

The Bay State's Public-Pension Complex: Costly and Unaccountable

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1. Executive Summary

Massachusetts has maintained more than 100 municipal, regional and special pension systems for public employees outside of the Massachusetts Teachers' Retirement System (MTRS) and the Massachusetts State Employees' Retirement System (MSERS). This exercise in quasi-autonomy has been costly, as local systems spend a lot more on benefit administration per member than the commonwealth does. A large number of them are also susceptible to excessive investment fees, and overseeing them effectively has proven a Sisyphean task.

The 102 local systems held \$24 billion in assets and were responsible for over 210,000 active and retired members as of yearend 2015. These figures amount to a third of public pension assets in Massachusetts and 40 percent of current and potential public-service retirees. The local systems disbursed \$2.1 billion in benefits that year and were slated to receive about \$1.5 billion in annual contributions from participating governmental units the following fiscal year. Because Massachusetts law requires communities to make up for any pension funding gap, every extra penny spent by the retirement systems is a penny less in taxpayers' pockets and cash-strapped local budgets.

Data acquired from the systems' audit reports suggest that local administrative costs per member are at least three times those of the MSERS. In 2012 alone, the MSERS spent \$61 per member on administration, whereas the weighted-average local expenditure was more than 200 percent higher—a whopping \$186 per member. In the multiyear sample, the 40 highest administrative costs per member ranged from \$341 to \$971 in a single year. Large expenses were endemic, as 53 systems reported administrative costs of no less than \$200 per member on a fairly consistent basis.

A number of local systems appeared to be spending too much on the investment side as well. There were 22 systems which repeatedly produced investment-expense ratios of 65 basis points (bps) or more. The MSERS had an expense ratio from 46 to 54 bps on average assets in the years 2008–2012, whereas the local composite ranged from 50 to 60 bps in the same period.

The sprawling pension complex is rife with fiduciary risks. Of the 195 system audits reviewed for this study, 121 were issued more than a year after the end of the audit period. As of October 2016, the last audit reports published on the Public Employee Retirement Administration Commission (PERAC) website for 36 local systems dated to periods ending in 2011 or earlier. The reports for another 32 systems dated to periods ending in 2012, suggesting a formidable audit backlog.

The attendant fiduciary risks were highlighted by a series of *Boston Globe* articles about a powerful former legislator-turned-attorney and his ties to the Plymouth County

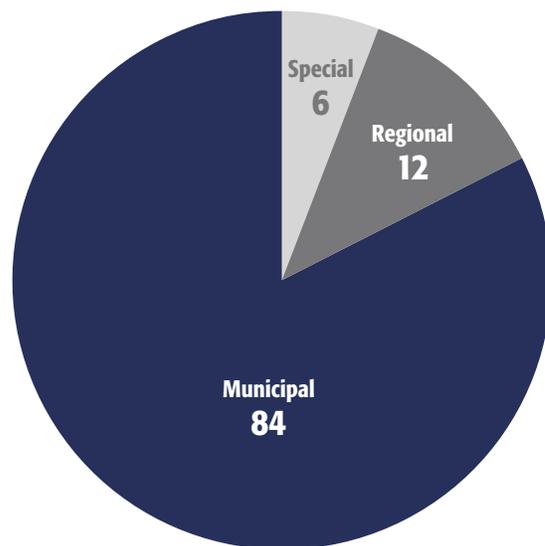
treasurer, overseeing the county retirement fund. On the advice of the lawyers, the Plymouth County retirement system filed 14 suits over a decade that netted about \$40,000 for the pension fund and more than \$40 million for the lawyers. The law firm ended up embroiled in a federal criminal investigation of its massive political donations.

Based on the available data, consolidating pension management under the auspices of the MSERS would not only eliminate the regulatory whack-a-mole, but also save an estimated \$25–30 million annually in administrative and investment expenses.

2. Issue and Background

In addition to the commonwealth's two large public pension systems—the MTRS and the MSERS—Massachusetts was also home to 102 non-state local retirement boards as of 2015. Municipal systems manage public pensions for specific municipalities and their subunits. Meanwhile, hundreds of communities which are too small to maintain their own system are enrolled in larger regional multiemployer systems. Certain special districts and authorities in the state also have their own independent retirement boards. Among the 102 local public pension systems as of yearend 2015 (Fig. 1), there were 84 municipal (e.g., Cambridge, North Attleboro), 12 regional (e.g., Dukes County, Essex Regional) and 6 special retirement systems (e.g., Massport, Greater Lawrence Sanitary District). A full list of non-state retirement systems accompanied by basic information about them is presented in Appendix I.

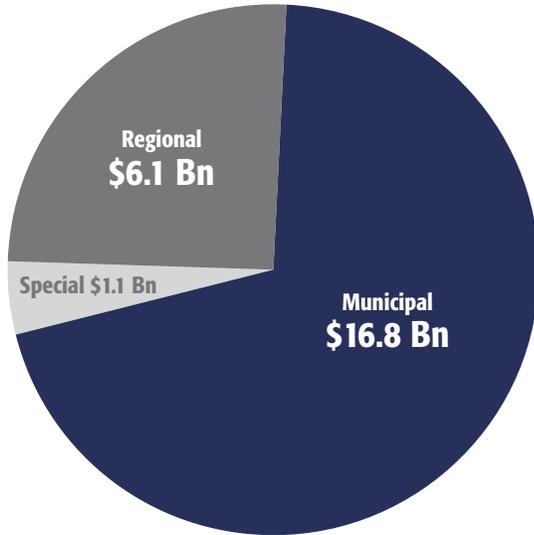
Fig. 1. Local Public Pension Systems in Massachusetts (2015)



Source: PERAC annual report, own calculations

The 102 local systems held \$24 billion, or 33 percent of all public pension assets, as of yearend 2015, compared with \$48.8 billion in pension assets for the commonwealth itself (MSERS, MTRS and Boston teachers). The 84 municipal systems controlled about \$16.8 billion, or 70 percent of all non-state pension assets at yearend 2015 (Fig. 2). Regional retirement systems reported \$6.1 billion and the six special systems another \$1.1 billion in assets.

Fig. 2. Local Public-Pension Assets at Yearend 2015



Source: 2015 PERAC annual report

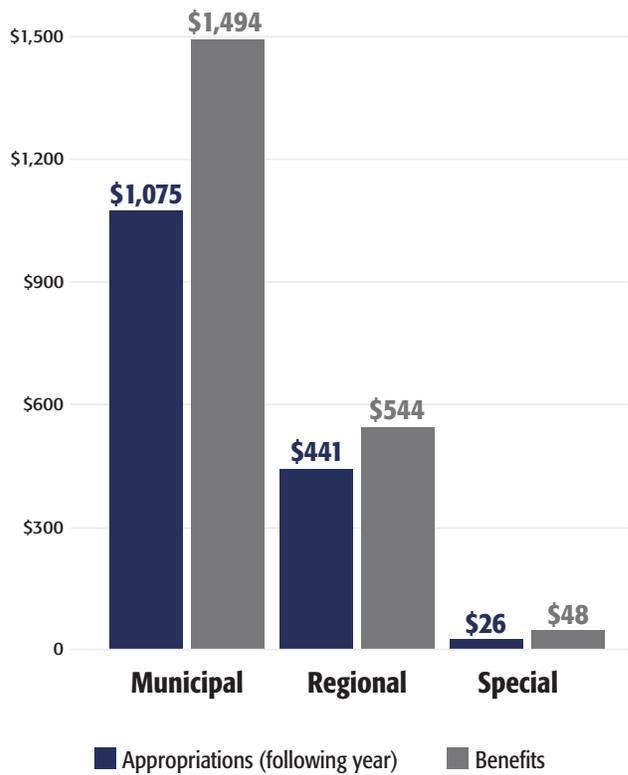
The significance of local retirement boards is made clear by their massive enrollment. They had more than 210,000 members in 2015—more than 40 percent of the 520,000 members of public pension systems in Massachusetts (Fig. 3). Active local-system members numbered about 125,000. There were also more than 85,000 retirees and beneficiaries, who received pensions totaling \$2.1 billion during the year. Municipal systems distributed about \$1.5 billion of these benefits, while regional and special systems paid out another \$592 million (Fig. 4). Overall, local systems were slated to receive more than \$1.5 billion in pension appropriations the following fiscal year, 70 percent of which was again on account of the municipal boards.

Fig. 3. System Membership

Systems	Members		
	Active	Retired	Total
Municipal	78,034	58,197	136,231
Regional	44,189	25,978	70,167
Special	2,759	1,437	4,196
Total local	124,982	85,612	210,594
All public	309,705	210,186	519,891

Source: 2015 PERAC annual report

Fig. 4. Appropriations and Benefits by Type of Local System (\$mn)



Source: 2015 PERAC annual report

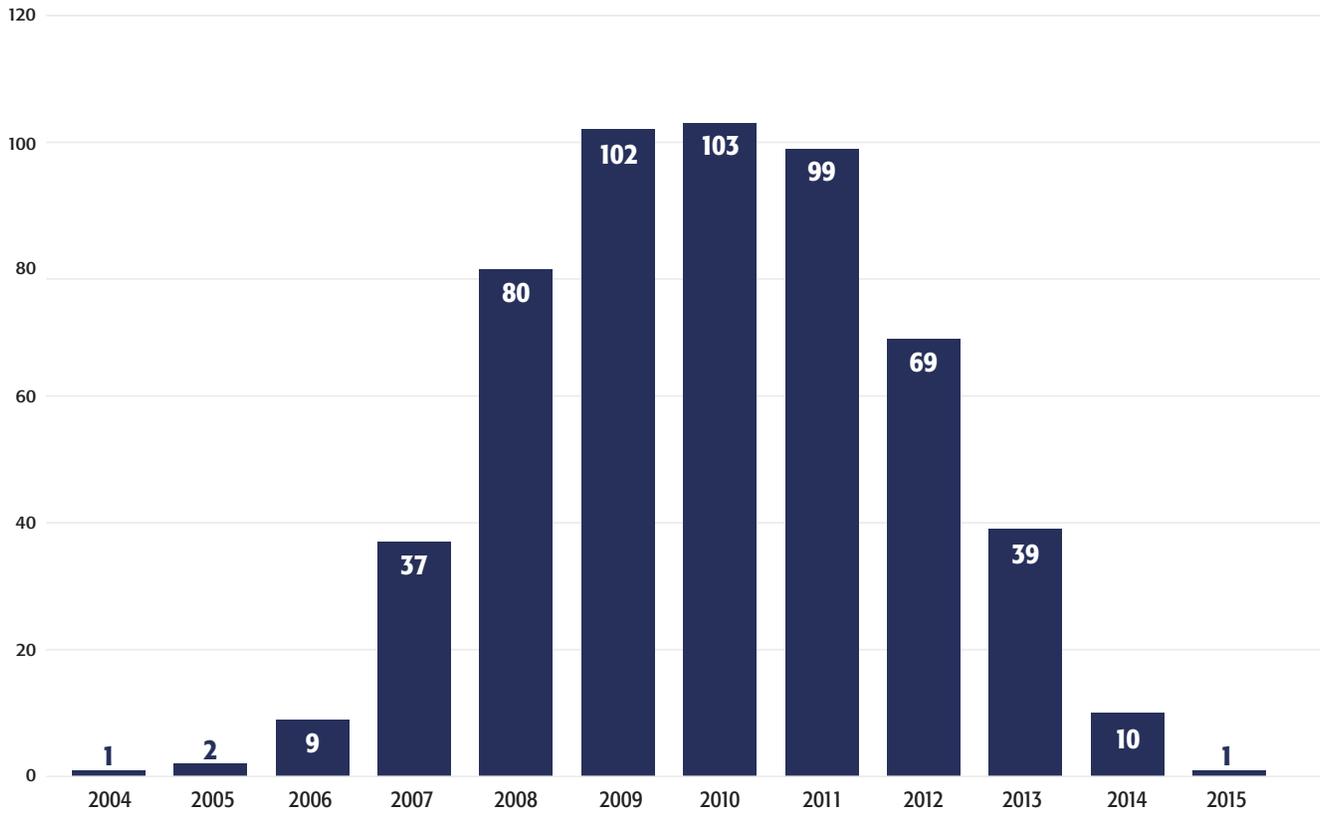
With so many pensions and so much money at stake, the performance of local retirement systems has immense repercussions. Massachusetts law requires that public employers make up for any shortage of funds necessary to cover earned benefits. Because public pensions have been chronically underfunded, every extra penny spent by the retirement systems is a penny less in taxpayers' pockets or adds to the burden on cash-strapped local budgets. The expenditures and efficiencies of local pension management are therefore of central interest to fiscal policy.

“Because public pensions have been chronically underfunded, every extra penny spent by the retirement systems is a penny less in taxpayers’ pockets or adds to the burden on cash-strapped local budgets.”

3. Expense Data and Cost Structures

Limited data regarding the costs of Massachusetts retirement systems can be obtained from the website of the state watchdog, the Public Employee Retirement Administration Commission (PERAC), which unfortunately provides only the

Fig. 5. Number of Systems in the Sample of Expense Data



Source: own calculations

Fig. 6. Expenses Reported in PERAC Audits

Types of Expenses		Explanation	Line Items in Audit Reports
Administrative	Supervisory	directly related to the board's activities	board members' stipends, education, travel, fiduciary insurance
	Operational	generally necessary for the effective provision of benefits and member services	salaries; legal, medical, administrative; service contracts; rent and condominium fees; professional, actuarial and accounting services; furniture and equipment; depreciation
Investment		directly related to investment of funds	consulting, custodial and management fees
Extraordinary		special items outside of ordinary operation	reimbursement for early retirement incentives, PERAC expenses, federal grant distributions

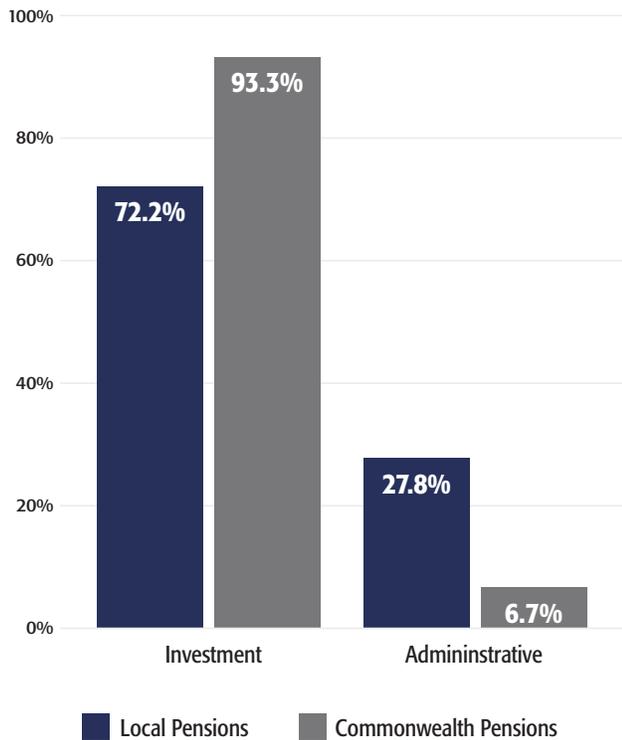
most recent audit report and promptly removes prior information. This study is based on expense data from 195 PERAC audit reports obtained in 2013-2016 (191 local-system audits and two each of the MSERS and the MTRS). The audit reports cover a combined 552 board-years, ranging from 2004 to 2015 (Fig. 5). Because the typical PERAC audit takes place only once every three years, it was impossible to garner a thorough picture of expenses for any one year. Due to the then-on-going investigation with BNY Mellon's alleged custodial mismanagement, there was no approved audit report and the data for Middlesex are taken from financial statements.

PERAC's audits provide information on three sets of expenses (Fig. 6). Administrative expenses include all costs incurred in the normal operation of the boards ranging from staff salaries to rent and legal fees. Investment expenses consist of consultant, custodial and investment-management fees. Boards may also expense certain extraordinary items such as costs associated with one-time early retirement incentives. Alongside the regulatory costs paid only by the state and teachers' boards to fund PERAC operations, extraordinary and one-time expenses were excluded from the comparative portions of the analysis because of the prohibitively short time span of the sample.¹

Administrative expenses can be subcategorized into supervisory and operational costs. Supervisory costs are directly related to the retirement board's activities, while operational costs are more likely necessary to ensure the proper functioning of the system. Operational costs would be incurred not only in providing member services, but also in withholding appropriate deductions from employee pay and disbursing benefits to retired members as well as maintaining appropriate accounting and internal controls.

Both local and commonwealth (MTRS and MSERS²) pensions spent the most on investment-related activities (Fig. 7). Investment costs accounted for 72 percent of all local expenses reported in the sample, and a whopping 93 percent of commonwealth systems.³ This result can be interpreted either as commonwealth systems paying more for investments or locals spending more on administration. Given the record-low investment fees charged by Massachusetts Pension Reserves Investment Management (PRIM), which statutorily manages all MTRS and MSERS pension assets, it seems more likely that local systems have higher administrative costs per member.⁵

Fig. 7. Observed Allocation of Total Expenses⁴

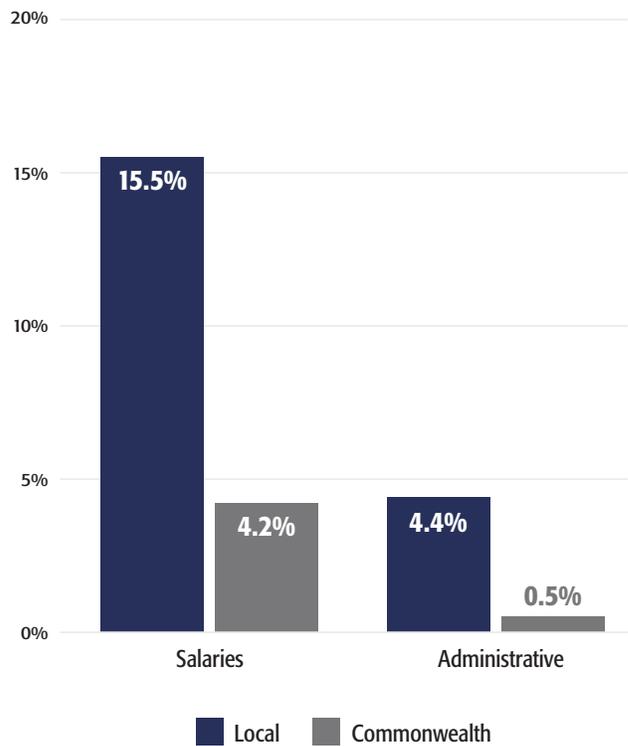


Source: PERAC audit reports, own calculations

Zooming in at the line-item level, the allocation percentages of most costs were very similar between local and commonwealth systems. Two large discrepancies in the allocation of expenditures stand out, however. The 15.5 percent proportion

of salary expenses among the local systems is more than three times the commonwealth's 4.2 percent (Fig. 8). The "administrative" line item⁶ accounted for 4.4 percent of all local expenditures, versus only half a percentage point for state pensions. Taken together, these figures suggest substantial operational inefficiencies arising from the fragmentation and possible mismanagement of public-pension administration. Local systems also spent nearly 2 percent on legal expenses — about 50 times more than the 4 basis points spent by state pensions.

Fig. 8. Proportion of Select Line Items in Expense Totals



Source: PERAC audit reports, own calculations

Grouping costs as they relate to system size (as expressed in total assets or number of members) provides another useful perspective from an efficiency standpoint. Fixed costs are essentially the same as supervisory costs, with the exception of fiduciary insurance, which typically increases with the size of system assets (Fig. 9). Most other expense items are variable, although the strength of their relationship with system size may vary significantly. For example, there is some minimum amount that systems will have to spend if they want to retain an outside actuary or investment consultant. Similarly, they may encounter difficulty hiring two thirds of a chief administrator. Thus, system consolidation is likely to produce savings not only from constant expenditures such as stipends, but also from non-constant costs such as salaries and service contracts.

In addition to the "cost of entry" threshold that undoubtedly exists for most functions, larger systems may also realize

Fig. 9. Expenses in Relation to System Size

Groups of Expenses	Explanation	Line Items in Audit Reports
Fixed	tend to remain fairly constant regardless of variation in size	board members' stipends, education, travel
Variable	tend to increase more or less alongside the size of the system	salaries; legal, medical, administrative; service contracts; furniture and equipment; rent and condominium fees; professional, actuarial and accounting services; consulting, custodial and management fees; fiduciary insurance

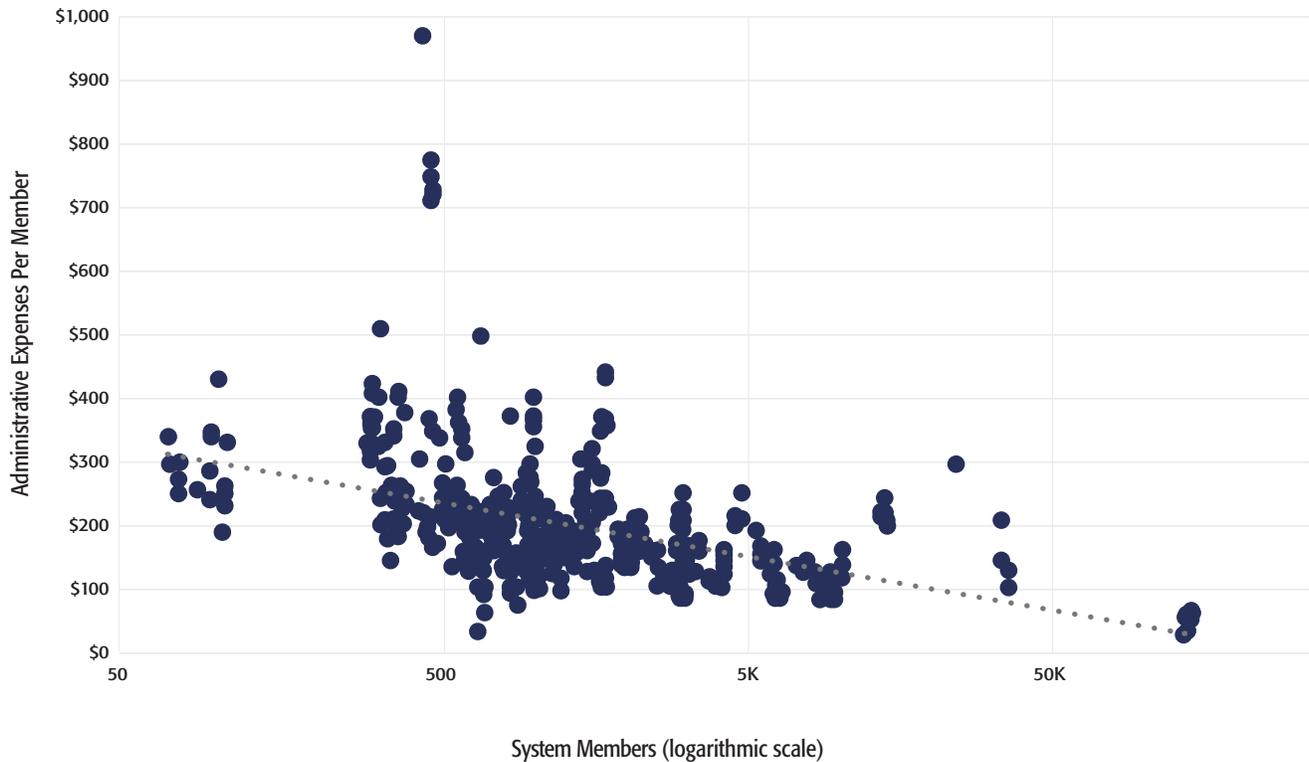
economies of scale due to market power. They may be able to attract a better system administrator or retain a better accounting firm because of the greater workload and resources. Meanwhile, they may also be able to get contract work at a lower unit cost because of the sheer size of the contracts they

award. This is particularly relevant to investment management and custodial services. How do these insights translate from the realm of theoretical speculation to the real-world data on Massachusetts public pensions?

4. Administrative Expenses

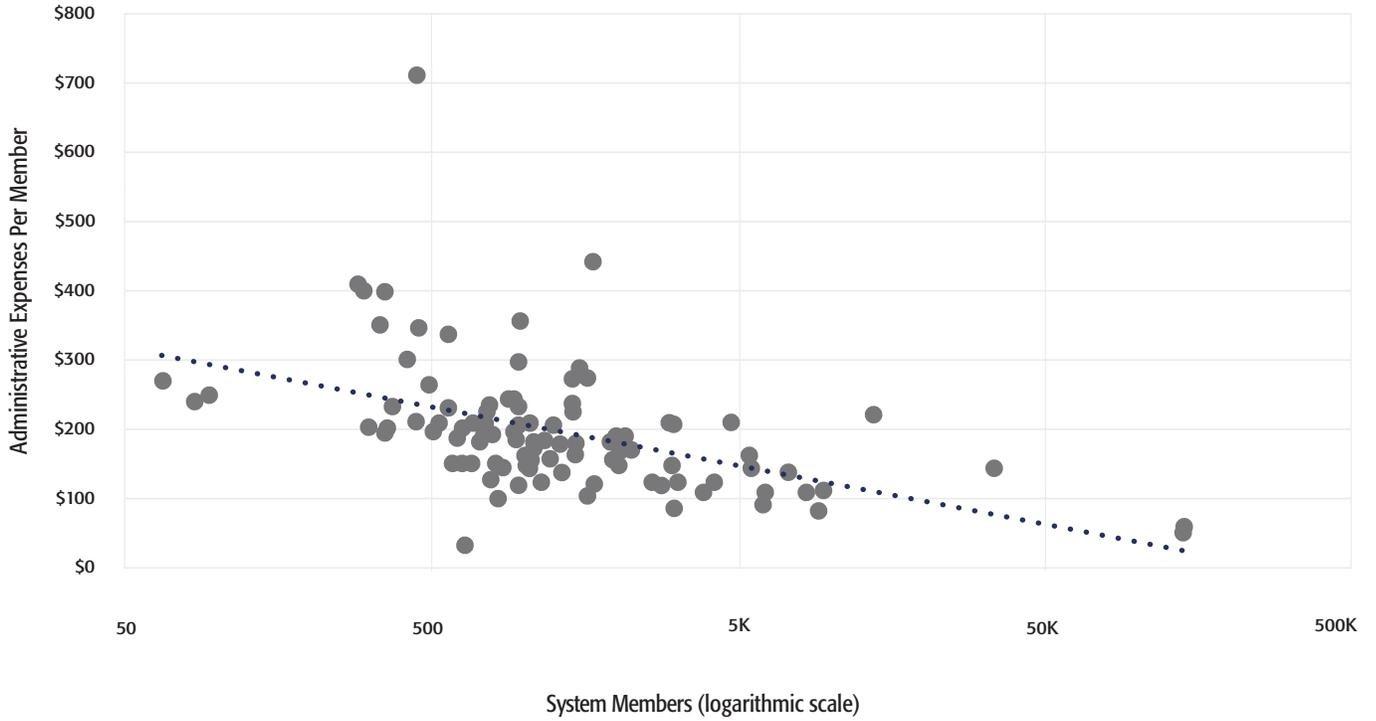
Because of the constraints of the sample data, the most reliable way to quantify administrative (ordinary non-investment) expenses for comparison purposes is to control for the size of the system in terms of its total membership. When the administrative expenses per member for all 552 board-years are plotted against the system's size, it becomes clear that systems with fewer members tend to have higher per-member costs, as suggested by the downward-sloping trendline (Fig. 10). In addition, almost all local observations registered much higher costs than those of the MSERS and the MTRS, which are clustered in the lower right corner of the plot, corresponding to huge membership and lower costs. The results are analogous when subsample data for individual years such as 2010 are plotted as a robustness check (Fig. 11).

Fig. 10. Full-Sample Plot of Total Membership and Administrative Expenses per Member



Source: PERAC audit reports, own calculations

Fig. 11. Plot of Total Membership and Administrative Expenses per Member for 2010 Subsample



Source: PERAC audit reports, own calculations

Fig. 12. MSERS and Local Systems' Administrative Spending per Member



Source: PERAC audit reports, own calculations

Local and MSERS per-member spending can be compared directly for the 2007-2012 period. A composite expenditure for the local systems can be constructed simply by summing up all the administrative expenses across all local boards and

dividing the total by their overall membership in the specific year (Fig. 12).⁷ The available data suggest that local administrative costs per member are at least three times those of the MSERS. In 2011, the MSERS spent \$51 per member, while locals spent about \$166. Moving the local systems' 216,955 members

“The available data suggest that local administrative costs per member are at least three times those of the MSERS. In 2011, the MSERS spent \$51 per member while locals spent \$166.”

to the MSERS would have saved an estimated \$27 million in 2012 alone, using as a benchmark that year's narrower \$125-per-member cost gap.

Within the entire sample of 552 observations, there were 223 board-years in which local systems spent \$200 or more per member on administrative costs. Excessive spending was not confined to a few bad apples, as 53 systems reported administrative costs within this range in at least two years during the sample period (Fig. 13). All six special systems were decisively in this group of worst offenders. The Massachusetts Housing Finance Agency (MHFA) pension held the record of \$971 spent on non-investment costs per member in a single year. Regionals were also well-represented, with 5 out of 12 regional systems in the basket of deplorables. They scored expenses in the \$200-\$300 range.

“The Massachusetts Housing Finance Agency pension held the record of \$971 spent on non-investment costs per member in a single year.”

Overall, the 40 highest observed per-member annual expenditures ranged from \$971 to \$341 (Fig. 14). The MHFA and Massport systems held 12 of those top 40 slots. The MHFA's system averaged \$775 per member over the six years from 2008 to 2013, whereas Massport's averaged \$385 from 2006 to

2011. A more detailed look indicates that salaries and other line items within the operational subcategory of expenses are generally the largest contributors to developing exorbitant per-member costs. Systems such as Middlesex where fraud or other malfeasance has occurred also pay huge premiums for fiduciary insurance. A full list of administrative expenses per member is available in Appendix III.

Fig. 13. Systems with Consistently High Member Expenditures

Retirement System	Top Spend	Years with \$200 per Member or More	Years in Sample
Middlesex County	\$244	9	9
Montague	\$332	8	10
Belmont	\$249	6	6
Essex Regional	\$248	6	6
Greater Lawrence Sanitary District	\$340	6	6
Mass Housing Finance Agency	\$971	6	6
Mass Port Authority	\$442	6	6
Minuteman Regional School District	\$429	6	6
Plymouth	\$321	6	6
Stoneham	\$402	6	6
Waltham	\$283	6	6
Woburn	\$401	6	6
Blue Hills Regional School	\$332	5	6
Clinton	\$238	5	5
Gloucester	\$297	5	5
Hull	\$511	5	6
Newburyport	\$244	5	6
Northbridge	\$409	5	5
Salem	\$304	5	5
Watertown	\$259	5	5
Webster	\$260	5	5
Brockton	\$227	4	6
Concord	\$246	4	5
Falmouth	\$245	4	5
Gardner	\$225	4	5
Marblehead	\$219	4	6
Maynard	\$422	4	4
Melrose	\$372	4	6
Southbridge	\$296	4	5
Winthrop	\$303	4	5
Adams	\$351	3	3
Amesbury	\$266	3	3
Dedham	\$215	3	6
Dukes County	\$283	3	3
Easthampton	\$408	3	3
Fairhaven	\$215	3	6
Franklin Regional	\$226	3	3
Hampshire County	\$251	3	6
Mass Water Resources Authority	\$272	3	3
Natick	\$224	3	3
Norwood	\$253	3	8
Swampscott	\$366	3	3
West Springfield	\$216	3	6
Weymouth	\$225	3	3
Andover	\$210	2	6
Boston	\$295	2	6
Hingham	\$208	2	3
Holyoke	\$216	2	6
Malden	\$217	2	6
Milford	\$276	2	6
Milton	\$225	2	3
North Attleboro	\$234	2	6
Revere	\$217	2	2

Source: PERAC audit reports, own calculations

Fig. 14. Top 40 Expenditures per Member for Administration

Retirement System	Cost per Member	Year
Mass Housing Finance Agency	\$971	2008
Mass Housing Finance Agency	\$775	2013
Mass Housing Finance Agency	\$748	2009
Mass Housing Finance Agency	\$726	2012
Mass Housing Finance Agency	\$718	2011
Mass Housing Finance Agency	\$711	2010
Hull	\$511	2012
Mass Port Authority	\$442	2010
Mass Port Authority	\$435	2011
Minuteman Regional School	\$429	2013
Maynard	\$422	2011
Northbridge	\$409	2010
Easthampton	\$408	2011
Stoneham	\$402	2013
Woburn	\$401	2013
Hull	\$401	2010
Easthampton	\$400	2010
Stoneham	\$386	2012
Easthampton	\$377	2009
Woburn	\$373	2012
Melrose	\$372	2009
Northbridge	\$370	2012
Northbridge	\$369	2009
Mass Port Authority	\$368	2007
Swampscott	\$366	2011
Woburn	\$366	2009
Mass Port Authority	\$365	2008
Stoneham	\$364	2011
Northbridge	\$360	2008
Woburn	\$357	2011
Mass Port Authority	\$356	2009
Woburn	\$355	2010
Stoneham	\$353	2009
Maynard	\$353	2012
Adams	\$351	2010
Swampscott	\$348	2010
Mass Port Authority	\$347	2006
Minuteman Regional School	\$345	2011
Adams	\$341	2011

Source: PERAC audit reports, own calculations

5. Investment Expenses

Investment expenses (consulting, custodial and management fees) accounted for about 86 percent of all non-extraordinary spending in the sample. Because they fluctuate with investment returns from year to year, comparing them is much trickier than analyzing administrative costs. The bulk of investment expenses are made up of management fees, which frequently are tied expressly to the investment performance of the underlying assets. In addition, 90 local systems invested all or a portion of their assets with PRIM as of yearend 2015, further diluting any clear empirical relationship between system size and investment expenditures because PRIM also manages commonwealth pensions.

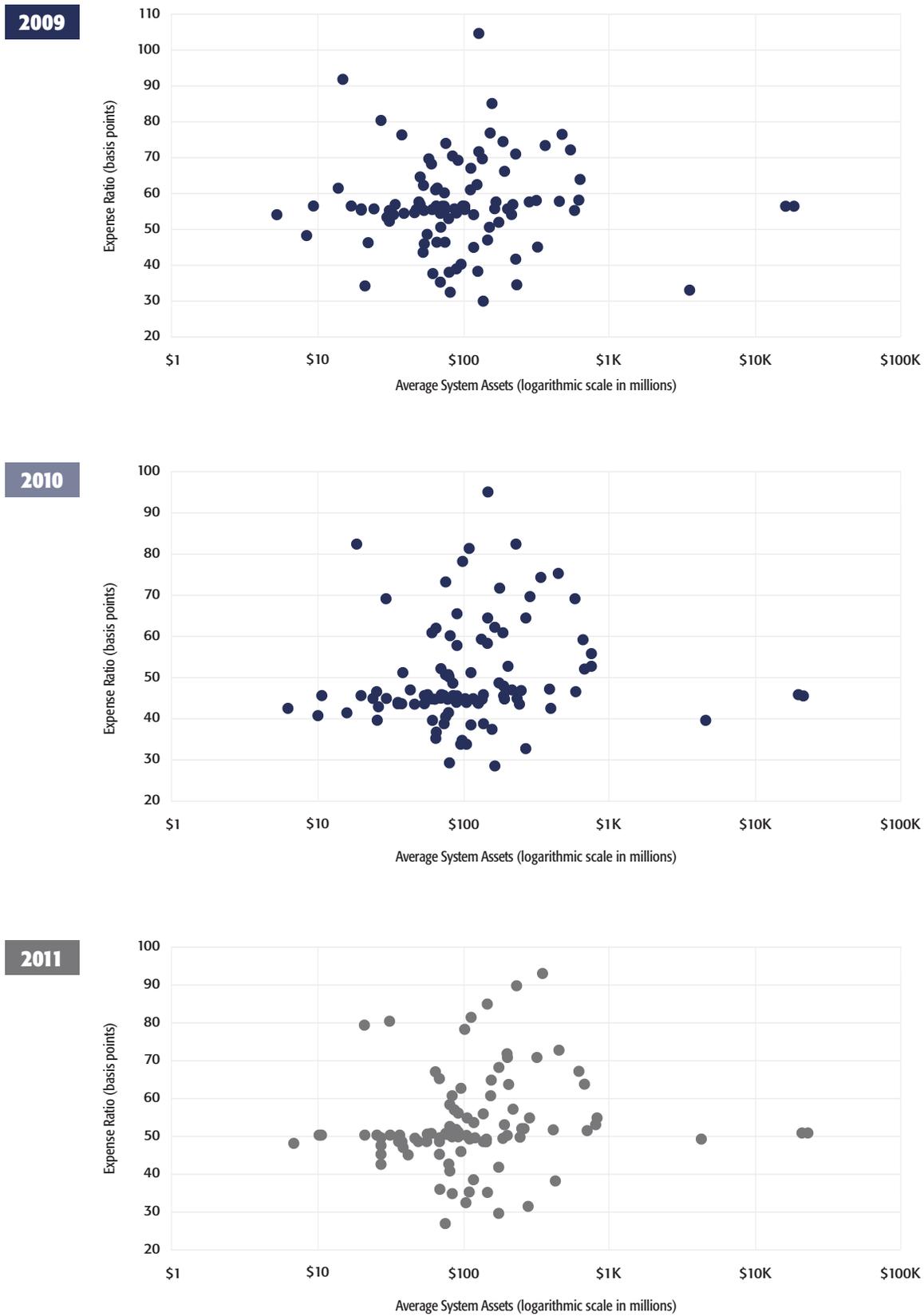
Similar to administrative expenses, composite local system investment-expense ratios can be obtained by summing over the dollar cost and dividing it by the systems' average assets for the year (computed as the average of assets at the beginning and at the end of the year). Comparing investment expenses in the five years with the richest sample data shows the MSERS doing better than local systems. From 2008 to 2012, the state board's annual investment expenses averaged about 3 basis points lower than local systems for which data were available.

While this period is too short to provide conclusive guidance, a persistent difference of 3 bps would add up to \$7.2 million annually on the local systems' total assets as of 2015. Unaudited 2015 data on investment expenses are provided in Appendix IV, but this report makes no representation as to their accuracy.

While there was no clearly discernible relationship between asset size and the investment-expense ratio, it should be noted that absence of evidence is not evidence of absence. A number of local systems appeared to be paying exorbitant investment fees (Fig. 15). In each of the three years with the largest sample sizes in the dataset, a large number of boards cluster around the 50-55 bps horizontal level, with the state systems at the extreme right of that virtual line. This arrangement reflects the fact that many local systems are fully invested in PRIM alongside state pensions. Partially invested systems are generally in the neighborhood of the same 55 bps area. Another significant observation is that in any given year there are about a dozen local systems scoring well over 70 bps, a very high level of investment expenditure.

“Ultimately, persistently high investment spending may be an indicator of elevated risk of fiduciary failures more generally—a red flag about underlying governance or competency issues within the retirement board itself.”

Fig. 15. Fund Assets and Expense Ratios 2009-2011



Source: PERAC audit reports and annual reports, own calculations

Within the entire sample, 22 systems repeatedly had expense ratios of 65 bps or more (Fig. 16). Overall, the regionals were again over-represented, with 6 out of 12 systems in this group. Some of the top investment spenders were among the most expensive systems on the administrative side as well. MHFA, the Mass Water Resources Authority (MWRA), Hampshire County and Middlesex County stand out in this group of repeat offenders. Haverhill scored the record investment-expense ratio with 106 bps in investment expenses in 2008, a terrible year for asset returns (Fig. 17).

Fig. 16. Systems with Highest Investment-Expense Ratios

Retirement System	Top Investment-Expense Ratio (bps)	Years with 65 or More	Years in Sample
Woburn	78	6	6
Haverhill	106	5	5
Webster	92	5	5
New Bedford	90	6	6
Plymouth	96	6	6
Brockton	93	5	6
Bristol County	75	6	6
Plymouth County	96	4	6
Holyoke	84	4	6
Watertown	80	4	5
Taunton	77	5	5
Hampshire County	92	3	6
Lynn	85	4	6
Swampscott	80	3	3
Waltham	80	4	6
Greenfield	76	2	6
Hampden County	74	2	6
Mass Housing Finance Agency	74	4	6
Mass Water Resources Authority	71	3	3
Norfolk County	76	3	6
Middlesex County	71	3	9
Belmont	66	3	6

Source: PERAC audit reports and annual reports, own calculations

A high expense ratio is alarming not just because it means a higher direct cost. It has become common knowledge that in the long run investment managers who charge more tend to deliver less for their clients. The greater the management fees, the less likely the managers to beat market averages or other benchmarks for superior performance. Ultimately, persistently high investment spending may be an indicator of elevated risk of fiduciary failures more generally—a red flag about underlying governance or competency issues within the retirement board itself.

Fig. 17. Top 20 Sample Investment-Expense Ratios

Retirement System	Investment-Expense Ratio (bps)	Year
Haverhill	106	2008
Haverhill	105	2009
Plymouth County	96	2012
Plymouth	96	2012
Haverhill	95	2010
Brockton	93	2011
Hampshire County	92	2013
Plymouth	92	2013
Webster	92	2009
New Bedford	90	2011
Webster	86	2008
Brockton	86	2012
Haverhill	85	2012
Lynn	85	2009
Haverhill	85	2011
New Bedford	85	2012
Holyoke	84	2013
Holyoke	84	2014
New Bedford	83	2013

Source: PERAC audit reports and annual reports, own calculations

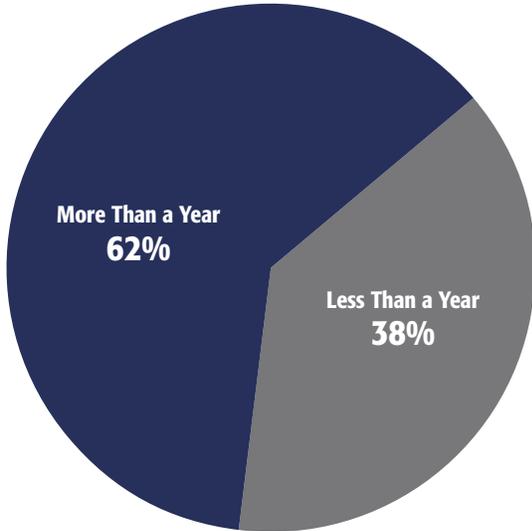
6. Governance and Oversight

In addition to the boards' administrative and investment expenses, there is a hidden cost whose presence is only detected in the scandals that erupt every few years due to theft or fraud by employees or contractors. This latent cost of fiduciary risk is hard to account for but very real, as the retirement boards of Maynard, Middlesex and Essex have discovered in recent years. Is it at all necessary to oversee 104 separate retirement systems with over 500 board members, hundreds of contractors and thousands of employees?

“Only 74, or 38 percent, of 195 audits reviewed for this study were issued in no more than a year.”

Of the 195 audits reviewed for this study, 121 took more than a year to complete. The time to completion, as measured from the last day of the audit period to the date of the letter of transmittal within the audit, ranged from 137 to 1,095 days.⁸ The average time to completion was 422 days, or about 14 months, and many audits greatly exceeded that length. Only 74, or 38 percent, of 195 audits reviewed for this study were issued in no more than a year (Fig. 18).

Fig. 18. Time to Completion of Sample Audits



Source: PERAC audit reports

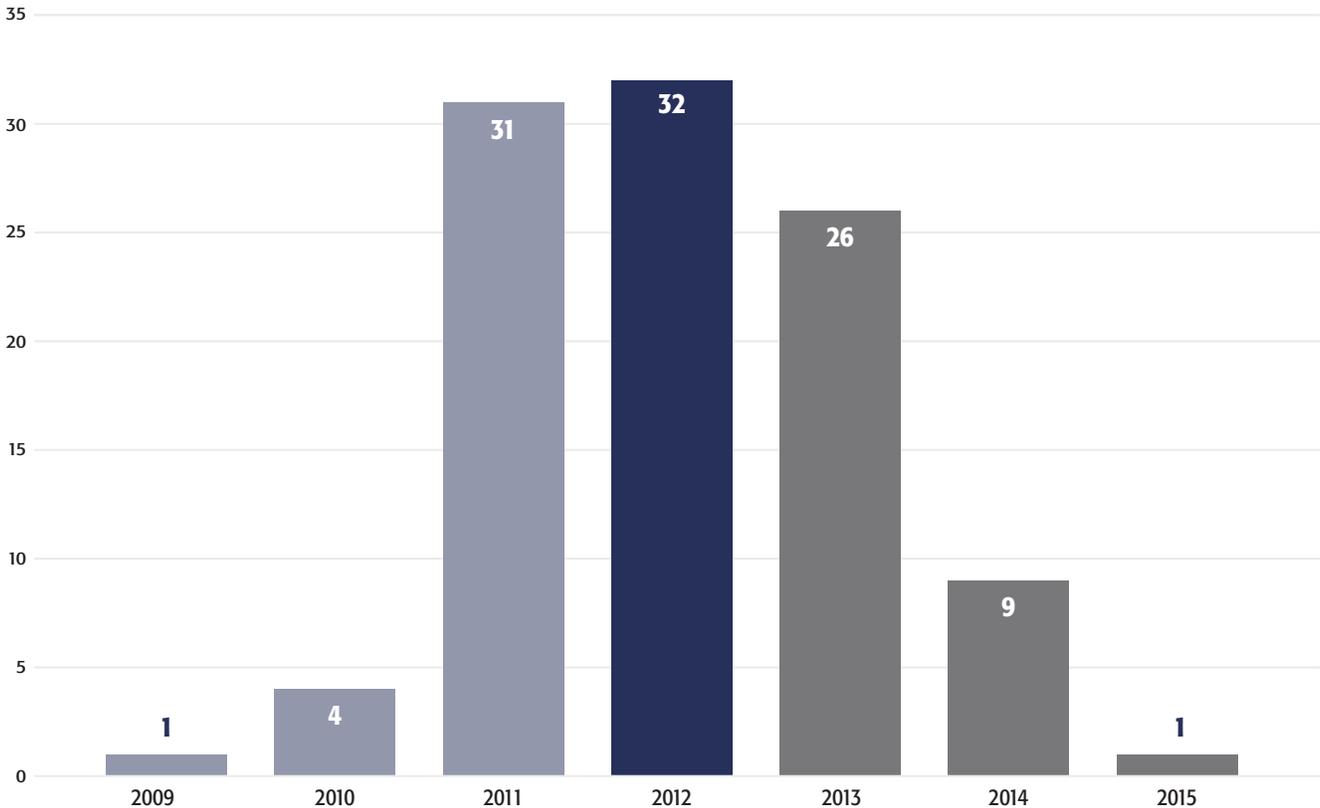
The associated fiduciary risk was demonstrated in a series of *Boston Globe* articles about ties between former state Rep. Garrett Bradley and his ties to Plymouth County treasurer and former legislative colleague Thomas O'Brien, overseeing the

county retirement fund. The treasurer received \$100,000 in political contributions, nearly half of all the donations collected, from a law firm at which Bradley was a managing partner and another firm for which the former legislator lined up public and union pension funds willing to act as plaintiffs in class action lawsuits claiming corporate misconduct that adversely affected the funds. On the advice of the lawyers, the Plymouth County retirement board filed 14 such suits over a decade. The suits netted about \$40,000 for the pension fund and more than \$40 million for the lawyers.

According to *The Globe*, Bradley persuaded more than 15 public pension funds and a host of union funds to sign up with the New York law firm for which he solicited clients. Columbia Law School Professor Jack Coffee told *The Globe* that the potential for astronomical fees encouraged a “pay to play” environment in which lawyers try to curry favor with elected pension fund overseers.

US Sen. Elizabeth Warren of Massachusetts, former US Secy of State Hillary Clinton and a host of other Democratic politicians returned the firm's donations after Bradley and his law firm came under federal criminal investigation over their political contributions.

Fig. 19. Number of Systems by End Year of Last PERAC Audit⁹



Source: PERAC audit reports and website, own calculations

At the beginning of October 2016, the latest audit reports published on PERAC's website suggested a substantial backlog of audit work. The last posted audit for Franklin Regional covered a period ending in 2009. No new audits had been published for 36 out of 104 systems since 2011 or earlier (Fig. 19). Assuming a three-year audit period and another year to complete the audit, the reports for another 32 systems would still have to be due by yearend 2016. Overall, based on the reports published on PERAC's website, the audits of 68 systems were about to or had already fallen perilously late.

Combined with a three-year audit period, the excessive time necessary to complete PERAC's audit work implies that this type of oversight may easily occur four or five years "after the fact". Massachusetts governmental units typically have their financials audited every year and, even for the largest entities, the audits rarely take up more than a year to complete. Why are pension systems managing billions of retiree savings an exception to this customary practice?

The audit reports in the sample contained a total of 357 findings of irregularities, 47 of which were directly related to the practices of the respective retirement board itself. Such governance-related findings included absenteeism, leaving board seats unfilled for years, not following appropriate voting and meeting procedures, lack of appropriate announcement of board meetings and similar infractions against Massachusetts law and public-pension regulations. Sometimes PERAC noted that such governance lapses had persisted and remained unresolved from a prior audit period.

The vast proportion of the other findings involved some form of improper record-keeping or lapse of internal controls. The issues included not making the appropriate withholdings from employee pay, missing records, inappropriate bank accounts and booking of transactions, undocumented reimbursements and excess pension payments. While most of these lapses did not lead to large losses, theft or fraud, they put in question the ability of retirement systems to operate effectively and preserve the integrity of retirees' benefits in the long run. Having a handful of PERAC auditors oversee more than a hundred systems sounds like the setup for a game of regulatory whack-a-mole to find out how much taxpayers lose.

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"Having a handful of PERAC auditors oversee more than a hundred systems sounds like the setup for a game of regulatory whack-a-mole to find out how much taxpayers lose."

7. Conclusion

The empirical evidence makes a clear case that managing public pensions as a sprawling and fragmented pension-industrial complex is grossly inefficient. Maintaining "independent" pension administration comes at great cost, especially to local taxpayers, while the advantages remain murky. Massachusetts law leaves very little flexibility to local retirement boards in determining benefits, and in any case those decisions properly belong with local legislative bodies and residents who ultimately foot the bill.

The cost efficiency of regional systems attests to this simple principle. About half of them appear among the highest spenders on either benefit administration or fund investment. Overall, 9 out of 12 appeared in at least one of those high-expense groups, while Middlesex and Hampshire appeared in both. One possible explanation for this is that the small towns participating in the region-

als hold too little sway to keep the retirement boards accountable. The Massachusetts legislature can easily address this problem by allowing localities to vote with their feet and join the MSERS instead. The six special systems are another sore point—and prime candidates to be merged into the MSERS. The Massport, MHFA and MWRA systems naturally belong there, since they service state agencies anyway.

The ongoing federal investigation of a former state legislator and the massive donations his firm has made to local pension fund overseers highlights the fiduciary risks of fragmentation. The Plymouth County Retirement System recovered only \$40,000 from 14 civil lawsuits filed over a decade, while its lawyers reaped more than \$40 million.

As the legislature takes action to save millions of taxpayer dollars, however, pension assets can only be merged in an equitable manner. The assets of any system being received by the MSERS belong to the respective members of that system and must be apportioned strictly to their accounts.

On the other end, this also means that governmental units which have fully funded their pensions should not be responsible for the unfunded liabilities of those which have failed to pay. If a town goes bankrupt, its pensions alone ought to be affected by any cuts, even if they are managed by the MSERS, and the assets of other retirees and communities must remain shielded by a firewall.

Appendix I. General Statistics of Local Retirement Systems as of Yearend 2015

The following table presents summary data for 102 municipal, regional and special public pension systems as provided in PERAC's 2015 annual report. Membership data may be only as current as the last actuarial valuation report conducted by the corresponding system. Total assets typically reflect the yearend market value.

Systems	Total Assets	Appropriation (Next Fiscal Year)	Benefits	Members	
				Active	Retired
MUNICIPAL SYSTEMS					
Amesbury	\$48,000,000	\$3,500,000	\$4,636,700	252	233
Andover	\$115,600,000	\$8,000,000	\$11,233,600	733	413
Arlington	\$132,900,000	\$10,500,000	\$16,214,000	705	605
Attleboro	\$124,100,000	\$6,200,000	\$9,438,000	632	390
Belmont	\$84,900,000	\$7,900,000	\$9,342,000	458	346
Beverly	\$99,200,000	\$9,600,000	\$11,275,000	576	451
Boston	\$4,100,000,000	\$218,800,000	\$298,742,500	14,235	9,925
Braintree	\$167,200,000	\$8,800,000	\$14,206,600	735	502
Brockton	\$353,600,000	\$19,300,000	\$36,569,000	1,730	1,261
Brookline	\$256,200,000	\$19,200,000	\$25,696,100	1,259	877
Cambridge	\$1,100,000,000	\$37,600,000	\$58,980,000	3,145	1,966
Chelsea	\$126,300,000	\$10,400,000	\$9,435,400	663	382
Chicopee	\$252,400,000	\$17,100,000	\$17,402,000	1,210	791
Clinton	\$40,100,000	\$2,500,000	\$2,844,100	249	119
Concord	\$133,800,000	\$4,500,000	\$6,466,400	513	274
Danvers	\$95,800,000	\$5,800,000	\$9,647,100	469	397
Dedham	\$109,300,000	\$4,500,000	\$8,000,000	424	320
Easthampton	\$43,500,000	\$2,600,000	\$2,974,700	223	151
Everett	\$110,100,000	\$13,600,000	\$12,010,200	730	541
Fairhaven	\$50,900,000	\$2,800,000	\$3,515,000	261	185
Fall River	\$238,400,000	\$25,500,000	\$35,639,000	1,586	1,570
Falmouth	\$113,900,000	\$6,900,000	\$9,200,400	576	374
Fitchburg	\$98,800,000	\$10,000,000	\$12,846,600	605	549
Framingham	\$257,700,000	\$13,000,000	\$19,263,400	1,110	806
Gardner	\$46,300,000	\$3,400,000	\$5,083,000	268	230
Gloucester	\$86,900,000	\$7,900,000	\$10,396,600	517	454
Greenfield	\$58,300,000	\$3,700,000	\$5,801,600	427	259
Haverhill	\$171,400,000	\$15,800,000	\$23,735,400	887	1,074
Hingham	\$95,500,000	\$4,300,000	\$6,703,200	597	294
Holyoke	\$238,000,000	\$17,100,000	\$22,155,300	1,250	927
Hull	\$38,400,000	\$3,500,000	\$3,432,000	178	130
Lawrence	\$183,000,000	\$18,400,000	\$21,623,400	1,519	879
Leominster	\$158,100,000	\$8,800,000	\$7,629,600	592	374

Systems	Total Assets	Appropriation (Next Fiscal Year)	Benefits	Members	
				Active	Retired
Lexington	\$136,800,000	\$5,300,000	\$8,780,800	646	392
Lowell	\$310,900,000	\$22,600,000	\$32,807,500	1,702	1,193
Lynn	\$281,400,000	\$29,600,000	\$33,767,600	1,307	1,189
Malden	\$222,200,000	\$10,300,000	\$16,359,300	807	657
Marblehead	\$87,000,000	\$3,000,000	\$7,900,200	436	342
Marlborough	\$143,000,000	\$7,800,000	\$10,329,800	661	377
Maynard	\$36,700,000	\$2,000,000	\$2,544,100	208	103
Medford	\$174,300,000	\$10,500,000	\$15,579,000	698	577
Melrose	\$72,800,000	\$5,700,000	\$8,278,200	432	378
Methuen	\$118,600,000	\$11,100,000	\$10,920,000	616	420
Milford	\$73,900,000	\$4,500,000	\$6,709,700	463	293
Milton	\$108,700,000	\$5,300,000	\$7,557,600	361	268
Montague	\$34,500,000	\$1,700,000	\$2,129,600	195	121
Natick	\$112,500,000	\$8,100,000	\$10,149,500	620	383
Needham	\$134,500,000	\$6,200,000	\$10,672,200	647	462
New Bedford	\$275,400,000	\$29,800,000	\$40,951,200	1,903	1,812
Newburyport	\$67,000,000	\$4,300,000	\$5,510,400	364	224
Newton	\$289,300,000	\$21,700,000	\$34,110,300	1,723	1,317
North Adams	\$54,900,000	\$2,800,000	\$4,079,600	334	217
North Attleboro	\$96,800,000	\$3,600,000	\$5,409,300	479	247
Northampton	\$110,200,000	\$5,400,000	\$8,192,800	604	392
Northbridge	\$29,000,000	\$1,500,000	\$2,002,000	204	110
Norwood	\$134,800,000	\$4,200,000	\$8,662,000	569	355
Peabody	\$126,800,000	\$11,000,000	\$16,249,500	796	785
Pittsfield	\$116,300,000	\$11,500,000	\$14,553,600	927	758
Plymouth	\$145,800,000	\$10,700,000	\$15,214,900	875	653
Quincy	\$283,500,000	\$24,700,000	\$41,838,900	1,356	1,567
Reading	\$118,000,000	\$5,200,000	\$8,957,700	333	333
Revere	\$126,800,000	\$11,200,000	\$14,281,700	574	527
Salem	\$138,500,000	\$12,500,000	\$12,904,600	827	571
Saugus	\$81,000,000	\$5,700,000	\$6,844,800	372	276
Shrewsbury	\$98,100,000	\$5,900,000	\$6,324,600	572	249
Somerville	\$239,600,000	\$14,200,000	\$24,141,500	1,181	911
Southbridge	\$41,600,000	\$3,400,000	\$3,414,400	368	176
Springfield	\$287,400,000	\$47,700,000	\$63,076,600	3,208	2,791
Stoneham	\$73,700,000	\$5,300,000	\$6,783,000	273	285
Swampscott	\$45,600,000	\$4,700,000	\$5,252,000	250	202
Taunton	\$262,500,000	\$14,900,000	\$20,714,200	1,069	806
Wakefield	\$102,800,000	\$4,900,000	\$9,211,700	429	367
Waltham	\$202,500,000	\$16,200,000	\$22,667,400	898	771

Systems	Total Assets	Appropriation (Next Fiscal Year)	Benefits	Members	
				Active	Retired
Watertown	\$140,300,000	\$13,800,000	\$11,481,400	533	413
Webster	\$29,900,000	\$2,900,000	\$2,720,200	264	134
Wellesley	\$153,300,000	\$7,300,000	\$10,337,800	685	407
West Springfield	\$99,400,000	\$6,200,000	\$8,229,000	569	390
Westfield	\$197,700,000	\$9,000,000	\$15,086,600	897	626
Weymouth	\$171,300,000	\$9,800,000	\$16,036,800	823	624
Winchester	\$102,100,000	\$4,100,000	\$6,594,900	365	267
Winthrop	\$55,400,000	\$3,100,000	\$3,552,600	257	186
Woburn	\$124,100,000	\$6,000,000	\$9,320,000	578	400
Worcester	\$798,800,000	\$42,700,000	\$71,185,400	3,262	2,717
REGIONAL SYSTEMS					
Barnstable County	\$869,900,000	\$54,600,000	\$63,039,900	4,696	2,729
Berkshire County	\$194,300,000	\$8,500,000	\$11,211,200	1,134	728
Bristol County	\$571,500,000	\$33,800,000	\$47,982,600	3,119	2,318
Dukes County	\$121,200,000	\$5,900,000	\$4,698,000	629	261
Essex Regional	\$373,500,000	\$28,400,000	\$35,880,000	2,714	1,725
Franklin Regional	\$119,200,000	\$5,700,000	\$7,540,000	928	520
Hampden County	\$299,000,000	\$23,100,000	\$28,616,100	2,553	1,581
Hampshire County	\$255,800,000	\$19,000,000	\$21,090,000	1,899	1,140
Middlesex County	\$1,100,000,000	\$100,700,000	\$114,740,200	9,082	5,077
Norfolk County	\$761,800,000	\$54,200,000	\$69,529,000	5,153	3,023
Plymouth County	\$832,600,000	\$64,100,000	\$83,736,900	5,871	3,789
Worcester Regional	\$574,100,000	\$43,300,000	\$55,566,000	6,411	3,087
SPECIAL SYSTEMS					
Blue Hills Regional School	\$9,600,000	\$451,000	\$863,200	47	52
Greater Lawrence Sanitary District	\$14,900,000	\$262,000	\$572,000	41	22
Mass Housing Finance Agency	\$114,400,000	\$6,100,000	\$5,018,000	337	130
Mass Port Authority	\$525,600,000	\$10,800,000	\$25,704,400	1,191	718
Mass Water Resources Authority	\$444,800,000	\$8,200,000	\$14,565,600	1,090	476
Minuteman Regional School District	\$12,700,000	\$170,000	\$893,100	53	39

Appendix II. Types of Expenses

Expense	Explanation	Additional Information
Board member stipend	An annual payout of up to \$4,500 for every board members who is not appointed ex officio	Does not include reimbursements for travel, missed work time and other covered costs
Salaries	Includes direct compensation of board employees and contributions to their pension and healthcare benefits	NA
Legal	Mostly court and law-firm fees	Typically become significant only when investigating misconduct by board members or contractors; lawsuits with system members may not to be as expensive
Medical	Reimbursements for medical expenses of board members and staff associated with performing their job duties.	NA
Travel	Defrayals for board members' travel expenses to conferences, meetings with contractors and visits at investment sites	Varies substantially across systems and has been associated with abuse in the past
Administrative	Operating office costs (telephony, electricity, etc.)	NA
Professional services	Fees for services from certified professionals such as accountants and auditors	Generally reflects expenses related to audits, valuations and similar activities
Education	2011 St. 176 mandated minimum annual education requirements for board members	Can be provided by PERAC or qualified private vendors
Furniture and equipment	Expenses for maintenance of office furnishings and equipment such as phones and computers	NA
Management fees	Contractual fees paid to the managers of investment funds	Typically consist of an annual fee, asset-value fee and a large percentage of any gains on the asset. Fee structures vary by investment class and industry, asset-based fees comprising most of this expense
Custodial	Contractual fees due to the custodian bank or other financial company holding the system's assets on account	Typically a fixed annual fee, but may also contain an asset-value-based component
Consultant	Contractual fees due to the board's investment consultant	Consultants advise boards on the choice of tactical allocation and specific investment products, given their investment strategy and goals. Fees typically include a fixed annual amount as well as surcharges for each mediated vendor contract or asset purchase
Rent & condominium management fees	Remuneration for office space that is not owned by the board or its governmental unit, and fees on owned spaces	Few boards outside the state and teachers' rent much office space
Service contracts	Disbursements for miscellaneous services (other than professional services above)	Sometimes may include expenditures for temp workers performing administrative tasks
Fiduciary Insurance	Covers liabilities against personal property arising for failing to act prudently as an employee or executive of a pension fund	All trustees and employees of a pension fund are typically insured because, although infrequent, fiduciary liability is severe
Depreciation	Accounts for ordinary wear and tear on the retirement system's real operating assets (plant and equipment)	NA
PERAC expenses	Through this item, PERAC's annual budget is statutorily funded from the investment accounts of the state and teachers' boards	Local boards, which account for about a third of all public pension assets and liabilities in the state, do not contribute towards regulatory costs

Appendix III. System Expenses by Year

This table lists the estimated administrative costs per member and the investment expense ratio for each one of 552 board-years in the data sample obtained from PERAC audit reports for this study. Certain earlier expenses for Winchester were booked instead in 2011, so the 2010 and 2011 administrative costs per member are excluded from the counts of extreme values where appropriate in the analysis.

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Adams	2009	\$239	34
Adams	2010	\$351	40
Adams	2011	\$341	42
Amesbury	2009	\$228	53
Amesbury	2010	\$266	43
Amesbury	2011	\$242	48
Andover	2009	\$160	56
Andover	2010	\$176	45
Andover	2011	\$158	50
Andover	2012	\$207	52
Andover	2013	\$197	55
Andover	2014	\$210	53
Arlington	2009	\$182	56
Arlington	2010	\$179	51
Arlington	2011	\$179	53
Arlington	2012	\$181	55
Arlington	2013	\$193	58
Athol	2008	\$193	47
Athol	2009	\$182	62
Athol	2010	\$193	41
Attleboro	2008	\$135	69
Attleboro	2009	\$155	60
Attleboro	2010	\$149	58
Attleboro	2011	\$149	56
Attleboro	2012	\$165	55
Attleboro	2013	\$170	57
Barnstable County	2008	\$126	56
Barnstable County	2009	\$144	58
Barnstable County	2010	\$137	47
Belmont	2007	\$203	65
Belmont	2008	\$249	65
Belmont	2009	\$236	64
Belmont	2010	\$235	61
Belmont	2011	\$222	66

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Belmont	2012	\$231	60
Berkshire County	2007	\$183	53
Berkshire County	2008	\$177	49
Berkshire County	2009	\$170	67
Berkshire County	2010	\$182	44
Berkshire County	2011	\$183	49
Berkshire County	2012	\$186	52
Beverly	2008	\$145	49
Beverly	2009	\$173	56
Beverly	2010	\$143	45
Beverly	2011	\$153	50
Beverly	2012	\$156	53
Beverly	2013	\$160	55
Blue Hills Regional School	2007	\$191	53
Blue Hills Regional School	2008	\$245	49
Blue Hills Regional School	2009	\$233	54
Blue Hills Regional School	2010	\$248	43
Blue Hills Regional School	2011	\$261	48
Blue Hills Regional School	2012	\$332	52
Boston	2008	\$102	36
Boston	2009	\$128	33
Boston	2010	\$144	39
Boston	2011	\$142	49
Boston	2012	\$207	58
Boston	2013	\$295	72
Braintree	2009	\$191	45
Braintree	2010	\$205	46
Braintree	2011	\$197	49
Bristol County	2008	\$160	66
Bristol County	2009	\$140	73
Bristol County	2010	\$144	75
Bristol County	2011	\$144	72
Bristol County	2012	\$148	73
Bristol County	2013	\$154	69
Brockton	2009	\$171	57
Brockton	2010	\$211	74
Brockton	2011	\$199	93
Brockton	2012	\$202	86
Brockton	2013	\$223	81
Brockton	2014	\$227	65
Brookline	2009	\$165	51

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Brookline	2010	\$192	53
Brookline	2011	\$168	57
Cambridge	2008	\$146	62
Cambridge	2009	\$137	58
Cambridge	2010	\$164	56
Cambridge	2011	\$159	53
Cambridge	2012	\$192	57
Chelsea	2008	\$183	51
Chelsea	2009	\$167	69
Chelsea	2010	\$172	46
Chelsea	2011	\$179	51
Chelsea	2012	\$185	54
Chicopee	2009	\$140	38
Chicopee	2010	\$147	37
Chicopee	2011	\$146	41
Chicopee	2012	\$144	47
Chicopee	2013	\$155	49
Clinton	2008	\$238	46
Clinton	2009	\$203	46
Clinton	2010	\$204	43
Clinton	2011	\$208	49
Clinton	2012	\$236	60
Concord	2007	\$192	48
Concord	2008	\$234	48
Concord	2009	\$210	46
Concord	2010	\$225	44
Concord	2011	\$246	46
Danvers	2007	\$156	50
Danvers	2008	\$137	51
Danvers	2009	\$136	46
Danvers	2010	\$145	50
Danvers	2011	\$138	58
Dedham	2006	\$164	57
Dedham	2007	\$162	53
Dedham	2008	\$206	50
Dedham	2009	\$186	56
Dedham	2010	\$212	45
Dedham	2011	\$215	50
Dukes County	2008	\$235	49
Dukes County	2009	\$283	45
Dukes County	2010	\$245	37

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Easthampton	2009	\$377	56
Easthampton	2010	\$400	45
Easthampton	2011	\$408	50
Essex Regional	2006	\$200	62
Essex Regional	2007	\$215	53
Essex Regional	2008	\$207	65
Essex Regional	2009	\$248	41
Essex Regional	2010	\$210	64
Essex Regional	2011	\$208	54
Everett	2008	\$148	49
Everett	2009	\$152	58
Everett	2010	\$156	45
Everett	2011	\$173	50
Everett	2012	\$162	53
Fairhaven	2007	\$172	53
Fairhaven	2008	\$207	50
Fairhaven	2009	\$164	55
Fairhaven	2010	\$211	44
Fairhaven	2011	\$215	49
Fairhaven	2012	\$188	52
Fall River	2008	\$125	52
Fall River	2009	\$122	57
Fall River	2010	\$126	48
Fall River	2011	\$127	53
Fall River	2012	\$155	56
Fall River	2013	\$158	58
Falmouth	2007	\$208	61
Falmouth	2008	\$245	67
Falmouth	2009	\$199	62
Falmouth	2010	\$234	61
Falmouth	2011	\$221	57
Fitchburg	2008	\$99	46
Fitchburg	2009	\$119	50
Fitchburg	2010	\$124	42
Framingham	2007	\$138	53
Framingham	2008	\$139	50
Framingham	2009	\$147	56
Framingham	2010	\$157	45
Framingham	2011	\$157	50
Franklin Regional	2007	\$207	59
Franklin Regional	2008	\$226	59

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Franklin Regional	2009	\$221	61
Gardner	2008	\$134	49
Gardner	2009	\$209	54
Gardner	2010	\$211	44
Gardner	2011	\$225	50
Gardner	2012	\$219	55
Gloucester	2007	\$200	57
Gloucester	2008	\$276	48
Gloucester	2009	\$275	55
Gloucester	2010	\$297	45
Gloucester	2011	\$266	49
Greater Lawrence Sanitary District	2007	\$340	51
Greater Lawrence Sanitary District	2008	\$338	51
Greater Lawrence Sanitary District	2009	\$300	48
Greater Lawrence Sanitary District	2010	\$270	41
Greater Lawrence Sanitary District	2011	\$249	50
Greater Lawrence Sanitary District	2012	\$295	56
Greenfield	2008	\$180	73
Greenfield	2009	\$178	76
Greenfield	2010	\$187	47
Greenfield	2011	\$199	50
Greenfield	2012	\$210	53
Greenfield	2013	\$194	55
Hampden County	2008	\$149	70
Hampden County	2009	\$123	74
Hampden County	2010	\$124	47
Hampden County	2011	\$141	3
Hampden County	2012	\$155	55
Hampden County	2013	\$163	56
Hampshire County	2008	\$163	47
Hampshire County	2009	\$176	50
Hampshire County	2010	\$209	46
Hampshire County	2011	\$192	70
Hampshire County	2012	\$226	66
Hampshire County	2013	\$251	92
Haverhill	2008	\$156	106
Haverhill	2009	\$174	105
Haverhill	2010	\$192	95
Haverhill	2011	\$172	85
Haverhill	2012	\$188	85
Hingham	2009	\$208	68

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Hingham	2010	\$151	52
Hingham	2011	\$200	27
Holyoke	2009	\$161	70
Holyoke	2010	\$181	62
Holyoke	2011	\$210	68
Holyoke	2012	\$184	57
Holyoke	2013	\$183	84
Holyoke	2014	\$216	84
Hull	2007	\$245	52
Hull	2008	\$252	49
Hull	2009	\$178	55
Hull	2010	\$401	45
Hull	2011	\$324	50
Hull	2012	\$511	53
Lawrence	2008	\$152	50
Lawrence	2009	\$150	55
Lawrence	2010	\$171	44
Lawrence	2011	\$167	48
Lawrence	2012	\$191	51
Leominster	2008	\$103	33
Leominster	2009	\$112	38
Leominster	2010	\$120	35
Leominster	2011	\$129	54
Leominster	2012	\$125	57
Leominster	2013	\$115	57
Lexington	2007	\$99	55
Lexington	2008	\$112	51
Lexington	2009	\$132	38
Lexington	2010	\$164	34
Lexington	2011	\$212	35
Lexington	2012	\$198	31
Lowell	2008	\$109	19
Lowell	2009	\$101	56
Lowell	2010	\$118	45
Lowell	2011	\$112	50
Lowell	2012	\$129	53
Lowell	2013	\$130	58
Lynn	2008	\$106	81
Lynn	2009	\$113	85
Lynn	2010	\$125	61
Lynn	2011	\$106	63

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Lynn	2012	\$160	65
Lynn	2013	\$134	65
Malden	2009	\$173	30
Malden	2010	\$163	29
Malden	2011	\$184	30
Malden	2012	\$188	30
Malden	2013	\$202	29
Malden	2014	\$217	29
Marblehead	2007	\$160	54
Marblehead	2008	\$216	50
Marblehead	2009	\$195	56
Marblehead	2010	\$209	46
Marblehead	2011	\$200	50
Marblehead	2012	\$219	53
Marlborough	2007	\$175	40
Marlborough	2008	\$160	27
Marlborough	2009	\$162	32
Marlborough	2010	\$156	34
Marlborough	2011	\$191	32
Mass Housing Finance Agency	2008	\$971	68
Mass Housing Finance Agency	2009	\$748	68
Mass Housing Finance Agency	2010	\$711	73
Mass Housing Finance Agency	2011	\$718	61
Mass Housing Finance Agency	2012	\$726	63
Mass Housing Finance Agency	2013	\$775	74
Mass Port Authority	2006	\$347	46
Mass Port Authority	2007	\$368	47
Mass Port Authority	2008	\$365	41
Mass Port Authority	2009	\$356	45
Mass Port Authority	2010	\$442	43
Mass Port Authority	2011	\$435	38
Mass State	2007	\$26	53
Mass State	2008	\$32	50
Mass State	2009	\$34	56
Mass State	2010	\$51	46
Mass State	2011	\$51	51
Mass State	2012	\$61	54
Mass Teachers	2007	\$57	53
Mass Teachers	2008	\$58	50
Mass Teachers	2009	\$65	56
Mass Teachers	2010	\$60	46

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Mass Teachers	2011	\$65	50
Mass Teachers	2012	\$66	53
Mass Water Resources Authority	2009	\$249	71
Mass Water Resources Authority	2010	\$272	69
Mass Water Resources Authority	2011	\$239	70
Maynard	2011	\$422	45
Maynard	2012	\$353	49
Maynard	2013	\$303	45
Maynard	2014	\$317	50
Medford	2007	\$172	49
Medford	2008	\$165	61
Medford	2009	\$162	62
Medford	2010	\$138	58
Medford	2011	\$159	61
Melrose	2008	\$226	59
Melrose	2009	\$372	57
Melrose	2010	\$194	46
Melrose	2011	\$194	51
Melrose	2012	\$223	53
Melrose	2013	\$229	56
Methuen	2009	\$163	61
Methuen	2010	\$170	51
Methuen	2011	\$176	52
Methuen	2012	\$179	55
Methuen	2013	\$190	58
Middlesex County	2005	\$209	67
Middlesex County	2006	\$244	71
Middlesex County	2007	\$244	68
Middlesex County	2008	\$209	53
Middlesex County	2009	\$200	64
Middlesex County	2010	\$221	53
Middlesex County	2011	\$214	55
Middlesex County	2012	\$213	57
Middlesex County	2013	\$220	57
Milford	2007	\$182	58
Milford	2008	\$192	56
Milford	2009	\$161	54
Milford	2010	\$181	44
Milford	2011	\$276	48
Milford	2012	\$207	51
Milton	2009	\$194	55

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Milton	2010	\$202	44
Milton	2011	\$225	49
Minuteman Regional School District	2008	\$256	50
Minuteman Regional School District	2009	\$286	56
Minuteman Regional School District	2010	\$240	46
Minuteman Regional School District	2011	\$345	50
Minuteman Regional School District	2012	\$341	52
Minuteman Regional School District	2013	\$429	54
Montague	2006	\$260	57
Montague	2007	\$195	53
Montague	2008	\$208	50
Montague	2009	\$143	55
Montague	2010	\$204	45
Montague	2011	\$208	50
Montague	2012	\$200	53
Montague	2013	\$244	56
Montague	2014	\$293	53
Montague	2015	\$332	52
Natick	2009	\$203	38
Natick	2010	\$207	39
Natick	2011	\$224	42
Needham	2006	\$137	57
Needham	2007	\$156	53
Needham	2008	\$153	49
Needham	2009	\$152	55
Needham	2010	\$185	44
Needham	2011	\$176	49
New Bedford	2008	\$101	80
New Bedford	2009	\$104	66
New Bedford	2010	\$109	82
New Bedford	2011	\$103	90
New Bedford	2012	\$114	85
New Bedford	2013	\$120	83
Newburyport	2006	\$159	57
Newburyport	2007	\$204	53
Newburyport	2008	\$218	49
Newburyport	2009	\$209	55
Newburyport	2010	\$234	44
Newburyport	2011	\$244	48
Newton	2008	\$87	50
Newton	2009	\$88	54

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Newton	2010	\$87	44
Newton	2011	\$85	51
Newton	2012	\$94	50
Newton	2013	\$97	53
Newton	2014	\$95	52
Norfolk County	2006	\$85	54
Norfolk County	2007	\$96	52
Norfolk County	2008	\$97	50
Norfolk County	2009	\$105	76
Norfolk County	2010	\$110	69
Norfolk County	2011	\$127	67
North Adams	2008	\$131	46
North Adams	2009	\$140	57
North Adams	2010	\$151	51
North Adams	2011	\$149	45
North Adams	2012	\$189	48
North Attleboro	2008	\$167	43
North Attleboro	2009	\$132	43
North Attleboro	2010	\$193	40
North Attleboro	2011	\$209	45
North Attleboro	2012	\$187	45
North Attleboro	2013	\$234	47
Northampton	2010	\$185	40
Northampton	2011	\$172	41
Northampton	2012	\$182	40
Northampton	2013	\$186	39
Northampton	2014	\$197	39
Northbridge	2008	\$360	50
Northbridge	2009	\$369	56
Northbridge	2010	\$409	45
Northbridge	2011	\$327	50
Northbridge	2012	\$370	53
Norwood	2004	\$146	42
Norwood	2005	\$160	40
Norwood	2006	\$193	40
Norwood	2007	\$185	45
Norwood	2008	\$188	39
Norwood	2009	\$200	41
Norwood	2010	\$236	39
Norwood	2011	\$253	38
Peabody	2008	\$118	50

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Peabody	2009	\$103	56
Peabody	2010	\$107	45
Peabody	2011	\$118	50
Peabody	2012	\$121	53
Peabody	2013	\$129	55
Pittsfield	2008	\$138	43
Pittsfield	2009	\$100	60
Pittsfield	2010	\$120	49
Pittsfield	2011	\$113	52
Pittsfield	2012	\$109	54
Pittsfield	2013	\$116	56
Plymouth	2008	\$244	67
Plymouth	2009	\$278	69
Plymouth	2010	\$288	81
Plymouth	2011	\$292	81
Plymouth	2012	\$298	96
Plymouth	2013	\$321	92
Plymouth County	2007	\$162	78
Plymouth County	2008	\$141	69
Plymouth County	2009	\$119	72
Plymouth County	2010	\$111	59
Plymouth County	2011	\$119	63
Plymouth County	2012	\$126	96
Quincy	2008	\$146	34
Quincy	2009	\$138	34
Quincy	2010	\$147	33
Quincy	2011	\$149	31
Quincy	2012	\$173	32
Quincy	2013	\$161	31
Reading	2007	\$64	53
Reading	2008	\$98	50
Reading	2009	\$100	55
Reading	2010	\$152	45
Reading	2011	\$130	50
Reading	2012	\$91	53
Revere	2009	\$217	53
Revere	2010	\$210	51
Salem	2008	\$259	55
Salem	2009	\$252	56
Salem	2010	\$236	46
Salem	2011	\$218	50

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Salem	2012	\$304	50
Saugus	2009	\$151	57
Saugus	2010	\$151	46
Saugus	2011	\$153	50
Saugus	2012	\$163	53
Saugus	2013	\$176	56
Saugus	2014	\$232	54
Shrewsbury	2008	\$102	56
Shrewsbury	2009	\$78	62
Shrewsbury	2010	\$100	62
Shrewsbury	2011	\$89	65
Shrewsbury	2012	\$106	59
Shrewsbury	2013	\$104	37
Somerville	2008	\$163	46
Somerville	2009	\$155	47
Somerville	2010	\$154	49
Somerville	2011	\$157	49
Somerville	2012	\$132	49
Southbridge	2010	\$196	47
Southbridge	2011	\$251	47
Southbridge	2012	\$261	51
Southbridge	2013	\$296	54
Southbridge	2014	\$259	53
Springfield	2007	\$93	57
Springfield	2008	\$113	52
Springfield	2009	\$104	57
Springfield	2010	\$110	47
Springfield	2011	\$114	52
Springfield	2012	\$122	54
Stoneham	2008	\$312	50
Stoneham	2009	\$353	56
Stoneham	2010	\$339	45
Stoneham	2011	\$364	50
Stoneham	2012	\$386	53
Stoneham	2013	\$402	56
Swampscott	2009	\$337	80
Swampscott	2010	\$348	69
Swampscott	2011	\$366	80
Taunton	2008	\$167	67
Taunton	2009	\$134	77
Taunton	2010	\$164	72

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Taunton	2011	\$149	72
Taunton	2012	\$194	69
Wakefield	2009	\$125	56
Wakefield	2010	\$129	45
Wakefield	2011	\$129	50
Wakefield	2012	\$129	53
Wakefield	2013	\$144	55
Waltham	2007	\$227	80
Waltham	2008	\$244	59
Waltham	2009	\$238	72
Waltham	2010	\$275	64
Waltham	2011	\$280	65
Waltham	2012	\$283	65
Watertown	2008	\$224	78
Watertown	2009	\$241	74
Watertown	2010	\$244	66
Watertown	2011	\$259	62
Watertown	2012	\$253	80
Webster	2008	\$260	86
Webster	2009	\$251	92
Webster	2010	\$233	82
Webster	2011	\$249	79
Webster	2012	\$255	74
Wellesley	2009	\$145	56
Wellesley	2010	\$181	45
Wellesley	2011	\$227	50
West Springfield	2008	\$184	50
West Springfield	2009	\$193	48
West Springfield	2010	\$193	35
West Springfield	2011	\$216	36
West Springfield	2012	\$201	37
West Springfield	2013	\$210	36
Westfield	2007	\$125	53
Westfield	2008	\$129	56
Westfield	2009	\$129	54
Westfield	2010	\$179	39
Westfield	2011	\$188	35
Weymouth	2009	\$200	61
Weymouth	2010	\$225	60
Weymouth	2011	\$211	56
Winchester	2007	\$129	42

Retirement Board	Year	Administrative Costs per Member	Investment Expense Ratio (basis points)
Winchester	2008	\$147	58
Winchester	2009	\$103	35
Winchester	2010	\$34	29
Winchester	2011	\$496	34
Winchester	2012	\$140	27
Winthrop	2007	\$204	51
Winthrop	2008	\$180	47
Winthrop	2009	\$223	52
Winthrop	2010	\$303	44
Winthrop	2011	\$217	47
Woburn	2008	\$322	75
Woburn	2009	\$366	70
Woburn	2010	\$355	78
Woburn	2011	\$357	78
Woburn	2012	\$373	71
Woburn	2013	\$401	77
Worcester	2007	\$89	59
Worcester	2008	\$90	49
Worcester	2009	\$88	55
Worcester	2010	\$92	52
Worcester	2011	\$95	51
Worcester Regional	2007	\$95	73
Worcester Regional	2008	\$83	56
Worcester Regional	2009	\$86	58
Worcester Regional	2010	\$82	47
Worcester Regional	2011	\$96	51

Appendix IV. Gross Returns and Investment Expense Ratios for 2015 (Unaudited)¹⁰

Retirement System	Gross Return	Investment Expense Ratio (bps)	Investment-Related Expenses
Adams	-3.33%	44	\$136,777
Amesbury	1.12%	51	\$242,977
Andover	1.34%	50	\$582,855
Arlington	1.39%	54	\$713,710
Attleboro	-0.21%	60	\$747,608
Barnstable County	1.23%	52	\$4,486,386
Belmont	1.32%	71	\$600,266
Berkshire County	1.17%	51	\$993,539
Beverly	1.16%	52	\$511,563
Blue Hills Regional School	1.16%	52	\$50,356
Boston	-1.13%	59	\$23,849,784
Braintree	-1.06%	60	\$1,002,802
Bristol County	0.40%	85	\$4,873,467
Brockton	-1.32%	64	\$2,254,538
Brookline	1.43%	69	\$1,768,032
Cambridge	-0.07%	61	\$6,579,862
Chelsea	1.22%	51	\$642,776
Chicopee	0.18%	80	\$2,028,300
Clinton	1.52%	57	\$229,876
Concord	0.84%	49	\$650,124
Danvers	-1.49%	65	\$622,313
Dedham	1.19%	52	\$569,902
Dukes County	4.45%	51	\$620,249
Easthampton	1.17%	52	\$223,844
Essex Regional	1.75%	57	\$2,142,795
Everett	1.22%	51	\$555,796
Fairhaven	1.17%	51	\$261,095
Fall River	1.38%	51	\$1,213,795
Falmouth	0.69%	77	\$874,113
Fitchburg	1.09%	52	\$508,745
Framingham	1.13%	51	\$1,320,812
Franklin Regional	1.11%	58	\$687,629
Gardner	1.15%	52	\$240,702
Gloucester	1.19%	52	\$449,053
Greater Lawrence Sanitary District	0.54%	36	\$53,195
Greenfield	1.33%	52	\$301,847
Hampden County	1.55%	52	\$1,546,521
Hampshire County	0.32%	81	\$2,070,064
Haverhill	-1.30%	86	\$1,471,336

Retirement System	Gross Return	Investment Expense Ratio (bps)	Investment-Related Expenses
Hingham	-0.49%	44	\$415,801
Holyoke	3.59%	80	\$1,897,314
Hull	1.32%	51	\$196,361
Lawrence	1.16%	51	\$929,797
Leominster	0.59%	62	\$975,313
Lexington	0.58%	82	\$1,119,904
Lowell	1.03%	52	\$1,624,178
Lynn	1.75%	57	\$1,602,522
Malden	-1.10%	30	\$661,787
Marblehead	1.17%	53	\$457,029
Marlborough	-0.56%	41	\$581,202
Mass Housing Finance Agency	-2.30%	82	\$938,686
Mass Port Authority	-0.42%	39	\$2,036,189
Mass State	1.18%	54	\$124,686,245
Mass Teachers	1.17%	55	\$132,578,123
Maynard	1.07%	78	\$3,456,256
Mass Water Resources Authority	0.45%	56	\$205,813
Medford	0.46%	58	\$1,008,659
Melrose	0.78%	53	\$385,203
Methuen	2.27%	51	\$605,155
Middlesex County	1.18%	50	\$5,533,364
Milford	1.12%	52	\$382,604
Milton	1.18%	51	\$554,273
Minuteman Regional School District	1.15%	51	\$64,395
Montague	1.16%	52	\$177,989
Natick	0.76%	67	\$753,466
Needham	1.17%	52	\$698,387
New Bedford	-0.46%	73	\$2,005,665
Newburyport	1.19%	50	\$337,529
Newton	1.19%	51	\$1,465,371
Norfolk County	-0.84%	83	\$6,289,514
North Adams	-0.75%	47	\$254,925
North Attleboro	2.39%	67	\$644,418
Northampton	-0.10%	39	\$431,726
Northbridge	1.17%	52	\$149,719
Norwood	0.60%	69	\$927,978
Peabody	1.18%	52	\$657,808
Pittsfield	1.39%	51	\$597,061
Plymouth	2.96%	83	\$1,213,580
Plymouth County	0.54%	73	\$6,101,192

Retirement System	Gross Return	Investment Expense Ratio (bps)	Investment-Related Expenses
Quincy	-0.79%	62	\$1,764,743
Reading	1.24%	52	\$609,279
Revere	1.09%	51	\$645,431
Salem	0.82%	51	\$700,251
Saugus	1.17%	52	\$419,545
Shrewsbury	0.78%	35	\$340,344
Somerville	1.04%	51	\$1,216,671
Southbridge	1.34%	51	\$209,777
Springfield	1.54%	52	\$1,488,222
Stoneham	1.18%	54	\$400,177
Swampscott	1.50%	68	\$309,135
Taunton	1.49%	72	\$1,886,675
Wakefield	1.31%	53	\$542,022
Waltham	1.53%	57	\$1,151,660
Watertown	2.42%	76	\$1,068,127
Webster	0.74%	85	\$253,316
Wellesley	1.22%	51	\$784,507
West Springfield	-0.54%	37	\$368,617
Westfield	3.52%	68	\$1,343,304
Weymouth	0.84%	74	\$1,258,286
Winchester	-0.31%	25	\$253,198
Winthrop	1.17%	50	\$279,072
Woburn	-0.52%	76	\$938,700
Worcester	-0.71%	64	\$5,091,301
Worcester Regional	0.92%	56	\$3,219,237

Endnotes

1. Nevertheless, the substantive conclusions would not be affected materially, even if these special items, which mostly affect the state and teachers' boards, were included.
2. No separate expense data were available for Boston teachers.
3. As a robustness check, all sample line-item percentages were recalculated for the 2009-2011 period, where the local-system sample is almost complete. The resulting distribution of expenses was nearly identical to that for the overall sample. Commonwealth system data were available for 2007-2012 and were used in their totality.
4. Exclusive of extraordinary items.
5. See next section for a detailed corroboration of this conjecture.
6. Note again this is the administrative line item within the operational subcategory in Fig. 6 and not the overarching category of administrative expenses.
7. The sample size for local systems was respectively 35, 78, 100, 101, 97 and 67 for each of those years.
8. The record 1,095 days were registered by the MSERS audit ending in 2012, which included the first six months of 2013.
9. As of October 2016.
10. Public Employee Retirement Administration Commission, "A Comparative Analysis of Investment-Related Expenses and Investment Returns for 1, 5, 10 and 31-Year Periods Ending December 31, 2015" (Somerville, MA: Public Employee Retirement Administration Commission, 2016), 1-3, <http://www.mass.gov/perac/docs/forms-pub/reports/other-reports/2015-schedule-7.pdf>.)

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