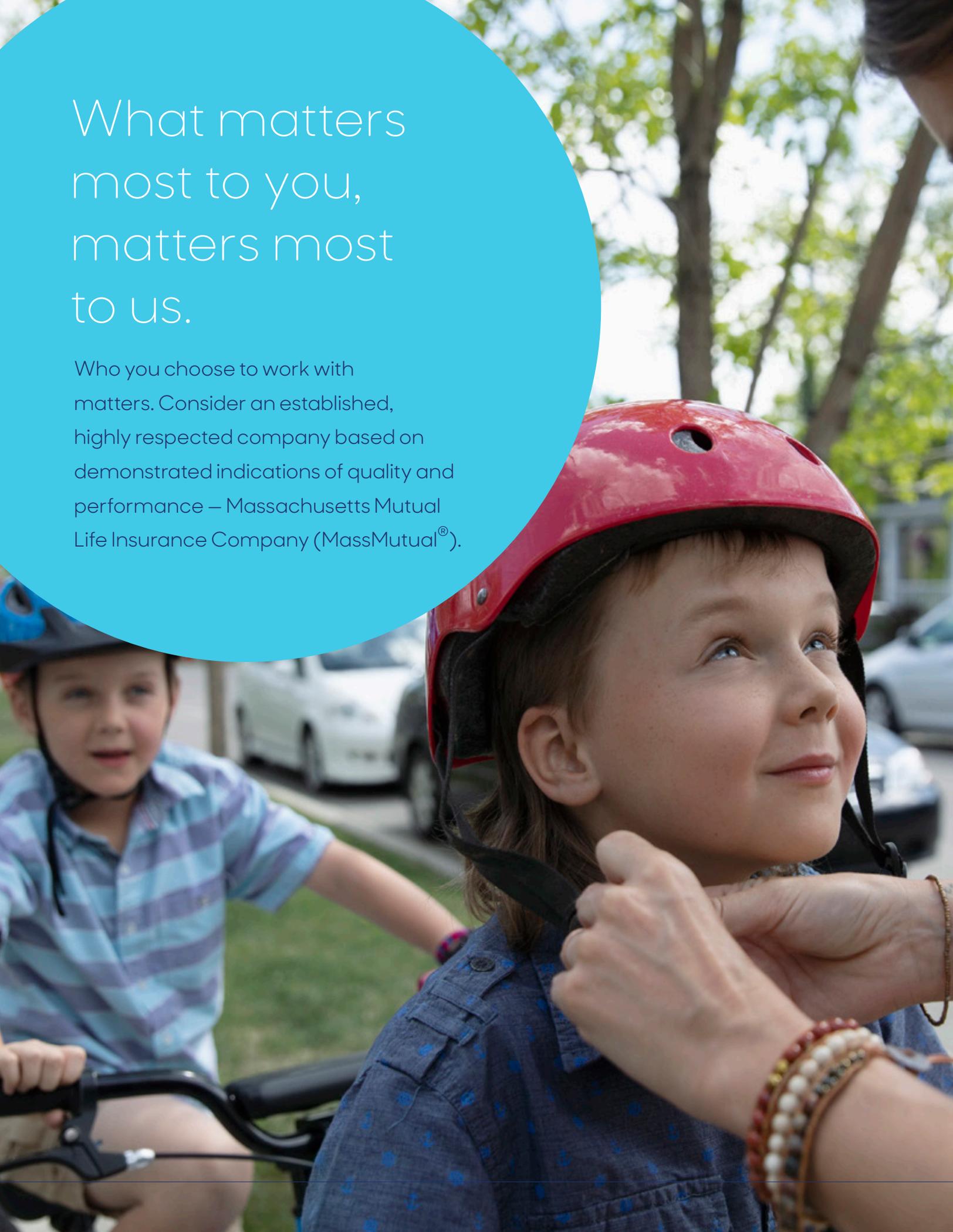


2019 QUALITY AND PERFORMANCE REPORT

Together always was,
and always will be,
a better way.

Live Mutual[®]



A young girl in a red helmet is looking up and to the right. A woman's hands are adjusting the helmet. In the background, another child in a blue helmet is riding a bicycle. The scene is outdoors with trees and a car visible.

What matters
most to you,
matters most
to us.

Who you choose to work with matters. Consider an established, highly respected company based on demonstrated indications of quality and performance – Massachusetts Mutual Life Insurance Company (MassMutual[®]).



MassMutual – A strong mutual company

Since 1851, we've made business decisions based on customer needs. Our mutual form of ownership, along with our long-term business approach, has helped keep us strong. This strength means we will be here when our customers need us most.

But it's not just our numbers that make us strong. We're committed to a nationwide network of trusted and knowledgeable financial professionals who think the way we do – in terms of long-term commitment to meeting individual client needs. Together, we help people secure their future and protect the ones they love. And our commitment to people extends beyond our business model and out into the communities where we operate.

At MassMutual, what matters most is clear. Despite volatile economic trends, we have continued to deliver strong results and maintain our financial integrity – all of which make MassMutual a good decision.

MassMutual continued its tradition of strength, stability, and performance in 2018:

- Increased total adjusted capital to nearly \$20 billion, a record high, while surplus remained strong at \$15.6 billion; both are key indicators of the company's financial strength.¹
- At year-end 2018, more than \$14 billion in policy loans were outstanding, loaned to policyowners who utilized accumulated cash value of their policies.²
- We paid over \$5.3 billion in insurance and annuity benefits in 2018, providing our policyowners, customers, and their families with financial security for a broad range of needs.
- Ended 2018 with \$702 billion of assets under management.³
- Issued more than \$700 million of life insurance coverage since 2002 through MassMutual's LifeBridgeSM Free Life Insurance Program.⁴
- Provided nearly \$20 million in charitable contributions in 2018, focusing on financial wellness and access to economic opportunity. We launched the Live Mutual Project, our MassMutual Foundation-led initiative that brings together community members and resources to build a strong foundation for financial well-being today and for future generations.
- Our proprietary financial education program for middle and high school students – FutureSmartSM – continued to expand its footprint in our nation's schools, reaching just over 1.5 million students nationwide. We aspire to reach 2 million students and families by 2020 and are on track to exceed this goal.

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A responsible company

Our people advantage

Diversity and inclusion fuels our business growth and helps us achieve our purpose – to help people secure their future and protect the ones they love. Increasing the diversity of our sales force and workforce is a priority because we believe that if we reflect our customer’s backgrounds, thoughts, values, and beliefs, we will be better able to understand and serve their needs.

Our focus on diversity and inclusion has also enhanced our ability to attract and retain great talent. Employees participate in our eight Business Resource Groups where they have the opportunity to drive business impact beyond their everyday roles. We’ve continued to earn external recognition for fostering a workplace where our employees feel welcomed, valued, and inspired to succeed.

- ¹ These consolidated results of Massachusetts Mutual Life Insurance Company also include its U.S.-domiciled, wholly-owned subsidiaries: MML Bay State Life Insurance Company and C.M. Life Insurance Company.
- ² Policy loans are loans taken by policyowners against the cash surrender value of their policies and, as such, are secured by the cash surrender value of those policies. Distributions under the policy (including cash dividends and partial/full surrenders) are not subject to taxation up to the amount paid into the policy (cost basis). If the policy is a Modified Endowment Contract, policy loans and/or distributions are taxable to the extent of gain and are subject to a 10 percent tax penalty if the policyowner is under age 59½. Access to cash values through borrowing or partial surrenders will reduce the policy’s cash value and death benefit, increase the chance the policy will lapse, and may result in a tax liability if the policy terminates before the death of the insured.
- ³ Assets Under Management include assets and certain external investment funds managed by MassMutual subsidiaries, including OppenheimerFunds, Inc. and Barings. MassMutual sold OppenheimerFunds to Invesco on May 24, 2019.
- ⁴ MassMutual pays the premiums on \$50,000 of term life insurance for eligible parents or guardians, with the benefit paid into a trust earmarked for their child’s education. Trust services provided by The MassMutual Trust Company, FSB, a wholly-owned subsidiary of MassMutual.

A mutual life insurance company providing long-term value

A leading mutual life insurance company

As a mutual company, MassMutual does not have shareholders. The Company is managed with the long-term interests of its members and policyowners in mind, and we work every day to make decisions in order to meet their needs in the future.

Members and policyowners may benefit directly from the Company's mutual form of ownership. For example, if you are the insured under

a MassMutual participating whole life insurance policy, you are a member of the Company and entitled to vote for its board of directors. And, if you are the owner of that participating policy, you may be eligible to share in any dividends the Company may declare.

Through the most prosperous and turbulent of financial times, our mutual form of ownership has been the foundation of our business strategy. And for more than 168 years, we have focused on providing long-term value to our policyowners, while maintaining strength and stability for the future.

MassMutual's commitment to corporate responsibility also defines us.

Our philosophy is simple: operate in a manner that yields positive results for our policyowners, employees, communities, environment, and all of our stakeholders.

- MassMutual ranked No. 84 on the *FORTUNE*® 500 in 2019
- 2019 *FORTUNE* World's Most Admired Companies® list⁵
- 2019 Corporate Equality Index Rating of 100%, Human Rights Campaign
- 2019 World's Most Ethical Companies, Ethisphere Institute
- 2018 Best Places to Work for Disability Inclusion, Disability Equality Index
- Military Friendly Employer

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A long-term investment philosophy

Our long-term investment philosophy is tailored to our specific goals as a mutual life insurance company.

MassMutual's investment goal is to generate competitive long-term results while maintaining the ability to weather downturns in financial markets.

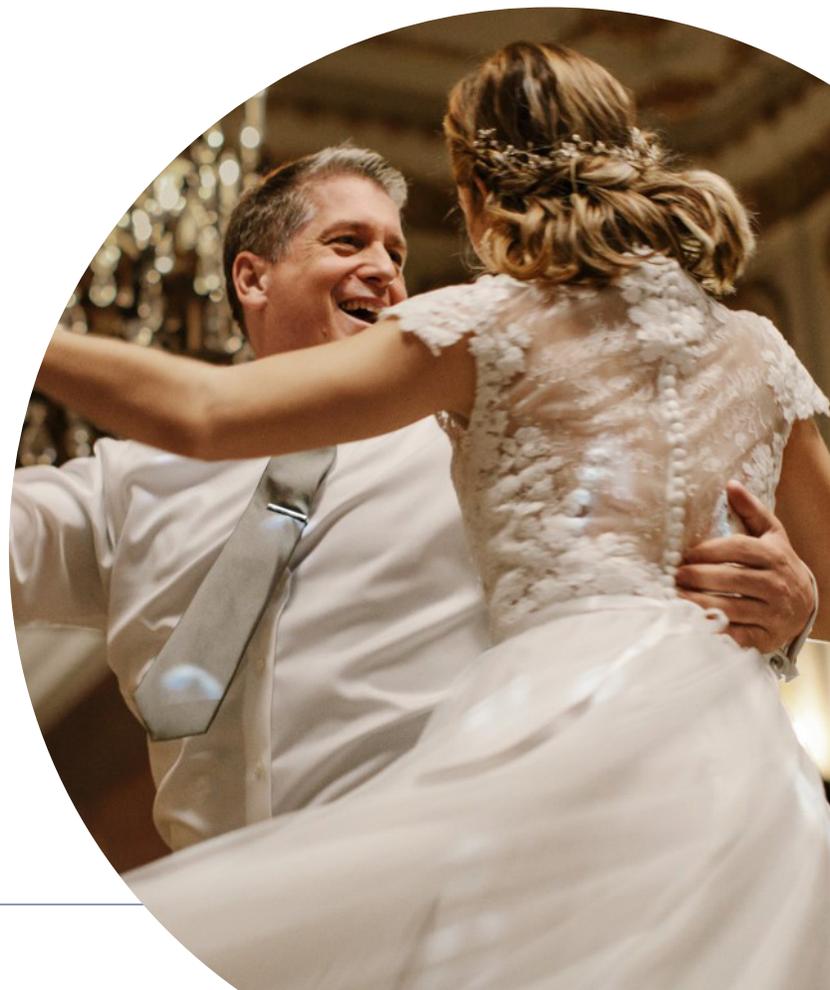
A history of dividends to eligible participating policyowners every year since 1869⁶

Dividends are generally declared and paid annually and, although policy dividends are not guaranteed, MassMutual has paid them every year since 1869.

Dividends can help policyowners build more value in their participating policies, reinforcing our policy base and our overall financial strength.

Disciplined investment with an eye on quality and long-term returns

With a strategy built on diversification⁷, prudent security selection and value, MassMutual has been able to achieve solid long-term investment returns for the benefit of our policyowners without exposing them to unnecessary risk, even in unpredictable markets and economic cycles.



⁶ Dividends are determined annually, subject to change, and not guaranteed.

⁷ Diversification does not ensure a profit or protect against loss in a declining market.

Our investment portfolio

MassMutual's investment portfolio, the General Investment Account or "GIA," consists primarily of bonds and real estate debt investments.

In line with our tenet of diversification, the GIA holdings are well diversified in terms of investment type and risk.

How dividends are determined

Company surplus is primarily the result of favorable operating experience with respect to claims (death benefits paid), investment results, and expenses. A portion is set aside to be paid or applied as policy dividends in the following year. 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.

Our eligible whole life insurance policyowners use the dividends they receive in a variety of ways from increasing their cash value and death benefit to helping to pay their premiums.

Generally, dividends are declared and paid annually. However, since we do not know what our experience will be in future years, we cannot guarantee the payment of dividends.

Appropriate solutions

MassMutual financial professionals work with clients to develop customized financial solutions. In addition, our SpecialCareSM program provides access to information, specialists, and financial products and services that can help improve the quality of life for people with special needs and their families and caregivers.

A needs-based approach

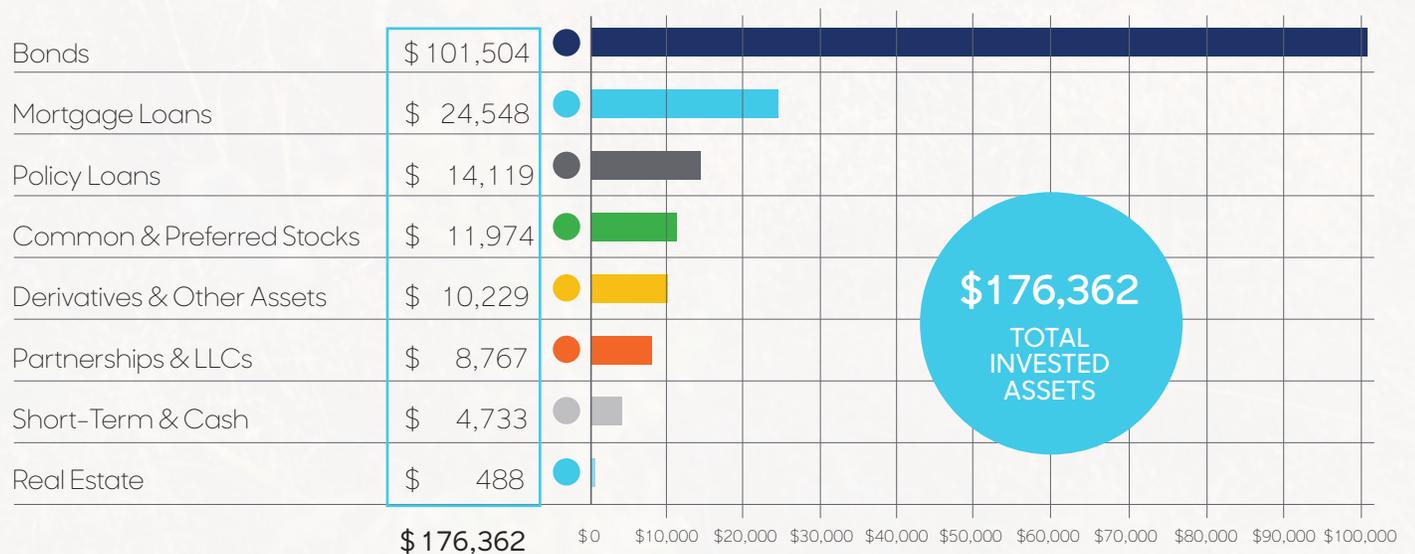
Each of us has different financial needs. Yet we share one goal: to make good financial decisions. To help you get there, we follow a needs-based approach.

MassMutual had industry-leading weighted⁸ whole life insurance sales of \$628 million in 2018 as consumers continued to value a product that combines a guaranteed death benefit with guaranteed cash-value accumulation and eligibility to receive policy dividends, which are not guaranteed.

⁸ Weighted sales are based on annualized new premium, with single premium payments calculated at 10 percent.



TOTAL INVESTED ASSETS (IN MILLIONS AS OF 12/31/18)



A strong, stable company with consistent growth

The rating agencies have recognized our financial strength as reflected in factors like our strong capital, diversified operating earnings, and focus on proven products.

Massachusetts Mutual Life Insurance Company and subsidiary companies have financial strength ratings⁹ that are among the highest in the industry.

Independent assessment

Independent rating agencies assess a company's financial strength and its capacity to meet its insurance obligations such as the guarantees in life insurance policies or annuity contracts.

Measures of strength

MassMutual's financial strength is shown by a number of different measures that reflect the company's fundamental stability.

One of the highest ranked life insurance companies for capital and surplus

MassMutual is ranked sixth in the industry based on capital and surplus as of year-end 2018.¹⁰ Our 2018 capital ratio, a measure of capital and surplus in relation to an insurer's overall size, was 8.5%.¹¹

As a mutual insurer, MassMutual does not have capital stock; its excess of assets over liabilities, or "financial cushion," is considered surplus. Liabilities include the amount of reserves set aside to meet projected future obligations.

A.M. Best Company	A++ (Superior)
Fitch Ratings	AA+ (Very Strong)
Moody's Investors Service	Aa3 (High Quality)
Standard & Poor's	AA+ (Very Strong)

⁹ Ratings are for Massachusetts Mutual Life Insurance Company, Springfield, MA 01111-0001, and its subsidiaries: C.M. Life Insurance Company and MML Bay State Life Insurance Company, Enfield, CT 06082, as of 7/1/2019 and are subject to change.

¹⁰ SNL Financial; SNL Life Group data (as of 12/31/18) includes parent and life subsidiaries adjusted with eliminating entries by SNL where relevant. The industry consists of more than 350 groups/unaffiliated companies in the SNL database with year-end 2018 capital and surplus greater than zero.

¹¹ Capital ratio is capital and surplus as a percent of total admitted assets excluding separate account assets as of 12/31/18. Source: SNL Financial.

Surplus is another key metric for evaluating the financial strength and stability of an insurance company. It represents the financial resources a company has on hand above and beyond setting aside reserves to meet projected future obligations.

A strong surplus position

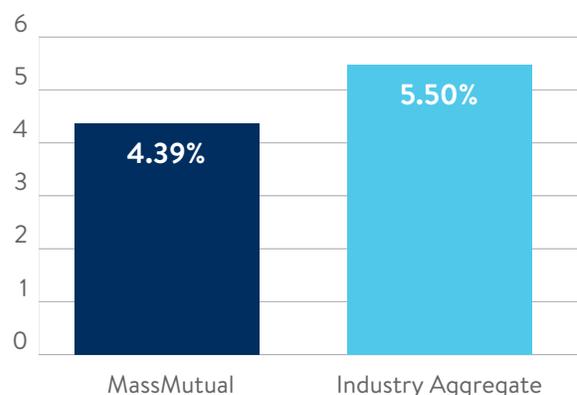
Since 1998, we have grown surplus an average annual rate of over 8 percent, giving MassMutual the financial strength and stability our policyowners and clients expect from us.

Outperforming the industry for ordinary life lapse ratio

To a certain extent, lapse ratio may be a measure of customer satisfaction. Policyowners who are satisfied with the value and service they receive might tend to be less likely to lapse their life insurance policies.

Ordinary Life Lapse Ratio (%) – 5 year average (2014–2018¹²)

A low lapse ratio is more favorable than a high lapse ratio.



A powerful measure of sustainability

As of December 31, 2018, our retention rate remains favorable compared to others in our peer group.¹³ More than 121,000 life insurance policies have been with MassMutual for 50 years or longer – a powerful measure of long-term value.

¹² “Ordinary life,” in statutory annual statement terminology, includes individual life insurance policies but excludes industrial, credit life, and group life policies. Ordinary life lapse ratio above is the five-year average of lapses and surrenders as a percentage of average face value in force. Lapses and surrenders occur for a variety of reasons including failure to pay premiums, cancellation of a policy, etc. Ordinary life lapse ratio compares the amount of ordinary life insurance face value lapsed or surrendered during a time period to the average amount of face value in force during that time period. Source: SNL Financial and internal calculations; SNL data (as of 12/31/18) on group basis includes parent and life subsidiaries adjusted with eliminating entries by SNL where relevant.

¹³ SNL DataServices – Peer group is comprised of 25 largest insurers based on ordinary life insurance in force as of year-end 2018.

Workplace and Institutional Solutions

We achieved \$18.3 billion in total Workplace and Institutional sales, with sales from our Institutional businesses topping \$10 billion in 2018.

We're helping people save so they can retire on their own terms by making saving simple and easy. We're also working to help people better understand how their savings translates into retirement income.

We use data to determine if a retirement plan is on track. If it isn't, we suggest ways to boost participation and savings.

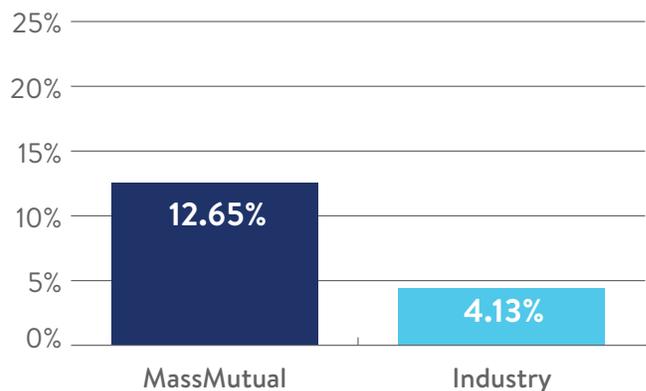
A leading provider of whole life insurance outperforming the industry for sales growth

Sales of our core product have grown as consumers have seen the power of a product that combines a guaranteed death benefit with guaranteed cash value accumulation.¹⁴

A broad network of financial professionals

MassMutual's core distribution channel, our trained financial professionals, maintains a strong presence throughout the country with a national network of approximately 8,900 financial professionals at year-end 2018.

Whole Life Sales 2013–2018 Growth Rate



¹⁴ LIMRA International, U.S. Individual Life Insurance Sales Surveys (2013–2018); industry estimate and internal calculations as of May 2019; Sales based on annualized new whole life premiums.

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One of America's largest companies

FORTUNE® 500: Revenues as reported by well-known companies¹⁵

Company	Rank 2018	Revenue (\$millions)
Goldman Sachs	62	\$52,528
MassMutual	84	\$39,267
General Dynamics	92	\$36,193
Coca-Cola	100	\$31,856
Northwestern Mutual	111	\$29,124
Starbucks	121	\$24,719
Netflix	197	\$15,860
Principal Financial	219	\$14,237
Guardian Life Ins. Co. of America	244	\$13,015
eBay	295	\$10,746

MassMutual At A Glance

	What We Offer	Who We Help	How We Help
MassMutual	Domestic Insurance and Retirement Services	<ul style="list-style-type: none"> • Individuals and families • Business owners • Businesses • Unions • Nonprofit and governmental organizations • Professional employer organizations 	<p>Through a nationwide network of trusted financial professionals, we offer a comprehensive portfolio of products and services that help people secure their future and protect the ones they love. Our offerings include life insurance, disability income insurance, long-term insurance, retirement/401(k) plan services, annuities, and broker-dealer and trust services.¹⁶</p> <p>We also collaborate with retirement plan advisors, businesses and organizations. Our consultative approach focuses on plan health and participant readiness. We offer a full range of retirement plan products and services for defined benefit, defined contribution and nonqualified deferred compensation plans, as well as an array of protection products available to individuals through the worksite.</p>
Affiliates & Subsidiaries	Asset Management	<ul style="list-style-type: none"> • Institutional investors, including public and private pensions, insurance companies, endowments, and sovereign wealth funds • Retail and wealth channel investors, including RIAs 	<p>Our asset management subsidiary, Barings, is dedicated to meeting the evolving investment and capital needs of its clients and customers around the globe. Through active asset management and direct origination, Barings provides innovative solutions and access to differentiated opportunities across public and private capital markets. Barings also provides additional diversification, leverage many of our core strengths and is a contributor to MassMutual's financial strength and dividend-paying ability.</p> <p style="text-align: center;"><u>BARINGS</u></p>

To locate a financial professional near you, visit [MassMutual.com/locateanoffice](https://www.massmutual.com/locateanoffice)

¹⁶ Trust services provided by The MassMutual Trust Company, FSB, a wholly-owned subsidiary of MassMutual. Securities, products and services offered through registered representatives of MML Investors Services, LLC, (MMLIS), Member SIPC® (www.SIPC.org), Springfield, MA 01111-0001 or a broker-dealer that has a selling agreement with MML Distributors, LLC (MMLD), (Member SIPC), or MML Strategic Distributors, LLC (MSD), Springfield, MA 01111-0001. MMLIS, MSD and MMLD, all Members FINRA (www.FINRA.org), are subsidiaries of MassMutual, Springfield, MA 01111-0001. Domestic insurance products issued by Massachusetts Mutual Life Insurance Company, Springfield, MA 01111-0001, and its subsidiaries: C.M. Life Insurance Company and MML Bay State Life Insurance Company, Enfield, CT 06082.



