

The Massachusetts Financial Services Sector

A Complete Portfolio – Partners in Managing Assets and Fostering Innovation

Special Focus: Financial Technology Boston

Boston Financial Services Leadership Council

The Massachusetts Financial Services Sector Impact Report was produced on behalf of the Boston Financial Services Leadership Council by:

PwC:

PwC provides industry-focused assurance, tax and advisory services to build public trust and enhance value for its clients and their stakeholders. More than 208,000 people within 157 countries across PwC's network share their thinking, expertise and solutions to develop fresh perspectives and practical advice.

Mass Insight Global Partnerships:

Mass Insight Global Partnerships creates competitive advantage for its partners and the region through public-private leadership groups that bring together universities, industry and government – what we call the Innovation Triangle – to 1) shape policy initiatives and 2) establish pre-competitive partnerships to expand market opportunities, focused especially on technologies where the region has deep resources.

Aligned with support for the BFSLC agenda, MIGP is currently building “model partnership networks” for **digital strategies and data partnerships, risk management and cyber security**.

BFSLC members lead an industry work group for **MIGP's Innovation Partnerships Network of university and industry partners to develop road maps and effective organizational strategies for digital strategies/data partnerships**. A life sciences/healthcare work group is organized in parallel and collaborates with the financial services group for effective practice and policy models.

Mass Insight Global Partnerships also launched in 2011 and continues to support the nonprofit **Advanced Cyber Security Center (ACSC)**. The ACSC is a 30 member regional “collaborative defense and research partnership” of industry, universities, nonprofits and government led by the MITRE Corporation and the Boston Federal Reserve Bank to address the most critical and sophisticated cyber security challenges.

MIGP continues to provide the longest running **quarterly public opinion survey** in Massachusetts to support MIGP's and its members' initiatives in collaboration with Opinion Dynamics Corporation.

The Mass Finance Sector: Strong, Growing and Transforming Through Technology

In the Fall 2010, Mass Insight and PwC issued our first Financial Services Sector Impact Report. Six years later, we are pleased to report the continued leadership and impact of this critical Massachusetts sector that provides support to all others and disproportionately affects the state's economy.

Massachusetts financial services firms are a key pillar of the state's economy. Indeed, the financial services sector is a top contributor to Gross State Product (GSP) and a major source of jobs, tax revenue, financing for business growth and management for assets accumulated.

Jobs are up 9,000 to 174,000. Three numbers tell the story of the impact in the Commonwealth - nearly 6, 10 and 20.

- Nearly 6% of the state's workforce, providing more than 174,000 direct jobs, including a leading share of middle-income, middle-class positions in our companies.
- 10% of the state's GSP, providing \$41.5 billion of the state's total output
- 20% of the state's business tax revenue (\$2.3 billion)

Mass Finance—our shorthand for the full range of businesses in financial services – represents a remarkable and complete portfolio that is exceptional both nationally and globally :

From community banks lending to small businesses...to venture capital and private equity funding the innovations in life sciences and technology...to global asset managers, mutual funds and insurance companies investing money and managing risk for businesses, institutions and individuals - in the region and around the world.

The opportunity for growth lies in helping to solve national—and global—retirement savings and lending and risk management challenges as people live longer and need more savings and better investment choices—and institutions, businesses, individuals and government gain access to more sophisticated ways to manage capital and risk.

That success will also depend on our firms leading the financial technology revolution as the sector and its new players transform customer, risk and back office operations.

The Commonwealth's firms are well positioned at the intersection of finance and IT to take this leadership role.

It will, however, require new levels of collaboration across leading firms, start ups, universities and government to leverage our assets and assure Boston - and the Commonwealth and New England - lead this transformation with New York and California.

The Council leaders are pleased therefore to announce the launch of Financial Technology Boston (financialtechnologyBoston.com) This new initiative of the BFSLC has the ambitious goal of assuring Boston's FinTech leadership.

Financial Technology Boston will promote the New England region as a hub for FinTech talent through an integrated media, outreach, and talent strategy, and through a network linking leading firms, start ups, venture capital, universities, and government. We urge you to join us.

Finally, it's important to note the exceptional civic leadership role that Boston's financial services firms and executives play. Mass Insight has organized public-private leadership for almost 30 years. One constant factor has been the participation of financial services executives who, due to the nature of their business supporting communities across all sectors, instinctively understand the importance of community leadership.

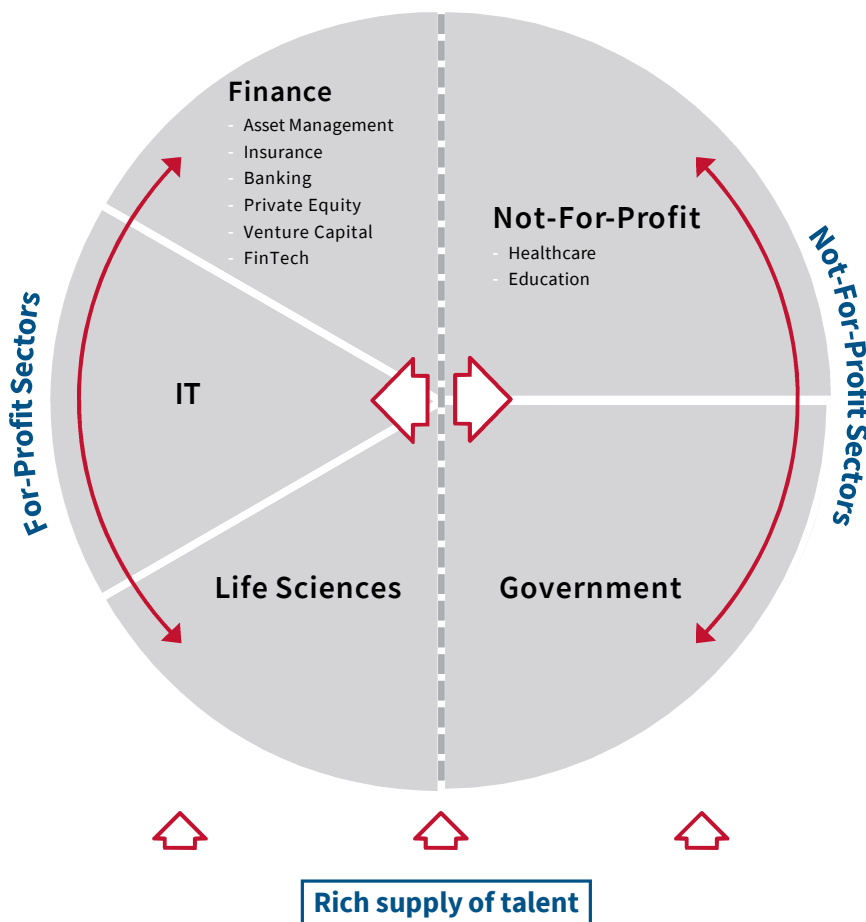
William H. Guenther
Chairman, CEO and Founder
Mass Insight Global Partnerships
June 2016

The Mass Finance Sector: A Complete Portfolio

Finance is a key sector in Massachusetts, creating business value and innovation. It is a critical component of the eco-system in Massachusetts, as it supplies innovating companies (e.g., FinTech startups, Life Sciences firms) with needed capital, and provides supporting industries, such as IT, with jobs and opportunities.

The breadth and proximity of the businesses comprising the Mass Finance sector buffer the state and the economy from changes in market dynamics. Supporting industries and a rich supply of talent both foster the growth of the sector and are sustained by it. Recent advancements in technology and innovation represent a significant opportunity for growth in the sector, as Financial Technology (“FinTech”) firms challenge the traditional ways of conducting business. All the pieces are in place to take advantage of this growth opportunity – from our world-class universities which supply the talent, to our long history as fiduciaries managing assets and our track record as innovators.

A diverse and balanced economy



The Mass Finance Sector:

A cornerstone of our economy

- 174,000 jobs — 5.7% of total state employment
- \$41.5 billion in Gross State Product (GSP) — 10% of the state’s total output
- Represents 20% of Business Taxes in Massachusetts
- Top 4 GSP driver, along with Real Estate, Professional and Technical Services, and Manufacturing
- Average income of \$142,225 per year, which is more than double the state average

Mass Finance is a for-profit employment leader and delivers more middle income jobs

Employing approximately 174,000

Finance is a key industry sector in Massachusetts, accounting for 5.7% of state employment, up from 5.0% in 2012.

Finance forms the backbone of Massachusetts' GSP, along with the for-profit industries of Life Sciences and Information Technology as well as not-for-profit industries, such as Healthcare and Education which we have defined as the key industries critical to the future of the economic ecosystem in Massachusetts.

For profit

| Industry | Employed | Percent of total MA employment |
|--------------------------|----------|--------------------------------|
| Finance & Insurance | 174,073 | 5.7% |
| Life Sciences* | 62,655 | 2.1% |
| Information Technology** | 137,620 | 4.5% |

Not for profit

| Industry | Employed | Percent of total MA employment |
|---------------------------------|----------|--------------------------------|
| Health Care & Social Assistance | 586,965 | 19.1% |
| Educational Services | 195,151 | 6.3% |

Sources: US Bureau of Economic Analysis, 2014 and Bureau of Labor Statistics, 2015.

* Includes the occupations identified by the following NAICS codes: 17-2031, 17-2041, 19-1021, 19-1022, 19-1023, 19-1029, 19-1041, 19-1042, 19-1099, 19-2031, 19-2041, 19-4021, 19-4031, 19-4099, 51-8091, 51-9011

** Includes the occupations identified by the following SOC codes: 11-3021, 15-1111, 15-1121, 15-1122, 15-1131, 15-1132, 15-1133, 15-1134, 15-1141, 15-1142, 15-1143, 15-1151, 15-1152

Finance delivers more middle income jobs than other sectors

Most of the citizens employed by the Finance industry have middle or high paying jobs. The charts on this page depict some representative jobs in Finance and its supporting industries.

The profile of an employee in the Finance sector is changing. Technology is revolutionizing the sector and the jobs of the future will require advanced skills across a spectrum of disciplines including technology, data analytics, risk and finance. There is a need for talent in these areas and demand drives higher wages.

In 2015, the average salary for all occupations in Massachusetts was \$59,010, up from \$55,600 in 2012. The average 2015 wage for Massachusetts employees in the Financial Activities industries was \$142,225. This represents a 45% increase from the average wage in 2005.

The median wages for these occupations are presented meaning that half of employees with these occupations earn more than the salaries indicated. Additionally, the chart indicates that 75% of employees in these occupations earn in excess of the salaries presented on the right.

Massachusetts Finance Wages

| Financial services | Median | 75%*** |
|--|-----------|----------|
| Financial Analysts | \$88,740 | \$68,490 |
| Financial Managers | \$115,870 | \$82,250 |
| Personal Financial Advisors | \$94,090 | \$64,610 |
| Securities, Commodities, & Financial Services Sales Agents | \$99,660 | \$71,630 |
| Supporting industries | Median | 75%*** |
| Accountants & Auditors | \$75,420 | \$59,510 |
| Legal Occupations | \$93,050 | \$57,830 |
| Management Analysts | \$91,480 | \$68,690 |

*** 75% of jobs earn higher than the amount indicated

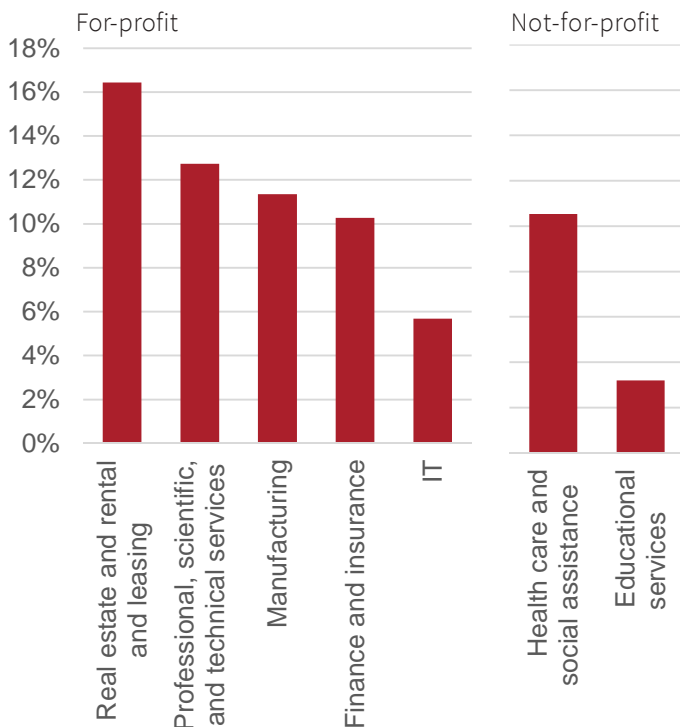
Source: Bureau of Labor Statistics, May 2015.

Mass Finance makes a leading contribution to Gross State Product

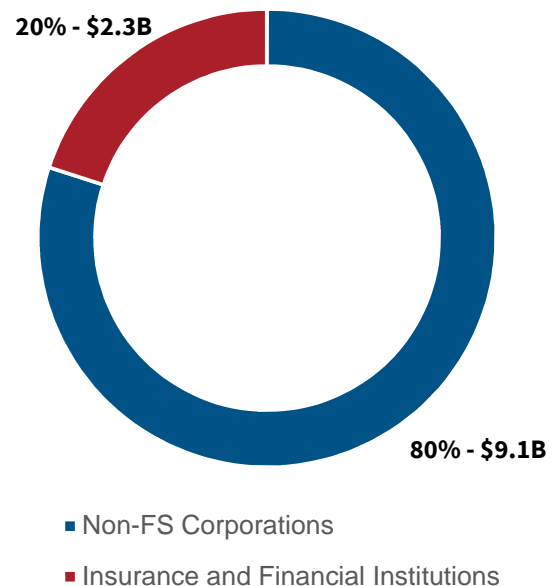
Finance and Insurance had a leading contribution to GSP in 2014, with 10% of total state output. Further, Financial Services is fourth in the state of the for-profit sectors behind Real estate and rental and leasing, Professional Services (of which a portion supports the Finance Industry) and Manufacturing.

While nearly 6% of total employment in Massachusetts and 10% of total state output, the Financial Institutions and Insurance Companies have provided an average of 20% (\$2.3B) of the taxes on Massachusetts businesses to the state over the last five years.

Percent of total Massachusetts GSP by industry in 2014



Taxes on Massachusetts Business 2010-2014 (Average)



Source: Bureau of Economic Analysis, 2014

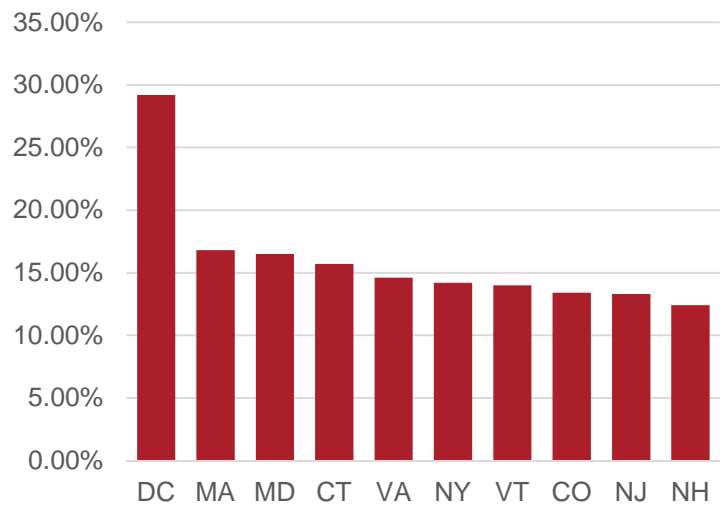
Source: Massachusetts Department of Revenue, FY2014 Annual Report

Education: Cultivating and retaining top talent for Mass Finance

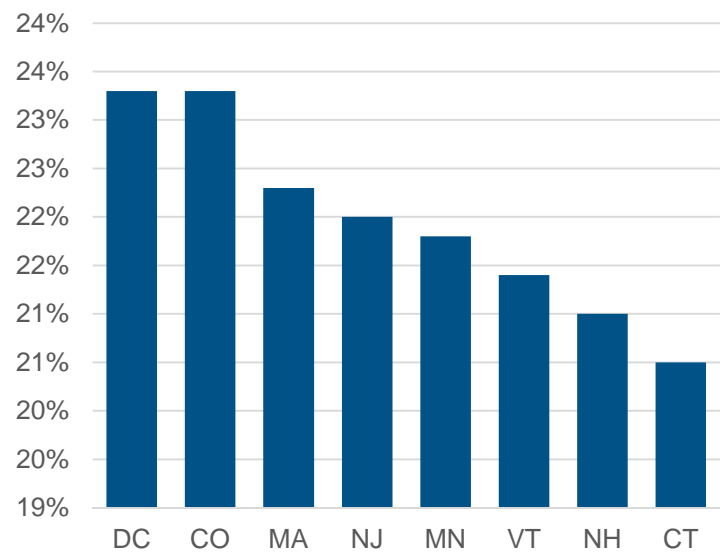
The Finance sector in Massachusetts has long had connections to academia and has employed and cultivated the top talent in finance along with the strong universities in the region.

- Massachusetts has been able to supply top talent to the Finance sector and is a critical piece of the “ecosystem”, as the state’s residents are among the most educated in the country.
- Massachusetts is home to the country’s top graduate business schools including:
 - Harvard University
 - Massachusetts Institute of Technology
 - Babson College
 - Bentley University
 - Boston College
 - Boston University
 - Brandeis University
 - Northeastern University
 - University of Massachusetts
 - Simmons College
- Partnerships between financial institutions and academia are critical to the Mass Finance ecosystem. For instance, recent press highlighted MassMutual’s partnership with UMass’ Isenberg School of Management through its “Evening University”.
- Massachusetts’ world class universities in the region coupled with the recent trends in technology and innovation also represent significant opportunities in the areas of FinTech, Big Data and Cybersecurity. The Council and non-profits such as the Boston-based FinTech Sandbox aim to create more collision points between people coming out of these universities and investors and other key players.

Graduate degrees held as a % of state population (2013)



Bachelors degrees held as a % of state population (2013)



Source: Bloomberg News

Mass Finance and New England are a window to the global economy

Boston, representing Massachusetts, is among the top Financial Centers in the world, along with the cities indicated on the map shown below.

In addition to being a top financial center globally, Boston is also universally recognized as a center for innovation. Boston is one of the top technology centers in the world, and is a leading city for venture capital investments. Boston's access to talent, the proximity of its finance and technology sectors, and its entrepreneurial culture have bolstered its ecosystem. Recent developments in infrastructure in areas such as the Seaport district will foster the connectivity needed between legacy firms, startups and graduates.

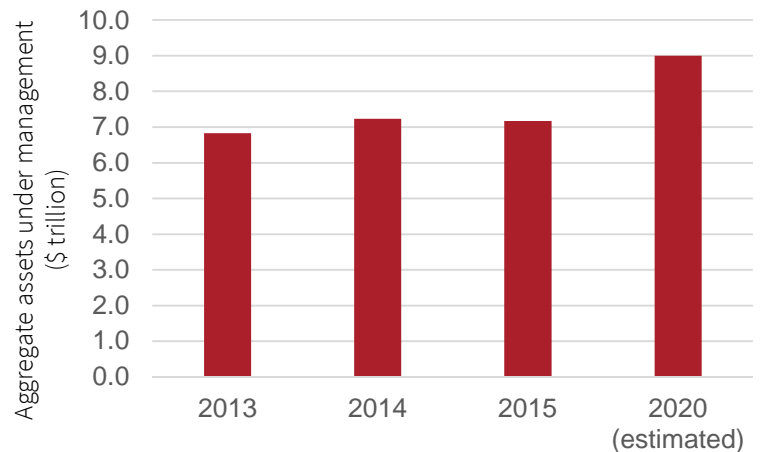
As one of these top financial centers, with significant asset management capabilities, Boston, and more broadly Massachusetts, is well positioned to manage the assets of foreign investors through vehicles such as Sovereign Wealth Funds, which continue to experience growth.

Sovereign Wealth Fund assets grew by more than 5% in the last 3 years and these assets are expected to increase to over \$9 trillion by 2020¹. Recent increases in the demand for global wealth management services create a number of opportunities for asset managers, including the ability to provide differentiated, well-diversified product offerings to more customers across the globe.



Growth in aggregate sovereign wealth fund assets

under management



¹ Source: PwC LLP, Asset Management 2020: A Brave New World, January 2014

Source: Sovereign Wealth Fund Institute, 2015

Mass Finance has a history of innovation and is well positioned for new opportunities in FinTech

The financial services sector in Massachusetts has a reputation for innovation. In the early 20th century, the Mutual Fund was at the cutting edge of asset management and the first fund of its kind was created in Boston.

In the 1990s, fund products continued to evolve with Massachusetts again leading the pack with the creation of the first exchange traded fund.

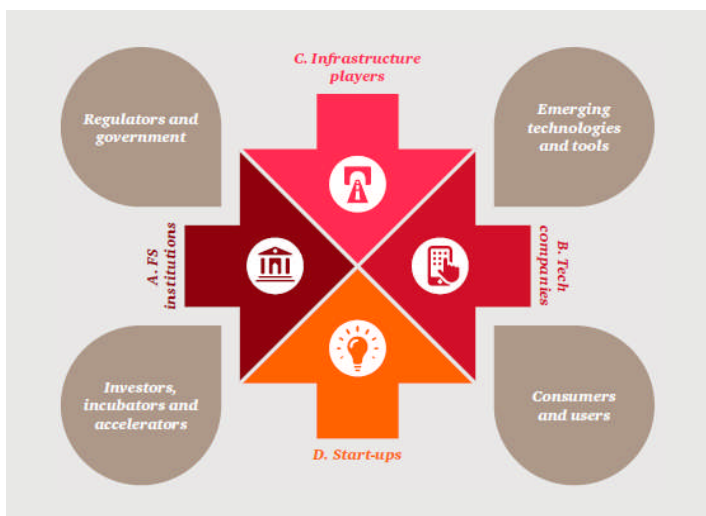
The financial services sector continues to evolve with the technological revolution and the rise of FinTech. As you have seen on the previous pages within this report, the current state of the financial services ecosystem in Massachusetts is strong. This interconnectedness and access to the top talent through our universities is crucial to future success in a technological world.

What is FinTech?

FinTech is a dynamic segment at the intersection of the financial services and technology sectors where start-ups, new market entrants, and even the traditional big players innovate the products and services currently provided.

FinTech is a complex ecosystem

FinTech is shaping FS from the outside in



Source: PwC LLP, Blurred Lines: How FinTech is shaping Financial Services, March 2016

* Source: Mattermark

Cutting-edge FinTech companies and new market activities are redrawing the competitive landscape, blurring the lines that define players in the sector (see the diagram below). The changes are creating opportunities for market players to create products that provide consumer populations access to the financial services industry in ways that were not previously cost effective or even possible.

FinTech's Impact in Massachusetts

With Massachusetts well-positioned at the heart of financial services and technology, innovation in FinTech has taken off locally in recent years. Since 2010, the total investment in FinTech start-up companies founded in Massachusetts is now over \$600m*.

In early 2015, Boston based Fidelity Investments partnered with Thomson Reuters and Amazon.com to launch the FinTech Sandbox. The FinTech Sandbox, based in Boston, MA, is an innovative program that provides free or discounted access to data feeds from partners in the financial industry to participating FinTech startups. Through its vast network of partners, the FinTech Sandbox can also provide direct exposure to its partners in the Massachusetts area, some of the leading financial firms in the world. Different than a typical accelerator or incubator, the FinTech Sandbox is a non-profit program does not take an equity stake in the companies that participate. In just over one year since its launch, the FinTech Sandbox has received widespread attention and is an example of the power of collaboration in the region among startups and legacy financial firms.

Mass Finance – Asset Management: Spotlight on FinTech

Asset and Wealth Management shifts from technology-enabled human advice to human supported technology - driven advice

Automated investment advice (i.e. robo-advisors) poses a competitive threat to operators in the execution-only and self-directed investment market as well as to traditional financial advisors. However, such capabilities also create an opportunity for these traditional firms to transform their delivery of advice. Many self-directed firms have responded by hiring, or investing in, talented employees with both technology and finance experience.

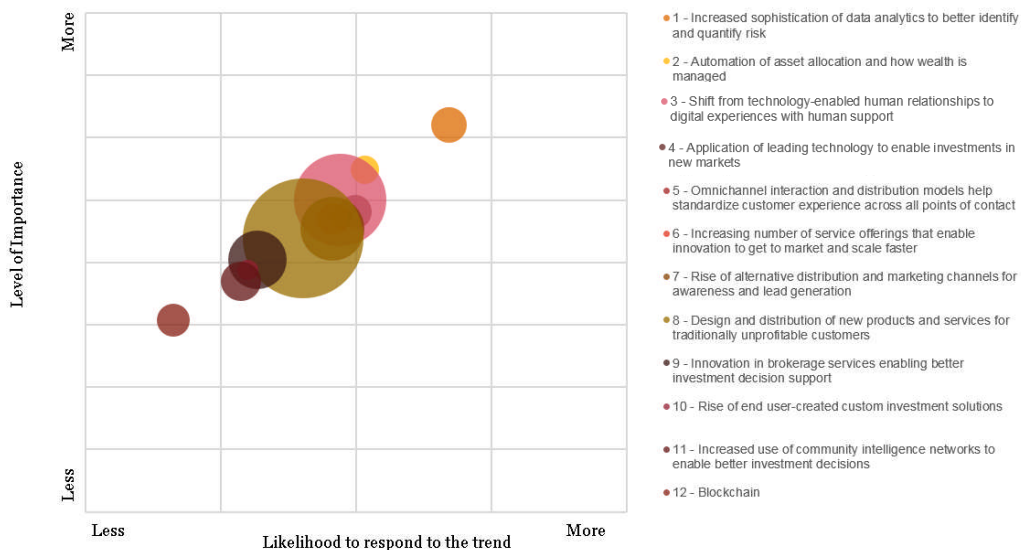
A secondary by-product of automated customer analysis is the lower cost of customer onboarding, conversion and funding rates. This change in the financial advisory model has created an opening for wealth managers, who have struggled for years to figure out how to create profitable relationships with clients in possession of fewer total assets. Robo-advisors provide a viable solution for this segment and, if positioned correctly as part of a full service offering, can serve as a segue to full service advice for clients with specific needs or higher touch.

Example of FinTech’s impact on Asset Management in Massachusetts: Fidelity Investments & Putnam Investments

Over the past year, Fidelity Investments has announced and began piloting a new robo-advisor service known as Fidelity Go. The service provides its clients with automated investment advice based on proprietary algorithms developed by Fidelity. In addition, the platform will automatically rebalance a client’s portfolio to ensure the overall asset allocation remains in line with the client’s preferences. Utilizing the robo-advisory service will also allow clients to take advantage of a lower cost structure when compared to traditional investment advisors.

Putnam Investments has been examining the role that social media has for modern financial advisors. Since 2009, Putnam has focused on expanding their corporate presence on social media outlets such as Facebook, Twitter, LinkedIn, Instagram and YouTube. One aim has been to promote the firm’s thought leadership through these channels. Putnam was recognized for these efforts when they were named the recipient of the Social Media Leader of the Year Award at the 2016 Mutual Fund Industry Awards.

How important are these trends for your industry and how likely are you to respond (e.g. allocate resources, invest) to them?



Source: PwC Global FinTech Survey 2015

The size of the bubbles is proportional to the number of related FinTech companies according to PwC’ DeNovo platform

Mass Finance – Banking: Spotlight on FinTech

Banks are going for a renewed digital customer experience

Banks are moving towards non-physical channels by implementing operational solutions and developing new methods to reach, engage and retain customers. As they pursue a renewed digital customer experience, many are engaging in FinTech to provide customer experiences on par with large tech companies and innovative start-ups.

The trends that financial institutions are prioritizing in the banking industry are closely linked (see chart below). Solutions that banks can easily integrate to improve and simplify operations are rated highest in terms of level of importance, whereas the move towards non-physical or virtual channels is ranked highest in terms of likelihood to respond.

Putting the Customer at the Center of Operations

Traditional banks may already have many of the streamlined and digital/mobile-first capabilities, but they should look to integrate their multiple digital channels into an omni-channel customer experience and leverage their existing customer relationships and scale. Banks can organize around customers, rather than a single product or channel, and refine their approach to provide holistic solutions by tailoring their offerings to customer expectations.

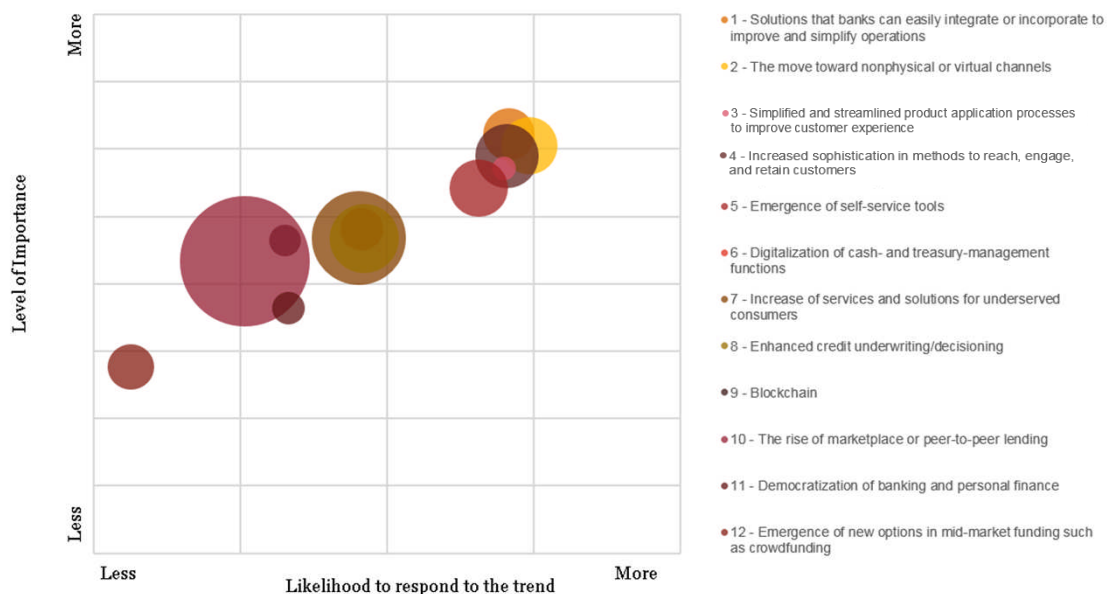
These efforts can also be supported by using newfound digital channels to collect data from customers to help them better predict their needs, offer compelling value propositions, and generate new revenue streams.

Examples of FinTech’s impact on the Banking Sector in Massachusetts

Another prominent Massachusetts based bank, Eastern Bank, has launched a FinTech focused enterprise of its own know as Eastern Labs. The venture seeks to incubate new banking focused technology and startups utilizing the banking data of its parent, Eastern Bank. Eastern Bank’s investment has quickly earned it recognition when it was named the Model Bank of the Year in 2016 by Celent for their innovation in small business loans with a technology developed by Eastern Labs called Express Business Loan. Express Business Loan allows Eastern Bank to provide small business loans up to \$100,000 in less than 5 minutes.

Boston banking giant State Street has also been continuing to focus on investing on technology. The firm has committed \$450 million to an overhaul of the firms technology-infrastructure. With some of this spend, State Street plans to use their industry data to develop new tools such as a new private equity benchmark. State Street is also collaborating with MIT on a tool which collects prices from hundreds of web based retailers on a daily basis. The firm also connected employees from Boston, China and California to examine emerging FinTech which resulted in the launch of several pilots based on these ideas.

How important are these trends for your industry and how likely are you to respond (e.g. allocate resources, invest) to them?



Source: PwC Global FinTech Survey 2015

The size of the bubbles is proportional to the number of related FinTech companies according to PwC’s DeNovo Platform

Mass Finance – Insurance: Spotlight on FinTech

Insurers leverage data and analytics to bring personalized value propositions while proactively managing risk

The insurance sector sees usage-based risk models and new methods for capturing risk-related data as key trends (see chart below), while the shift to more self-directed services remains a top priority in order to efficiently meet existing customer expectations. As is the case in other industry segments, insurance companies are investing in the design and implementation of more self-directed services for both customer acquisition and customer servicing. This allows companies to improve their operational efficiency while enabling online/mobile channels demanded by emerging segments such as Millennials. There have been interesting cases where customer centric designs create compelling user experiences (e.g. quotes obtained by sending a quick picture of the driving license and the car vehicle identification number (VIN)), and where new solutions bring the opportunity to mobilize core processes in a matter of hours (e.g. provide access to services by using “robots” to create a mobile layer on top of legacy systems) or augment current key processes.

Current trends also show an increasing interest in finding new underwriting approaches based on the generation of deep risk insights. In this respect, usage-based models – rated the second most important trend – are becoming more relevant even as initial challenges such as data privacy are being overcome.

Differentiating, personalizing and leveraging new data sources

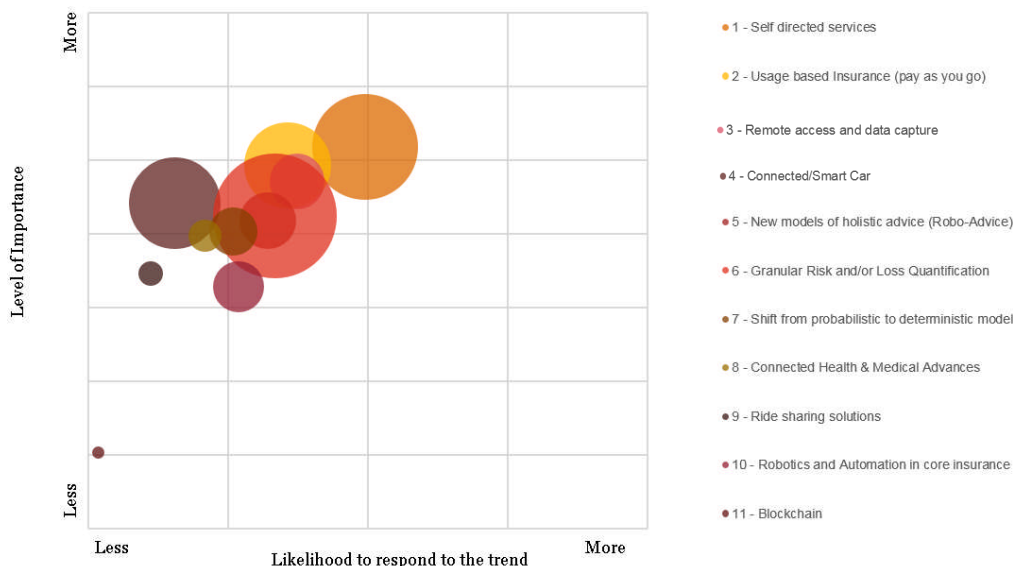
Customers with new expectations and the need to build trusted relationships are forcing incumbents to seek value propositions where experience, transaction efficiency and transparency are key elements. As self-directed solutions emerge among competitors, the ability to differentiate will be a challenge.

Similarly, usage-based models are emerging in response to customer demands for personalized insurance solutions. The ability to access and capture remote risk data will help to develop a more granular view of the risk, thus enabling personalization. Leveraging new data sources to obtain a more granular view of the risk will not only offer a key competitive advantage in a market where risk selection and pricing strategies can be augmented, but will also allow incumbents to explore unpenetrated segments. In this line, new players that have generated deep risk insights are also expected to enter these unpenetrated segments of the market; for example, life insurance for individuals with specific diseases.

Examples of FinTech’s impact on Insurance in Massachusetts

Boston based insurers John Hancock and Liberty Mutual are two market players who have leveraged technology to develop innovative ways of developing granular risk analysis. Liberty Mutual offers a device that electronically monitors driving characteristics to potentially discount insurance costs. John Hancock allows certain customers to wear internet connected fitness trackers for potential discounts on life insurance

How important are these trends for your industry and how likely are you to respond (e.g. allocate resources, invest) to them?



Source: PwC Global FinTech Survey 2015

The size of the bubbles is proportional to the number of related FinTech companies according to DeNovo

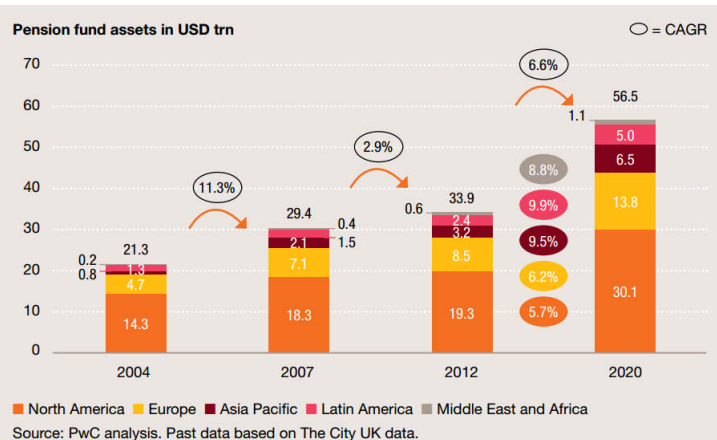
Mass Finance - Asset Management: A retirement savings leader

While Massachusetts has long been the mutual fund capital and its birth place, it has also become a leader in managing retirement assets and in servicing these products.

Developed-market populations are aging, driving focus toward savings and investment and away from credit and consumption. As a result, the expansion of retirement products across insurance and asset management to assist this aging population is expected to continue and Mass Finance is well positioned for this growth. Retirement assets have risen from \$21.3t in 2004 to \$33.9t in 2012 and we predict they will reach \$56.5t in 2020¹.

Boston is home to 2 of the top 10 retirement money managers, Fidelity Investments and State Street, making it a leading cluster of market leaders

Global pension fund assets projection by region for 2020



Top 10 Defined Benefit/Defined Contribution Money Managers

| Company name | Defined Benefit AUM | Defined Contribution AUM | Total | Location |
|------------------------------------|---------------------|--------------------------|-------------|----------|
| 1. BlackRock Inc. | \$481,304 | \$608,150 | \$1,089,454 | NY |
| 2. Vanguard Group | \$39,387 | \$735,868 | \$775,255 | PA |
| 3. Fidelity Investments | \$51,440 | \$606,554 | \$657,994 | MA |
| 4. State Street Global | \$299,935 | \$251,783 | \$551,718 | MA |
| 5. TIAA Global Asset Management | N/A | \$409,704 | \$409,704 | NY |
| 6. Prudential Financial | \$183,208 | \$198,856 | \$382,064 | NJ |
| 7. J.P. Morgan Asset Management | \$158,794 | \$159,502 | \$318,296 | NY |
| 8. T. Rowe Price | N/A | \$311,592 | \$311,592 | MD |
| 9. Northern Trust Asset Management | \$163,903 | \$112,367 | \$276,270 | IL |
| 10. Capital Group | N/A | \$275,318 | \$275,318 | CA |

All dollar values are in \$ millions

Source: Pensions and Investments – May 2016

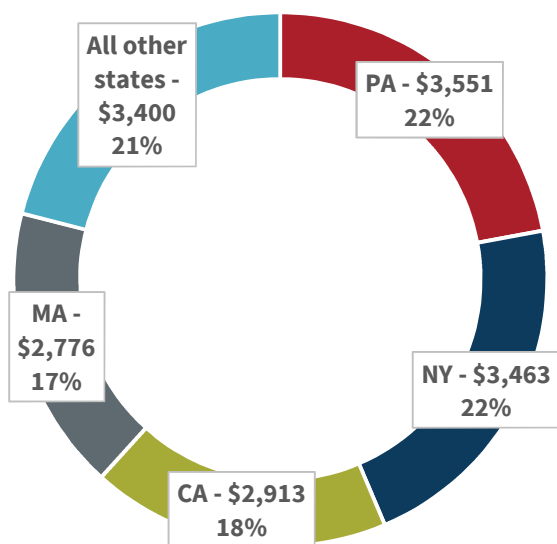
¹ Source: PwC LLP, Asset Management 2020: A Brave New World, January 2014

Mass Finance - Asset Management: Mutual Fund and ETF Leader

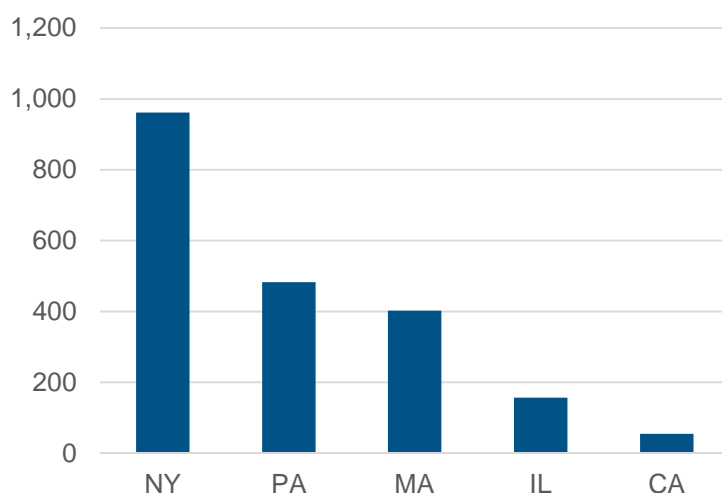
In the last two years, mutual fund assets in Massachusetts grew 4% and at the end of the year, Massachusetts accounted for 17% of the total U.S. mutual fund assets under management. With investors coming back to the market in recent years, Mass Finance is positioned for continued growth.

Exchange Traded Funds continue to drive the growth of the mutual fund industry, with ETF assets in Massachusetts up 27% in the last three years. Massachusetts is at the forefront of the industry with respect to these products.

2015 Mutual Fund AUM (\$ U.S. billions)



2015 Top-five states ETF AUM (\$ U.S. billions)



Source: Strategic Insight/Simfund, Dec 2015

Source: Strategic Insight/Simfund, Dec 2015

Mass Finance – Asset Management: A national leader for private equity funds...and hedge funds

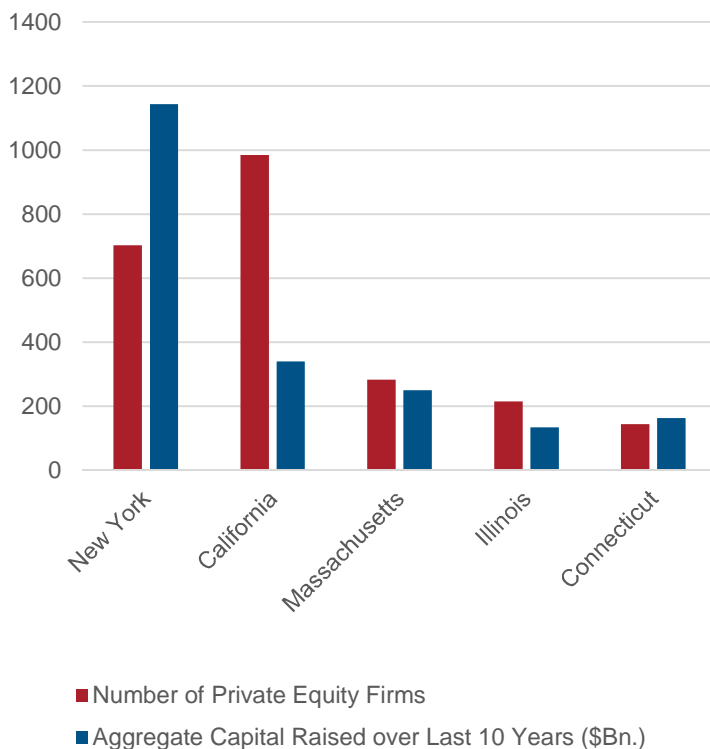
- Massachusetts is home to 283 private equity firms, which is third behind NY and CA. Massachusetts is also third in aggregate capital raised over the last 10 years, with \$250 billion.
- Massachusetts is home to 4 of the top 25 private equity firms in terms of total funds raised over the last 10 years, including Bain Capital (8), Advent International (10), HarbourVest Partners (21), and ArLight Capital Holdings (24).

Fourteen of the hedge funds in Absolute Return's Billion Dollar Club are located in Massachusetts and have more than \$100 billion in assets under management.

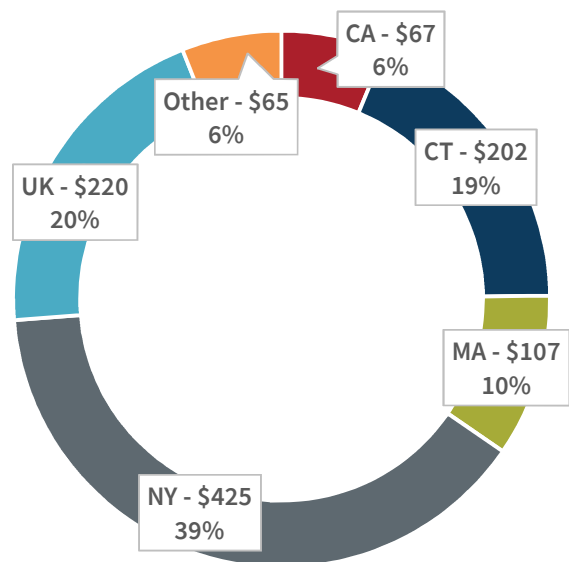
MA Hedge Fund Managers in the Top 50 by AUM:

- Adage Capital Management
- Baupost Group
- Convexity Capital Management
- Grantham, Mayo, Van Otterloo
- Highfields Capital Management
- Wellington Hedge Management

Number and aggregate capital raised by U.S.-based private equity firms by state



2014 Top hedge funds AUM by location (\$ U.S. billions)



Source: Thomson Reuters, 2015

Source: Absolute Return, March 2014

Mass Finance – Asset Management: A national leader for business-building venture capital

The total amount of venture capital invested in the New England region is driven in part by the amount that is raised within the state of Massachusetts. Over the past 5 years, the state has ranked third in the U.S. in terms of the total investment of venture capital.

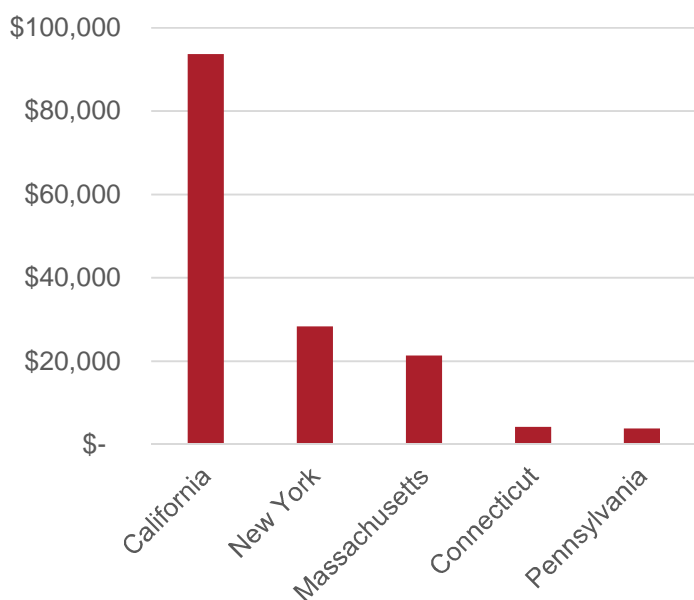
The capital raised from venture capital activities is put to use by New England-based companies across a variety of industries, such as Biotechnology, IT and Life Sciences. New England based companies captured more than 12.7% of the total US venture capital raised in 2015. Since 2012, total venture capital raised in New England has increased more than 165%.

As noted in the chart below, Financial Services was the recipient of over \$400m of venture capital investment in New England, highlighting that this is an emerging sector for startup companies and further demonstrating the connectivity between the large and small players in the industry.

Within the broader FS sector, since 2010 Venture Capital funding of Fin-Tech start-ups in Massachusetts was over \$600m. This represents a dramatic increase when compared to the previous 5 year period (2005-2009) which had total Fin-Tech start-up funding of \$110.6 million².

Cumulative Venture Capital Investment by State (U.S. \$M)

2011-2015



Source: The MoneyTree™ Report from PricewaterhouseCoopers and the National Venture Capital Association based on data provided by Thomson Reuters

Venture Capital Funding

| 2015 Venture Capital Investments | Amount |
|---|----------------------|
| Total VC Investments in the US | \$68,422,100,000 |
| Total VC Investments in New England | 8,738,470,000 |
| Biotechnology | \$2,664,200,000 |
| Software | \$1,931,880,000 |
| Industrial/energy | \$1,462,880,000 |
| Medical devices & equipment | \$636,540,000 |
| Media and entertainment | \$439,680,000 |
| Financial services | \$438,790,000 |
| All other | \$1,164,490,000 |
| Total % of U.S. invested in New England | 12.77% |

Source: The MoneyTree™ Report from PricewaterhouseCoopers and the National Venture Capital Association based on data provided by Thomson Reuters

² Source: Mattermark

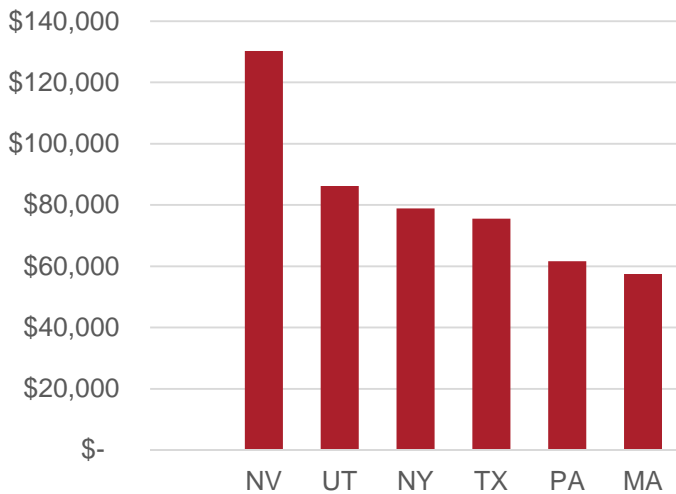
Mass Finance: A competitive banking sector

Massachusetts is a leader in the U.S. with respect to “savings banks” with over \$56 billion in total deposits. Additionally, Massachusetts is home to Santander Bank which ranks in the top 30 nationally with respect to savings banks in the US.

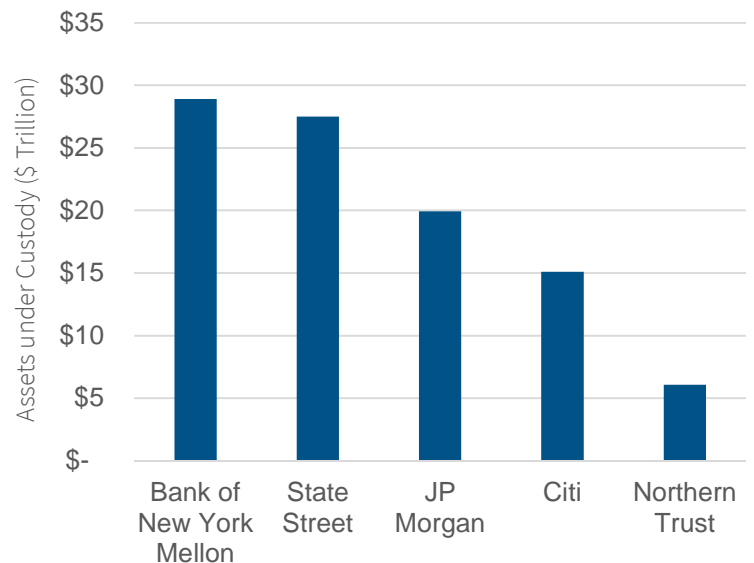
The banking sector in Massachusetts continues to show strong growth. During 2015 Massachusetts Banks and Credit Unions lent \$66.8 billion in mortgage loans, an increase of 9.0% from 2014, and \$4.9 billion in small business loans, up 9.9% from 2014³.

As mentioned earlier, Massachusetts is a leader in asset custody and administration services due to the fact that the world’s two largest custodian banks, BNY Mellon and State Street are located in the state with State Street being headquartered in Boston.

Total deposits in savings banks by state 2015 (U.S. \$M)



Top U.S. custodians (U.S. \$trillions)



Source: Company Reports, 2015, SNL

³ Source: Cooperative Credit Union Association & American Bankers Association

Source: Company Reports, 2015, SNL

Mass Finance: A strong presence in insurance

Massachusetts is home to Liberty Mutual Insurance Group, the overall fourth largest Property & Casualty insurer in the US. Massachusetts is also home to two of the top 11 Life, Accident & Health Insurers in the US, MassMutual and Manulife.

Top U.S. Property & Casualty Insurance

| | Company name | Net Premiums Written (\$M) | U.S. Market Share (%) | Location |
|-----|--------------------------------|----------------------------|-----------------------|----------|
| 1. | State Farm Mutl Automobile. | 59,362 | 10.04% | IL |
| 2. | Allstate Corp. | 30,181 | 5.10% | IL |
| 3. | Berkshire Hathaway Inc. | 29,967 | 5.07% | NE |
| 4. | Liberty Mutual | 29,848 | 5.05% | MA |
| 5. | Travelers Companies Inc. | 23,200 | 3.92% | MN |
| 6. | Progressive Corp. | 21,346 | 3.61% | OH |
| 7. | Chubb Ltd. | 20,671 | 3.50% | NJ |
| 8. | Nationwide Mutual Group | 19,578 | 3.31% | OH |
| 9. | American International Group | 19,066 | 3.22% | NY |
| 10. | Farmers Insurance Group of Cos | 19,051 | 3.22% | CA |
| 24. | Hanover Insurance Group | 4,106 | 0.7% | MA |
| 35. | MAPFRE | 2,571 | .43% | MA |

Top U.S. Life, Accident & Health Insurers

| | Company name | Net Total Assets (\$M) | U.S. Market Share (%) | Location |
|-----|--------------------------------|------------------------|-----------------------|----------|
| 1. | MetLife Inc. | 607,596 | 16.4% | NY |
| 2. | Prudential Financial Inc. | 541,274 | 6.9% | NJ |
| 3. | New York Life Insurance Group | 287,757 | 4.8% | NY |
| 4. | Jackson National Life Group | 199,501 | 4.4% | MI |
| 5. | AEGON | 207,850 | 4.0% | IA |
| 6. | American International Group | 270,609 | 4.0% | NY |
| 7. | Principal Financial Group Inc. | 157,960 | 3.8% | IA |
| 8. | Massachusetts Mutl Life Ins Co | 222,235 | 3.7% | MA |
| 9. | Lincoln National Corp. | 228,165 | 3.6% | PA |
| 10. | AXA | 168,904 | 3.1% | NY |
| 11. | Manulife Financial Group | 253,369 | 3.0% | MA |
| 21. | Global Atlantic Financial Grp | 40,478 | 1.1% | MA |
| 49. | FMR LLC | 27,219 | .32% | MA |

Source: SNL, 2015

* Market share determined by national direct premiums