



## Historical Dividend Studies from Massachusetts Mutual Life Insurance Company (MassMutual®)

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**As a mutual life insurance company, MassMutual does not have shareholders. Instead, the company operates for the benefit of its participating policyowners. Participating whole life policies issued by MassMutual are eligible to receive a dividend each year.**

Company surplus results when overall actual experience is more favorable than the experience that was originally assumed in setting the premiums and guaranteed elements of policies. A portion is set aside to be paid or applied as policy dividends in the following years. When determining the dividend for an individual policy, the amount paid reflects the portion that each specific policy is considered to have contributed to surplus.

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Although dividends are not guaranteed, MassMutual has paid them every year since 1869.

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# Dividend Interest Rate

Dividends primarily include an investment component, a mortality component and an expense component.

The Dividend Interest Rate (DIR) is used to calculate the investment component of policy dividends; it is not the rate of return on the policy. The DIR primarily represents the net investment return on the assets supporting the reserves and cash values for a certain block of policies.

The way companies quote and apply Dividend Interest Rates varies. For example, some quote their DIR before investment expenses and some, like MassMutual, quote their DIR net of these expenses. Therefore, Dividend Interest Rates should not be used as the sole basis for comparing one whole life policy to another.

**PARTICIPATING WHOLE LIFE POLICIES**  
**Issued by Massachusetts Mutual Life Insurance Company Prior to March 1996**

Year	Dividend Interest Rate	Year	Dividend Interest Rate
1995	9.00%	2011	6.80%
1996	8.40%	2012	7.00%
1997	8.40%	2013	7.00%
1998	8.40%	2014	7.10%
1999	8.40%	2015	7.10%
2000	8.30%	2016	7.10%
2001	8.30%	2017	6.70%
2002	8.10%	2018	6.40%
2003	7.90%	2019	6.40%
2004	7.50%	2020	6.20%
2005	7.00%	2021	6.00%
2006	7.55%	2022	6.00%
2007	7.55%	2023	6.00%
2008	7.90%	2024	6.10%
2009	7.45%	2025	6.40%
2010	6.85%	2026	6.60%

Eligible participating policies issued by Massachusetts Mutual Life Insurance Company and the former Connecticut Mutual Life Insurance Company prior to March, 1996 are no longer sold. All rates shown assume an Adjustable Loan Rate. The merger between Massachusetts Mutual Life Insurance Company and the former Connecticut Mutual Life Insurance Company was completed in March, 1996.

## The Portfolio Average Method

MassMutual's DIR is determined using a portfolio average method that reflects the portfolio earnings on all assets that support our participating permanent life insurance and participating annuity blocks. Each portfolio is made up of investments purchased over a number

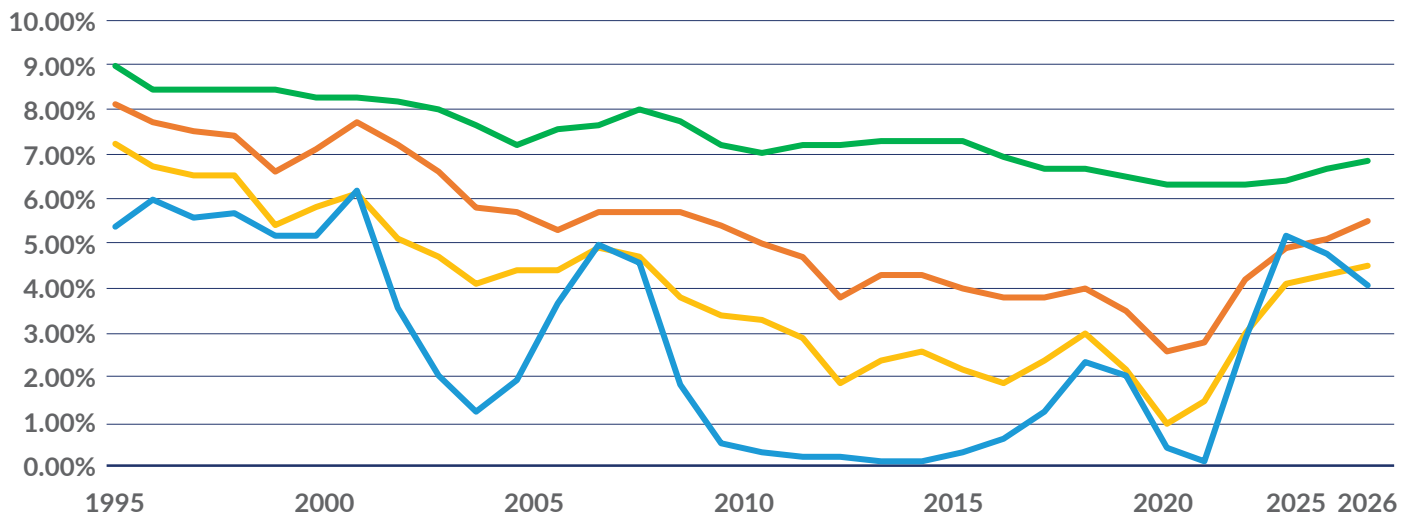
of years, so changes in new money interest rates have a gradual impact on the DIR. The stabilizing effect of the portfolio average method over time is among the reasons MassMutual and many other insurers use this approach to determine their Dividend Interest Rates.

### MASSMUTUAL'S DIR COMPARED TO COMMON FIXED INCOME MEASURES

This graph shows the relative stability of MassMutual's Dividend Interest Rate compared to three common fixed income measures over an extended period of time. The values plotted in the graph are for each year from 1995-2026.

#### DIVIDEND SCHEDULE

- MM DIR<sup>1</sup>
- Moody's Seasoned Aaa Corporate Bond Yield, Percent, Annual, Not Seasonally Adjusted<sup>2</sup>
- Market Yield on U.S. Treasury Securities at 10-Year Constant Maturity, Percent, Annual, Not Seasonally Adjusted<sup>3</sup>
- Market Yield on U.S. Treasury Securities at 1-Year Constant Maturity, Percent, Annual, Not Seasonally Adjusted<sup>4</sup>



<sup>1</sup> Refers to the MM-block of business, which comprises policies issued prior to the merger of Massachusetts Mutual Life Insurance Company and the former Connecticut Mutual Life Insurance Company in 1996. Starting with the 2012 dividend schedule, there is a single Dividend Interest Rate for all blocks.

<sup>2</sup> Moody's yield on seasoned Aaa corporate bonds for all industries, quoted for the year preceding the Dividend Interest Rate shown; for 2026, the rate is the average monthly rate from January to September for the preceding year. Moody's Aaa rates through December 6, 2001, are averages of Aaa utility and Aaa industrial bond rates. As of December 7, 2001, these rates are averages of Aaa industrial bonds only.

<sup>3</sup> Market yield on U.S. Treasury securities at 10-year constant maturity, quoted for the year preceding the Dividend Interest Rate shown; for 2026, the rate is the average monthly rate from January to September for the preceding year.

<sup>4</sup> Market yield on U.S. Treasury securities at 1-year constant maturity, quoted for the year preceding the Dividend Interest Rate shown; for 2026, the rate is the average monthly rate from January to September for the preceding year.

# Historical Examples

The numeric tables on the following page illustrate MassMutual's historical dividend information for different whole life insurance policies that were issued in 1995.

The summary for each policy compares what was **illustrated** in 1995 with what **actually** happened over 31 years. Dividends were used to buy paid-up additional whole life insurance, or paid-up additions.

Below is a description of the terms used in each summary.

- **Guaranteed Cash Value** – The amount of the cash value that is guaranteed under the policy.
- **Total Dividends** – The total annual dividend, including dividends payable on paid-up additions.
- **Total Cash Value** – The total cash value, including all guaranteed and non-guaranteed values.
- **Total Death Benefit** – The total death benefit, including paid-up additions, that would be payable at the end of the policy year.

- **“IRR”** – The Internal Rate of Return (IRR) is the rate at which outlays up to that year must be compounded each and every year to generate the Total Cash Value or Total Death Benefit.

The results shown in the following tables are based on the actual experience of the company over the period of time primarily in terms of interest rates, mortality and expenses. Dividends paid in future years will be lower or higher than illustrated, depending on MassMutual's actual experience. The examples used are a sample of the types of whole life policies MassMutual sold at that time.

## Actual Historical Performance Summary Since 1995

Each of the three historical policy examples uses the best underwriting class (Preferred Nonsmoker) that was available at the time of

issue in 1995<sup>5</sup> and is from the MM Block.<sup>6</sup>

The policy types and the issue ages are shown in the following examples.

### HYPOTHETICAL POLICY 1 – \$250,000 CONVERTIBLE LIFE POLICY, \$4,625 PREMIUM – MALE AGE 45, PREFERRED NONSMOKER

#### With Paid-up Additions Option<sup>7</sup>

Year	Guaranteed Cash Value	Actual Dividends Paid	Total Cash Value <sup>8</sup>	Total Death Benefit <sup>8</sup>
1996	\$0	\$0	\$0	\$250,000
1997	\$500	\$213	\$713	\$250,641
1998	\$4,800	\$244	\$5,263	\$251,351
1999	\$9,210	\$332	\$10,021	\$252,286
2000	\$13,730	\$413	\$14,980	\$253,411
2001	\$18,360	\$505	\$20,157	\$254,746
2002	\$23,095	\$755	\$25,706	\$256,675
2003	\$27,923	\$995	\$31,613	\$259,139
2004	\$32,840	\$1,164	\$37,813	\$261,933
2005	\$37,833	\$1,283	\$44,244	\$264,917
2006	\$42,905	\$1,741	\$51,256	\$268,845
2007	\$48,050	\$2,238	\$58,892	\$273,747
2008	\$53,273	\$2,933	\$67,372	\$279,985
2009	\$58,580	\$3,238	\$76,333	\$286,674
2010	\$63,970	\$3,163	\$86,270	\$293,894
2011	\$69,435	\$3,679	\$97,035	\$302,084

Year	Guaranteed Cash Value	Actual Dividends Paid	Total Cash Value <sup>8</sup>	Total Death Benefit <sup>8</sup>
2012	\$74,968	\$4,401	\$108,842	\$311,592
2013	\$80,553	\$5,060	\$121,629	\$322,238
2014	\$86,175	\$5,826	\$134,736	\$333,394
2015	\$91,823	\$6,654	\$148,177	\$345,063
2016	\$97,173	\$7,155	\$161,992	\$357,299
2017	\$102,520	\$7,019	\$175,845	\$369,012
2018	\$107,870	\$6,923	\$189,775	\$380,290
2019	\$113,223	\$7,473	\$204,423	\$392,183
2020	\$118,578	\$7,427	\$219,201	\$403,735
2021	\$123,920	\$7,486	\$234,187	\$415,122
2022	\$129,223	\$7,737	\$249,534	\$426,639
2023	\$134,450	\$8,320	\$265,521	\$438,766
2024	\$139,568	\$9,233	\$282,426	\$451,958
2025	\$144,543	\$10,673 <sup>8</sup>	\$300,736	\$466,917
2026	\$149,373	\$11,768	\$320,408	\$483,516
Termination Dividend		\$5,000		
<b>IRR 31 Years</b>			<b>4.63%</b>	<b>6.78%</b>

<sup>5</sup> Assumes policy was issued with an adjustable loan rate. No loans were taken.

<sup>6</sup> MM Block refers to eligible participating policies issued by Massachusetts Mutual Life Insurance Company prior to the merger with the former Connecticut Mutual Life Insurance Company in 1996. Policies in this block of business are no longer sold.

<sup>7</sup> Assumes no paid-up additions are surrendered.

<sup>8</sup> Numbers include termination dividend in 2026 for total dividends. Termination dividend payable in Total Cash Value and Total Death Benefit beginning in year 15. Termination dividends are only available upon full policy surrender or death.

**HYPOTHETICAL POLICY 2 – \$250,000 LIFE PAID-UP AT 65  
WHOLE LIFE POLICY, \$3,450 PREMIUM – FEMALE AGE 35, PREFERRED NONSMOKER**

**With Paid-up Additions Option<sup>7</sup>**

Year	Guaranteed Cash Value	Actual Dividends Paid	Total Cash Value	Total Death Benefit
1996	\$0	\$135	\$135	\$250,607
1997	\$0	\$161	\$300	\$251,306
1998	\$3,353	\$180	\$3,843	\$252,065
1999	\$6,843	\$233	\$7,583	\$253,016
2000	\$10,435	\$269	\$11,468	\$254,074
2001	\$14,133	\$318	\$15,518	\$255,290
2002	\$17,930	\$523	\$19,884	\$257,224
2003	\$21,840	\$727	\$24,584	\$259,828
2004	\$25,865	\$869	\$29,565	\$262,845
2005	\$30,013	\$955	\$34,785	\$266,060
2006	\$33,835	\$1,303	\$40,061	\$270,311
2007	\$37,773	\$1,649	\$45,843	\$275,528
2008	\$41,830	\$2,171	\$52,322	\$282,188
2009	\$46,008	\$2,331	\$59,155	\$289,125
2010	\$50,308	\$2,334	\$66,193	\$295,864
2011	\$54,735	\$2,648	\$73,753	\$303,284

Year	Guaranteed Cash Value	Actual Dividends Paid	Total Cash Value	Total Death Benefit
2012	\$59,293	\$3,133	\$82,021	\$311,803
2013	\$63,983	\$3,564	\$90,957	\$321,212
2014	\$68,803	\$4,096	\$100,677	\$331,712
2015	\$73,763	\$4,605	\$111,183	\$343,178
2016	\$78,868	\$4,837	\$122,220	\$354,879
2017	\$84,133	\$4,573	\$133,321	\$365,629
2018	\$89,573	\$4,372	\$144,560	\$375,616
2019	\$95,203	\$4,596	\$156,378	\$385,820
2020	\$101,035	\$4,433	\$168,416	\$395,384
2021	\$107,078	\$4,319	\$180,724	\$404,440
2022	\$113,325	\$4,457	\$193,547	\$413,525
2023	\$119,773	\$4,629	\$206,908	\$422,700
2024	\$126,415	\$4,963	\$220,959	\$432,268
2025	\$133,253	\$5,687	\$236,090	\$442,937
2026	\$136,858	\$7,431	\$249,908	\$456,511
Termination Dividend		\$0		
<b>IRR 31 Years</b>			<b>4.94%</b>	<b>8.01%</b>

**HYPOTHETICAL POLICY 3 – \$250,000 10 PAYMENT  
WHOLE LIFE POLICY, \$13,717.50 PREMIUM – MALE AGE 50, PREFERRED NONSMOKER**

**With Paid-up Additions Option<sup>7</sup>**

Year	Guaranteed Cash Value	Actual Dividends Paid	Total Cash Value	Total Death Benefit
1996	\$1,410	\$1,143	\$2,553	\$252,743
1997	\$14,020	\$1,307	\$16,503	\$255,790
1998	\$27,070	\$1,526	\$31,152	\$259,248
1999	\$40,590	\$1,969	\$46,759	\$263,583
2000	\$54,593	\$2,221	\$63,157	\$268,338
2001	\$69,120	\$2,540	\$80,463	\$273,628
2002	\$84,213	\$3,196	\$99,063	\$280,109
2003	\$99,915	\$4,155	\$119,321	\$288,310
2004	\$116,295	\$4,508	\$140,725	\$296,979
2005	\$133,410	\$4,495	\$162,975	\$305,402
2006	\$136,848	\$7,027	\$174,201	\$318,239
2007	\$140,310	\$7,553	\$186,162	\$331,698
2008	\$143,790	\$8,775	\$199,554	\$346,954
2009	\$147,273	\$8,578	\$212,965	\$361,515
2010	\$150,753	\$7,933	\$225,930	\$374,671
2011	\$154,223	\$8,387	\$239,517	\$388,266

Year	Guaranteed Cash Value	Actual Dividends Paid	Total Cash Value	Total Death Benefit
2012	\$157,680	\$9,425	\$254,312	\$403,209
2013	\$161,133	\$10,123	\$270,003	\$418,915
2014	\$164,578	\$11,056	\$286,832	\$435,709
2015	\$168,015	\$11,936	\$304,759	\$453,470
2016	\$171,435	\$12,701	\$323,663	\$471,991
2017	\$174,823	\$12,213	\$342,272	\$489,456
2018	\$178,155	\$11,986	\$360,782	\$506,275
2019	\$181,410	\$12,979	\$380,353	\$524,162
2020	\$184,570	\$12,959	\$399,938	\$541,715
2021	\$187,630	\$13,033	\$419,601	\$559,080
2022	\$190,595	\$13,721	\$439,953	\$577,078
2023	\$193,478	\$14,630	\$461,236	\$595,982
2024	\$196,293	\$15,962	\$483,910	\$616,312
2025	\$199,053	\$18,154	\$508,868	\$639,113
2026	\$201,755	\$20,034	\$535,811	\$663,937
Termination Dividend		\$0		
<b>IRR 31 Years</b>			<b>5.23%</b>	<b>6.07%</b>

# MassMutual

**Helping you secure what matters most.**

Since 1851, our business decisions have been guided by our customers' needs. Today, we offer a wide range of financial products and services to help people secure their future and protect the ones they love.

All guarantees and benefits of the insurance policy are backed by the claims-paying ability of the issuing insurance company. Policy guarantees and benefits are not obligations of, nor backed by, the broker/dealer and/or insurance agency selling the policy, nor by any of their affiliates, and none of them makes any representations or guarantees regarding the claims-paying ability of the issuing insurance company.

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