2020 QUALITY AND PERFORMANCE REPORT

We help people secure their future and protect the ones they love.
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.
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 continued its tradition of strength, stability, and performance in 2019.
- Increased total adjusted capital to more than $24 billion, a record high, while surplus remained strong at $18.9 billion; both are key indicators of the company’s financial strength.1

- At year-end 2019, nearly $15 billion in policy loans. These are loans to policyowners that are secured by the accumulated cash value in their policies.2

- We paid over $5.7 billion in insurance and annuity benefits in 2019, providing our policyowners, customers, and their families with financial security for a broad range of needs.

- Ended 2019 with $567 billion of assets under management.3

- Issued more than $705 million of life insurance coverage since 2002 through MassMutual’s LifeBridgeSM Free Life Insurance Program4

- Provided nearly $17 million in charitable contributions in 2019, focusing on financial wellness and access to economic opportunity. We continued to grow the Live Mutual Project, our 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 over 2 million students nationwide. Additionally, we offered families direct access to FutureSmart in response to the extended shutdown of our nation’s schools.

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. Access to cash values through borrowing or partial surrenders will reduce the policy’s cash value and death benefit.

3 Assets Under Management include assets and certain external investment funds managed by MassMutual subsidiaries.

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 responsible company

Our people advantage

Diversity and inclusion fuel our business growth and help 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 customers’ 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.

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 are eligible to receive policy dividends.5

Through the most prosperous and turbulent of financial times, our mutual form of ownership has been the foundation of our business strategy. And for nearly 170 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 is also ranked No. 89 on the 2020 FORTUNE 500® list.

- 2020 World’s Most Ethical Companies
  Ethisphere Institute
- 2020 World’s Most Admired Companies List®
  FORTUNE
- America’s Best Employers for Diversity
  Forbes
- Diversity Best Practices Inclusion Index
  Diversity Best Practices
- 2020 Best Places to Work for
  LGBTQ Equality. Corporate
  Equality Index rating of 100%
  Human Rights Campaign
- 2019 Best Places to Work for Disability
  Inclusion. Disability Equality Index
  rating of 100%
- Military Friendly Employer
  Victory Media

5 Dividends are determined annually, subject to change, and not guaranteed.
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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 was an industry leader in 2019, with weighted7 whole life insurance sales of $607 million in 2019 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.

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7 Weighted sales are based on annualized new premium, with single premium payments calculated at 10 percent.
### TOTAL INVESTED ASSETS
(IN MILLIONS AS OF 12/31/19)

<table>
<thead>
<tr>
<th>Asset Type</th>
<th>Amount</th>
</tr>
</thead>
<tbody>
<tr>
<td>Bonds</td>
<td>$106,023</td>
</tr>
<tr>
<td>Mortgage Loans</td>
<td>$28,408</td>
</tr>
<tr>
<td>Common &amp; Preferred Stocks</td>
<td>$17,198</td>
</tr>
<tr>
<td>Policy Loans*</td>
<td>$14,973</td>
</tr>
<tr>
<td>Derivatives &amp; Other Assets</td>
<td>$14,950</td>
</tr>
<tr>
<td>Partnerships &amp; LLCs</td>
<td>$9,172</td>
</tr>
<tr>
<td>Short-Term &amp; Cash</td>
<td>$4,317</td>
</tr>
<tr>
<td>Real Estate</td>
<td>$358</td>
</tr>
<tr>
<td><strong>Total Invested Assets</strong></td>
<td><strong>$195,399</strong></td>
</tr>
</tbody>
</table>

*Policy loans are loans taken by the policyowner against the cash surrender value of their policies and, as such, are secured by the cash surrender value of those policies.
Policyowner Dividends

Dividends to eligible participating policyowners include three primary components that reflect the company’s operating experience with respect to mortality (death claims), investment results, and expense savings. The investment component of the dividend reflects the difference between the dividend interest rate (DIR) set by the Board of Directors each year and the policy’s guaranteed interest rate. Strategic business investments have helped support MassMutual’s DIR and, to a certain extent, have mitigated the impact of declining interest rates over the past several years. As a result, prudent investment decisions have positioned us to declare an industry-leading dividend interest rate for over a decade while maintaining outstanding financial strength.8

8 The dividend and dividend interest rate (DIR) are determined annually, subject to change, and are not guaranteed. Dividends for eligible participating life insurance policies consist of investment, mortality, and expense components. The DIR is used to determine the investment component of the dividend. It is not the rate of return on the policy and should not be the sole basis for comparing insurers or policy performance.
DIVIDENDS TO POLICYOWNERS
A HISTORY OF SOLID PERFORMANCE IN ALL PHASES OF THE ECONOMIC CYCLE

Source: Massachusetts Mutual Life Insurance Company Statutory Annual Statement, Year-End — Summary of Operations — Dividends to Policyowners. These numbers reflect incurred dividends to policyowners. Incurred dividends equal amounts paid to eligible participating policyowners plus any increase in liabilities.
Business Earnings and Dividends

Our portfolio of strategic business investments remains a substantial contributor to our success and has evolved over time. These businesses have enhanced our financial strength and stability by helping us grow our total adjusted capital and surplus. Past successes have positioned us to take advantage of new and larger investment opportunities that will continue to serve policyowners for decades to come. Wholly-owned subsidiaries have, in some cases, been exchanged for positions in much larger and more diverse operations.

For example, in 2019 OppenheimerFunds Inc. was sold to Invesco in exchange for an approximate 15.7% ownership stake in the common stock of Invesco Ltd., and approximately $4B in noncumulative perpetual preferred shares with a 21-year non-call period and a fixed rate of 5.9%. As another example, in November 2018, MassMutual International LLC (MMI) sold its wholly-owned life insurance and wealth management subsidiary, MassMutual Asia (MMA) for over $1B and an approximate 24.8% ownership stake in Yunfeng Financial Group. In 2016, MassMutual consolidated a number of its asset management subsidiaries under the Barings name.
2012 OBEs

2018 Other Business Earnings

Compound Annual Growth Rate of over 10% from 2012 to 2021

MassMutual

Non-Participating Insurance and Annuity (Including BOLI & Pension Risk Transfer)

Wealth & Asset Management

Retirement

Rothesay Life

MassMutual International LLC

International Strategic Entities
Yunfeng Financial/Nippon Wealth

2021 Other Business Earnings

MassMutual is now Invesco’s largest shareholder.

As of 2018.

2021 forecast assumes the impacts of the impending retirement plan business sale and increased Rothesay Life stake approval.
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 ratings\(^\text{12}\) 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 fourth in the industry based on capital and surplus as of year-end 2019\(^\text{13}\). Our 2019 capital ratio, a measure of capital and surplus in relation to an insurer’s overall size, was 9.3\%\(^\text{14}\).

<table>
<thead>
<tr>
<th>Rating Agency</th>
<th>Rating</th>
</tr>
</thead>
<tbody>
<tr>
<td>A.M. Best Company</td>
<td>A++ (Superior)</td>
</tr>
<tr>
<td>Fitch Ratings</td>
<td>AA+ (Very Strong)</td>
</tr>
<tr>
<td>Moody’s Investors Service</td>
<td>Aa3 (High Quality)</td>
</tr>
<tr>
<td>Standard &amp; Poor’s</td>
<td>AA+ (Very Strong)</td>
</tr>
</tbody>
</table>

\(^{12}\) 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 8/1/2020 and are subject to change.

\(^{13}\) SNL Financial; SNL Life Group data (as of 12/30/19) includes parent and life subsidiaries adjusted with eliminating entries by SNL where relevant. The industry consists of nearly 350 groups/unaffiliated companies in the SNL database with year-end 2019 capital and surplus greater than zero.

\(^{14}\) Capital ratio is capital and surplus as a percent of total admitted assets excluding separate account assets as of 12/31/19. 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 1999, we have grown surplus at an average annual rate of nearly 9 percent, giving MassMutual the financial strength and stability our policyowners and clients expect from us.

**Outperforming the industry for ordinary life lapse ratio**

Lapse ratio is a measure of customer retention. Policyowners who are satisfied with the value and service they receive might tend to be less likely to lapse their life insurance policies.

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

**Ordinary Life Lapse Ratio (%) — 5 year average (2015–2019)\(^{15}\)**

<table>
<thead>
<tr>
<th></th>
<th>MassMutual</th>
<th>Industry Aggregate</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lapse Ratio</td>
<td>4.39%</td>
<td>5.53%</td>
</tr>
</tbody>
</table>

**A powerful measure of sustainability**

As of December 31, 2019, our retention rate remains favorable compared to others in our peer group.\(^{16}\) More than 122,000 life insurance policies have been with MassMutual for 50 years or longer — a powerful measure of long-term value.

\(^{15}\) “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 12/31/2019) on group basis includes parent and life subsidiaries adjusted with eliminating entries by SNL where relevant.

\(^{16}\) SNL DataServices — Peer group is comprised of 25 largest insurers based on ordinary life insurance in force as of year-end 2019.
Workplace and Institutional Solutions

We achieved $21.7 billion in total Workplace and Institutional sales, with sales from our Institutional businesses topping $14 billion in 2019.

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.

A broad network of financial professionals

MassMutual’s core distribution channel, our trained financial professionals, continues to grow in communities throughout the country with a national network of nearly 8,500 financial professionals at year-end 2019.

Whole Life Sales 2014–2019 Growth Rate

One of America’s largest companies

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

<table>
<thead>
<tr>
<th>Company</th>
<th>Rank 2019</th>
<th>2019 Revenue ($millions)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Goldman Sachs</td>
<td>60</td>
<td>$53,922</td>
</tr>
<tr>
<td>General Dynamics</td>
<td>83</td>
<td>$39,530</td>
</tr>
<tr>
<td>Coca-Cola</td>
<td>88</td>
<td>$37,266</td>
</tr>
<tr>
<td>MassMutual</td>
<td>89</td>
<td>$37,253</td>
</tr>
<tr>
<td>Northwestern Mutual</td>
<td>102</td>
<td>$32,294</td>
</tr>
<tr>
<td>Starbucks</td>
<td>114</td>
<td>$26,509</td>
</tr>
<tr>
<td>Netflix</td>
<td>164</td>
<td>$20,156</td>
</tr>
<tr>
<td>Principal Financial</td>
<td>201</td>
<td>$16,222</td>
</tr>
<tr>
<td>Guardian Life Ins. Co. of America</td>
<td>238</td>
<td>$13,477</td>
</tr>
<tr>
<td>eBay</td>
<td>295</td>
<td>$10,800</td>
</tr>
</tbody>
</table>

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MassMutual At A Glance

<table>
<thead>
<tr>
<th>What We Offer</th>
<th>Who We Help</th>
<th>How We Help</th>
</tr>
</thead>
<tbody>
<tr>
<td>Domestic Insurance and Retirement Solutions</td>
<td>• Individuals and families</td>
<td>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 care insurance, annuities, and protection products available to individuals through the worksite.19</td>
</tr>
<tr>
<td></td>
<td>• Business owners</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Businesses</td>
<td></td>
</tr>
<tr>
<td>Wealth and Asset Management</td>
<td>• Institutional investors, including public and private pensions, insurance companies, endowments, and sovereign wealth funds</td>
<td>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, leverages many of our core strengths, and is a contributor to MassMutual’s financial strength and dividend-paying ability. The MassMutual Funds and MassMutual Trust Company add to our wealth and asset management capabilities by offering investment solutions, products, and services to the institutional market and investing public.</td>
</tr>
<tr>
<td></td>
<td>• Retail and wealth channel investors, including RIAs</td>
<td></td>
</tr>
<tr>
<td></td>
<td>• Plan sponsors</td>
<td></td>
</tr>
</tbody>
</table>
| Financial and Risk Management Solutions for Institutions | • Banks and corporations                           | Solving complex institutional needs requires a dedicated, experienced partner that enables businesses to focus on what they do best while making them stronger for the long-term. As a highly rated insurance carrier, MassMutual delivers the expertise and financial strength required to help our clients meet evolving needs. Using an innovative approach to solution design, and a clear focus on client outcomes, we have earned a reputation as a premier provider of comprehensive protection and investment solutions. 

Our Solutions include: Bank-Owned Life Insurance (BOLI), Corporate Owned Life Insurance (COLI), Funding Agreements, Institutional Investments including stable value funds, and Pension Risk Transfer solutions. |
|                                                   | • Institutional investors                         |                                                                            |
|                                                   | • Retirement professionals and plan sponsors     |                                                                            |

19 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.