Service Class)	4/8/2009		16.20%	6.20%	11.24%	7.51%	11.86%	12.62%
	Fidelity® VIP Freedom 2040 (Service Class)	4/8/2009		17.01%	6.25%	11.32%	7.56%	11.99%	12.78%
	Fidelity® VIP Freedom 2050 (Service Class)	4/8/2009		17.06%	6.21%	11.32%	7.55%	12.20%	13.02%
	MML Aggressive Allocation (Initial Class)	8/31/2007	1	14.89%	5.57%	10.38%	7.27%	12.03%	6.10%
	MML American Funds Core Allocation (Service Class I)	8/15/2008	1	10.47%	5.63%	8.31%	6.58%	9.57%	6.44%
	MML Balanced Allocation (Initial Class)	8/31/2007	1	9.54%	5.37%	6.72%	5.08%	8.74%	5.30%
	MML Conservative Allocation (Initial Class)	8/31/2007	1	8.23%	5.40%	5.85%	4.54%	7.89%	5.21%
	MML Growth Allocation (Initial Class)	8/31/2007	1	12.93%	5.46%	9.01%	6.45%	10.81%	5.83%
	MML Moderate Allocation (Initial Class)	8/31/2007	1	10.92%	5.41%	7.69%	5.65%	9.57%	5.58%
Money Market	MML U.S. Government Money Market (Initial Class)	12/16/1981	2	0.64%	1.66%	0.78%	0.49%	0.24%	3.89%
	<i>7-day yield: 1.96%</i>								
Fixed Income	American Century VP Inflation Protection (Class II)	11/20/1987		4.22%	2.94%	1.74%	1.37%	3.22%	3.47%
	Blackrock High Yield V.I. (Class I)	4/20/1982		8.78%	5.92%	6.88%	4.25%	10.14%	8.79%
	Blackrock Total Return V.I. (Class I)	4/20/1982		3.40%	5.04%	2.06%	2.50%	5.43%	6.79%
	Eaton Vance VT Floating-Rate Income (ADV)	5/2/2001		5.08%	3.30%	4.77%	3.43%	5.92%	3.41%
	Franklin Strategic Income VIP (Class 2)	5/15/2001		5.25%	4.46%	4.17%	2.13%	5.82%	5.78%
	Goldman Sachs Core Fixed Income (Service)	1/9/2006		3.47%	5.31%	1.78%	2.29%	4.59%	3.69%
	MFS Government Securities (Initial Class)	6/12/1985		2.08%	4.49%	1.07%	1.81%	2.54%	5.85%
	MML Dynamic Bond (Class II)	5/15/2015		3.63%	4.81%	3.06%	--	--	2.89%
	MML High Yield (Class II)	5/3/2010		8.26%	5.22%	7.87%	4.77%	--	7.63%
	MML Inflation-Protected and Income (Initial Class)	8/30/2002		3.62%	3.14%	1.88%	1.80%	3.72%	3.71%
	MML Managed Bond (Service Class)	12/16/1981		3.85%	5.39%	2.67%	2.64%	4.27%	7.19%
	MML Short-Duration Bond (Class II)	5/3/2010		2.04%	3.61%	2.43%	2.12%	--	2.42%
	MML Total Return Bond (Class II)	8/9/2010		3.25%	5.31%	1.86%	2.36%	--	2.66%
	Oppenheimer Global Strategic Income (Non-Service)	5/3/1993		5.79%	2.34%	3.50%	2.36%	6.04%	5.61%
	PIMCO Emerging Markets Bond (Advisor Class)	4/30/2012		6.88%	4.57%	5.52%	3.85%	6.96%	5.74%
	PIMCO Global Bond Opportunities (Unhedged)	1/31/2006	*****	2.64%	-0.93%	1.31%	0.89%	4.40%	5.25%
	PIMCO High Yield (Administrative Class)	7/1/2002		8.98%	7.06%	6.46%	4.62%	9.29%	5.87%
	PIMCO Long-Term U.S. Government	4/10/2000		2.56%	6.09%	0.70%	4.22%	5.91%	6.71%
	PIMCO Real Return (Administrative Class)	4/10/2000		3.92%	2.63%	1.89%	1.41%	4.05%	5.58%
	PIMCO Total Return (Administrative Class)	4/10/2000		3.14%	4.74%	2.54%	2.60%	4.33%	5.26%
Templeton Global Bond VIP (Class I)	1/24/1989		3.59%	3.36%	4.14%	1.59%	5.23%	7.14%	
T. Rowe Price Limited-Term Bond	5/13/1994		1.66%	3.14%	1.40%	1.11%	1.80%	3.71%	

Asset Category	Investment Fund	Fund Inception Date	Endnotes	Cumulative YTD	Average Annual				
					1 Year	3 Years	5 Years	10 Years	Since Inception
Balanced	MML Blend (Initial Class)	2/3/1984		11.68%	7.75%	9.93%	7.79%	11.28%	8.84%
Large Cap Value	Blackrock Basic Value V.I. (Class I)	7/1/1993		15.66%	7.22%	9.25%	6.42%	12.61%	9.34%
	Invesco V.I. Comstock (Series I)	4/30/1999		17.25%	3.29%	12.03%	7.38%	13.63%	7.13%
	MFS® Value (Initial Class)	1/2/2002		17.40%	9.97%	10.58%	8.91%	13.22%	8.18%
	MML Equity (Initial Class)	5/13/1994	3	15.61%	5.24%	10.47%	7.35%	12.48%	10.32%
	MML Equity Income (Initial Class)	5/1/2006		15.94%	6.79%	11.30%	7.25%	12.69%	6.71%
	MML Fundamental Value (Class II)	8/10/2010		13.09%	3.40%	8.70%	6.92%	--	10.47%
Large Cap Blend	MML Income & Growth (Initial Class)	5/1/2006	4	15.55%	5.36%	10.73%	8.30%	12.27%	6.04%
	Fidelity® VIP Contrafund® (Service Class)	1/3/1995	4	19.37%	10.69%	13.76%	10.33%	14.39%	11.12%
	Invesco V.I. Diversified Dividend (Series I)	3/1/1990	5	13.67%	7.88%	7.07%	7.58%	12.93%	8.02%
	JPMorgan Insurance Trust U.S. Equity (Class I)	3/30/1998		18.74%	12.39%	14.96%	11.38%	15.23%	8.30%
	MFS Blended Research® Core Equity (Initial Class)	11/14/1986		16.56%	8.78%	12.01%	9.49%	14.39%	9.43%
	MML Equity Index (Service Class I)	5/1/1997		17.99%	12.72%	14.10%	10.89%	14.56%	9.56%
Large Cap Growth	MML Focused Equity (Class II)	12/8/2011		16.51%	17.61%	18.81%	12.04%	--	15.49%
	MML Growth & Income (Initial Class)	5/1/2006		19.88%	13.58%	15.03%	11.09%	14.60%	6.85%
	Oppenheimer Main Street (Non-Service)	7/5/1995		20.59%	15.00%	12.50%	10.37%	14.12%	8.95%
	Fidelity® VIP Growth (Service Class)	10/9/1986		21.54%	16.00%	19.79%	14.11%	17.01%	7.73%
	Invesco V.I. American Franchise (Series I)	7/3/1995		22.61%	13.05%	17.71%	12.44%	15.63%	9.69%
	MFS® Growth (Initial Class)	7/24/1995		23.34%	19.49%	20.26%	15.25%	17.16%	9.88%
Small / Mid Cap Value	MML American Funds® Growth (Service Class I)	2/8/1984		16.68%	10.61%	17.61%	13.35%	15.26%	10.17%
	MML Blue Chip Growth (Initial Class)	5/1/2006		20.75%	14.35%	21.49%	16.17%	18.02%	11.19%
	MML Fundamental Growth (Class II)	12/8/2011		21.66%	18.52%	18.34%	14.08%	--	15.24%
	MML Large Cap Growth (Initial Class)	8/31/1999		22.52%	19.63%	18.18%	13.66%	15.14%	8.55%
	Delaware VIP® Smal Cap Value (Service Class)	5/1/2000		19.36%	1.25%	11.03%	7.24%	14.07%	10.41%
	Franklin Small Cap Value VIP (Class 2)	5/1/1998		15.48%	2.32%	10.93%	6.40%	13.02%	9.26%
Small / Mid Cap Blend	Goldman Sachs Mid Cap Value (Institutional)	5/1/1998		18.93%	7.96%	9.90%	5.94%	12.96%	8.55%
	MFS® Mid Cap Value (Initial Class)	3/7/2008		19.95%	7.17%	9.90%	7.88%	14.95%	9.12%
	MML Mid Cap Value (Initial Class)	5/1/2006		18.82%	5.38%	9.85%	9.49%	14.65%	9.30%
	MML Small Company Value (Class II)	2/27/2009		18.54%	4.44%	13.13%	8.02%	13.11%	15.37%
	MML Small/Mid Cap Value (Initial Class)	5/1/2006		15.91%	-0.67%	9.95%	7.27%	14.24%	5.92%
	Dreyfus MidCap Stock (Service Shares)	3/7/2008		15.78%	0.98%	7.88%	6.75%	14.17%	7.36%
Small / Mid Cap Blend	Goldman Sachs Small Cap Equity Insights (Institutional)	12/31/2000		17.36%	4.40%	13.42%	9.53%	15.16%	7.05%
	Invesco V.I. Small Cap Equity (Series I)	2/13/1998		18.52%	0.95%	8.41%	5.35%	11.87%	8.21%
	JPMorgan Insurance Trust Small Cap Core (Class 1)	8/29/2003		18.34%	2.54%	14.03%	8.77%	14.83%	9.27%
	Lord Abbett Mid Cap Stock (Class VC)	1/31/1995		17.82%	1.51%	6.31%	5.39%	12.02%	8.67%
	MML Small Cap Equity (Initial Class)	6/1/1998		17.02%	4.99%	12.04%	8.37%	14.42%	6.48%
	Voya Russell™ Mid Cap Index (Class S)	9/15/1999		20.72%	10.06%	12.10%	9.05%	14.95%	9.82%
	Voya Russell™ Small Cap Index (Class S)	3/10/2008		18.27%	4.01%	12.98%	8.11%	13.62%	9.49%

Asset Category	Investment Fund	Fund Inception Date	Endnotes	Cumulative YTD	Average Annual				
					1 Year	3 Years	5 Years	10 Years	Since Inception
Small / Mid Cap Growth	American Century VP Capital Appreciation (Class)	3/10/2008		25.71%	17.27%	15.12%	10.90%	14.53%	9.01%
	Goldman Sachs Growth Opportunities (Service)	5/7/2004		22.83%	15.55%	14.79%	10.02%	14.75%	9.41%
	Invesco V.I. Mid Cap Growth (Series I)	1/9/2006		22.43%	12.01%	13.93%	9.34%	14.20%	11.64%
	Lord Abbett Developing Growth (Class VC)	4/30/2010		30.24%	24.61%	24.79%	11.57%	--	15.00%
	MML Mid Cap Growth (Initial Class)	5/1/2006		20.52%	14.64%	16.10%	13.33%	17.23%	10.84%
	MML Small Cap Growth Equity (Initial Class)	5/3/1999		24.83%	14.74%	18.39%	11.37%	15.71%	9.08%
	Oppenheimer Discovery Mid Cap Growth (Non-Service)	8/15/1986		24.28%	14.02%	16.46%	13.09%	16.34%	9.65%
International / Global	American Century VP International (Class I)	5/1/1994		16.81%	-3.94%	7.98%	3.31%	9.02%	5.74%
	Delaware VIP Emerging Markets (Service Class)	5/1/2000		9.11%	-7.80%	10.58%	3.22%	7.71%	9.33%
	Fidelity VIP Overseas (Initial Class)	5/1/2000		15.84%	-1.13%	7.82%	3.83%	8.81%	5.90%
	Franklin Mutual Global Discovery VIP (Class 2)	1/28/1987		14.87%	1.47%	7.46%	4.07%	9.10%	8.37%
	Goldman Sachs Strategic International Equity Insights (Institutional)	4/30/1998		12.01%	-6.57%	4.99%	1.32%	7.39%	3.60%
	Invesco V.I. International Growth (Series I)	11/8/1996		18.59%	2.66%	6.54%	3.41%	8.98%	7.04%
	MFS International Value (Initial Class)	5/5/1993		16.43%	6.47%	10.70%	8.14%	12.36%	8.71%
	MML American Funds® International (Service Class I)	5/1/1990		14.44%	-2.37%	10.44%	4.29%	8.26%	4.45%
	MML Foreign (Initial Class)	5/1/2006		10.16%	-7.19%	4.85%	-0.15%	6.42%	2.22%
	MML Global (Service Class I)	1/0/1900		18.40%	8.26%	10.84%	7.43%	12.79%	7.39%
	MML International Equity Service Class II)	1/7/2014		17.40%	-10.16%	8.50%	2.18%	--	2.60%
	MML Strategic Emerging Markets (Class II)	8/27/2008	6	16.30%	0.24%	12.33%	3.75%	6.04%	5.83%
	Oppenheimer Global (Non-Service)	11/12/1990		21.63%	4.85%	14.95%	8.92%	13.25%	10.06%
Oppenheimer International Growth (Non-Service)	5/13/1992		17.24%	-5.52%	4.84%	1.99%	9.71%	6.95%	
Voya International Index (Class S)	3/10/2008		13.17%	-3.07%	7.14%	2.10%	7.54%	2.19%	
Specialty	Fidelity VIP Real Estate (Service Class)	11/6/2002		16.22%	15.66%	5.30%	7.27%	15.35%	10.69%
	Invesco V.I. Global Real Estate (Series I)	1/2/1997		14.05%	8.78%	6.00%	5.46%	11.02%	7.84%
	Ivy VIP Asset Strategy	4/20/1995		12.64%	4.59%	8.23%	2.04%	6.74%	8.86%
	Ivy VIP Science and Technology	4/4/1997		29.64%	21.89%	21.39%	11.38%	16.45%	14.42%
	MFS Global Real Estate (Initial Class)	12/7/1998		14.81%	14.46%	8.24%	8.34%	12.80%	9.04%
	MFS Utilities (Initial Class)	1/3/1995		13.61%	14.31%	10.06%	5.24%	12.28%	11.37%
	MML Managed Volatility (Initial Class)	5/1/2000	7	6.92%	3.87%	5.15%	4.11%	8.91%	3.63%
	PIMCO All Asset (Administrative Class)	1/31/2006		5.89%	-0.05%	5.88%	2.56%	6.47%	5.56%
	PIMCO CommodityRealReturn® Strategy (Advisor Class)	6/30/2004		9.15%	-8.10%	-0.32%	-9.73%	-0.53%	-2.89%

Endnotes

- 1 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.
 - 2 **An investment in the Fund is neither insured nor guaranteed by the Federal Deposit Insurance Corporation or by any other government agency. Although the Fund seeks to preserve the value of your investment at \$1.00 per share, it is possible to lose money by investing in the Fund.** The yield quotation more closely reflects the current earnings of the Fund than the total return quotation. Other than YTD, it is an annualized rate based on results over the last seven days.
 - 3 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.
 - 4 The fund established a new class of shares, which is available with this policy, 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 policy includes the fees and expenses of that share class, including a 12b-1 fee. A 12b-1 fee reduces a fund's performance.
 - 5 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
 - 6 The fund established a new class of shares, which is available with this policy, after it began its initial investment operations. The performance for the period prior to May 1, 2009 shows the historical returns for Service Class I shares. Performance for periods after May 1, 2009 shows the historical returns for the share class available with this policy and reflects the fees and expenses of that share class.
 - 7 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
- ***** Formerly known as PIMCO Global Bond.

MassMutual ElectrumSM (Policy Form SL18, ICC16SL18 and ICC16SL18 in North Carolina) is flexible premium adjustable variable life insurance. This product is non-participating.

MassMutual ElectrumSM policies and certificates are issued by
Massachusetts Mutual Life Insurance Company, Springfield, MA 01111-0001.

Principal Underwriters:

MML Investors Services, LLC
MML Distributors, LLC

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

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