

Recommendation to the FMCB: Retain an Independent Auditor and Actuary to Review the MBTARF

The partial FTI report missed the mark

by Gregory W. Sullivan



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Introduction

In December, Pioneer Institute released "Fixing the MBTA Retirement Fund: Reforming a Pension Fund in Crisis," which made the case that the MBTARF Board's mishandling of the fund's assets had reached a critical level, and that the Fiscal and Management Control Board needed to consider moving MBTA workers out of Social Security, instituting a new pension benefit structure for all MBTARF members, and transfer investment management to the Pension Reserves Investment management (PRIM).

In that report, Pioneer Institute also argued that the problems were far beyond anything identified in the FTI Consulting assessment, which was conducted for the MBTARF Board, because FTI's analysis was narrow in scope.

The present policy paper follows argues that FMCB must conduct an independent audit and actuarial valuation of the fund, because of specific failures and omissions even in the limited work that FTI did. In doing so, we find that in opposition to the claims of FTI, the claims of potential malfeasance and poor management by the MBTARF Board, which came from noted whistleblower Harry Markopolos and Boston University Professor Mark Williams, were likely accurate.

Analysis

On June 26 2015, noted whistleblower Harry Markopolos and Boston University Professor Mark Williams issued an investigative report entitled "MBTA: A Pension Fund at Risk" identifying numerous red flags concerning MBTARF's pension fund reporting.¹ In response, MBTARF retained FTI Consulting (FTI) to assess certain aspects of the assets, liabilities and investment returns included in the MBTARF's Annual Reports for the calendar years 2011, 2012 and 2013. In its report to MBTARF issued on March 9, 2016,² FTI concluded:

"We have compared the MBTARF's investment returns for 2011, 2012 and 2013 as computed by the Custodian to the returns reported in the MBTARF's 2011, 2012 and 2013 Annual Reports noting no significant differences."

"Based on our review of the 2011, 2012, 2013 and 2014 actuarial valuations prepared by the MBTARF 's actuary, Buck Consultants, LLC ("Buck"), it appears that the process of setting actuarial assumptions and methods conform to Actuarial Standards of Practice and that Buck's recommended assumptions were appropriately adopted by the Board. Further, in our opinion, the mortality rates, projected investment returns and asset smoothing technique used for the 2011, 2012, 2013 and 2014 actuarial valuations were reasonable and appropriately applied. It should also be noted that each of these actuarial assumptions were proposed and recommended

by the MBTARF's third-party actuary, Buck."

"Alternative Investments are valued based on estimates provided by the investment manager and supported by audited financial statements.... The value of each Alternative Investment is provided by the respective fund administrator for each of the Alternative Investments in the form of a capital account statement. As an independent check on the value of each of its Alternative Investments, the Staff compares the capital account statement to the audited financial statements of the Alternative Investment."

Based on our review of FTI's report and related documents, Pioneer Institute recommends that the Fiscal and Management Control Board (FMCB) retain an independent actuary to conduct an actuarial audit on its behalf of MBTARF and retain an independent auditor to audit MBTARF. Such an independent review has not been performed for more than a decade.

FTI states in its report that "For many public pension plans, an actuarial audit is prepared every five to ten years. An actuarial audit is intended as a quality control measure to assess the plan's actuarial valuations. The actuarial audit is prepared by an actuarial firm independent of the plan actuary and typically entails a full replication of the most recent actuarial valuation; and in many cases the most recent experience study. . . . According to Buck, "the MBTARF has not retained a firm to prepare an actuarial audit in at least the past eleven years." We recommend that a full valuation replication actuarial audit be prepared in the near future."

Omitted from the FTI report is any mention of the fact that "Actuarial Audits Best Practices" approved by the Executive Board of the Government Finance Officers Association of the United States and Canada (GFOA) in May 2014 recommend that actuarial audits be performed at least once every

"Actuarial Audits Best Practices" approved by GFOA's Executive Board in May 2014 provide for actuarial audits at least once every five years.

five years. According to GFOA, "[t]his recommendation is designed to ensure that more than one actuary has performed or replicated the actuarial valuation during any five-year period."⁵

According to GFOA Best Practices, "[a]n actuarial audit involves engaging the services of an outside actuary (reviewing actuary) to scrutinize the work of the plan's consulting actuary. Actuarial audits are helpful for several reasons:

 They enhance the credibility of the actuarial valuation process by providing independent assurance that it was performed in accordance with actuarial standards of practice;

- They increase public trust in how the pension plan is being governed;
- They help plan fiduciaries to assess whether the pension plan is meeting its funding objectives;
- They can lead to the remediation of errors that might otherwise go undiscovered; and
- They can provide recommendations for improving the actuarial valuation process, including how information is presented in the actuarial valuation report and in other communications."⁶

FTI's March 9, 2016 report did not constitute an actuarial audit. In fact, FTI clearly stated in its report that

"With respect to any financial information, our work did not constitute an examination, review or compilation in accordance with standards established by the American Institute of Certified Public Accountants ("AICPA")."

Furthermore, FTI did not conduct independent valuations of MBTARF's alternative investments; instead it simply accepted as fact the asset valuations reported by the outside investment managers (and their outside auditors) and confirmed that MBTARF and Buck had reported the same valuations, as follows:

- "Trace audit confirmations and compare to fair value amounts provided in Schedule of Assets. Reconcile any differences.
- Compute sample coverage and judgmentally select additional Investment Managers for confirmation."8

As was unfortunately demonstrated by the MBTARF's \$25 million Fletcher Asset Management Fund loss between 2011 and 2013 the, explained below, MBTARF's blanket acceptance of the asset valuation of outside investment managers and their agents does not guarantee that the valuations are accurate.

Pioneer Institute's review of the Markopolos-Williams report and the FTI Consulting report indicates that FTI dismissed or ignored at least five red flags raised by Markopolos-Williams that were legitimate, as describe below, and which deserve a *de novo* investigation by an independent actuary.

The First of Five Red Flags Raised by Markopolos-Williams: Weakness of MBTARF Board Oversight

In their report, Markopolos and Williams underscore significant weaknesses in the MBTARF Board's oversight, noting "lack of board sophistication, investment experience . . . after significant multi-million dollar losses associated with Ponzi scheme operators Fletcher Asset Management and Weston

Capital Management." FTI's response to this assertion was limited: "Nothing came to our attention that suggests the accounting for the Fletcher Investment did not comply with generally accepted accounting principles." ¹⁰

FTI's issuance of a virtual clean bill of health to MBTARF in response to Markopolos-Williams' criticism concerning MBTARF's handling of the Fletcher hedge fund losses is starkly at odds with conclusions reached by other watchdog agencies that reviewed losses experienced by three Louisiana retirement systems that were also victimized by Fletcher Asset Management investments over the same time frame.

For example, the Louisiana Legislative Auditor conducted a comprehensive investigation of three Louisiana pension funds' roles in their faulty investment with Fletcher Asset Management and concluded that the funds had failed to follow best practices in numerous respects. A June 5, 2012 news article in *Pensions & Investments* entitled "3 Louisiana pension funds didn't follow procedure with Fletcher fund — auditor" described the shortcomings identified by the Legislative Auditor.

Likewise, the 300-page report by the New York bankruptcy trustee of the Fletcher fund¹² concluded that:

"There were numerous red flags that ought to have been readily apparent to the administrators and auditors for the Funds. These red flags included:

- Manager-controlled pricing of customized investments, supported by a valuation agent lacking adequate experience and independence;
- Massive subscriptions into the Funds in November and December 2008
- Repeated massive sudden gains in multiple investment positions;
- Multiple transactions in major positions at values that were inconsistent with the mark-to-model valuations;
- Valuation reports that did not meet minimum industry standards;
- Guaranteed minimum investor returns for certain investors;
- Absence of any down months over 127 months from June 1997 through December 2007;
- Fund complexity;
- Lack of timely issuance of annual audited financial statements;
- Lack of timely reporting and communications to investors, including delays in receiving monthly and weekly financial data from the investment manager in order to calculate NAVs;

- Backdating corporate and transaction documents;
- Ascribing value to non-exercised contract rights to buy securities without actually investing in them;
- Mismatch between the terms of the investment vehicle and the underlying investments; and
- Continued inflows and outflow over short time periods from affiliates and related entities.

The New York bankruptcy trustee concluded that "[T]he Funds were victims of a fraud defined by the extensive use of wildly inflated valuations, the existence of fictitious assets under management ("AUM") numbers, the improper payment of excessive fees, the misuse of investor money, and efforts wrongly to deny the Louisiana Pension Funds a key benefit of their investment agreement — mandatory redemption of their investment under certain circumstances. The Funds were also victims of an environment where self-interest all too often trumped fiduciary obligations." ¹³

The New York bankruptcy trustee further concluded, "Of the \$25 million invested by MBTA along with the additional \$11.9 million that came in from other sources between June 8, 2007 and December 20, 2007, no more than \$8 million was used for actual investments." ¹⁴

The New York bankruptcy trustee further concluded, "Significant amounts of the investors' money was invested in ways that were patently at odds with the strategy, for instance, as a non-market loan to enable an AF-controlled company to buy a fund of funds business; in AF's brother Geoffrey's film company to produce the motion picture Violet & Daisy; in a print and digital media travel company . . . and in a broker-dealer These investments were made in private companies, and although the Offering Memoranda refer to "private and publicly traded issuers," the investment had to be in instruments that could be "actively" traded — e.g., publicly issued bonds of a private company." ¹⁵

"FTI did not address the allegation that MBTARF lacked board sophistication, investment experience, and oversight leading to the \$25M Fletcher loss."

The New York bankruptcy trustee further concluded: "These red flags should have caused the administrators and auditors to have investigated, disclosed and stopped. None did." ¹⁶

In summary, FTI's report did not address

Markopolos-Williams' allegation that MBTARF had demonstrated a lack of board sophistication, investment experience, and oversight leading to the \$25 million Fletcher hedge fund loss. Without addressing this allegation, FTI stated that since MBTARF staff had written off the hedge fund losses over a

three-year period from 2011 to 2013, "Nothing came to our attention that suggests the accounting for the Fletcher Investment did not comply with generally accepted accounting principles." Other watchdog agencies that reviewed the Fletcher matter described a litany of serious oversight and management errors that had led to the losses, seemingly confirming the Markopolos-Williams' criticisms. The FTI report did not include any such findings.

When FTI reported that there had been no sign that accounting practices for the Fletcher Investment failed to comply with generally accepted accounting principles, it did not explain that the KPMG audits that FTI reviewed did not express an opinion on the effectiveness of the Fund's internal control over financial reporting about the Fletcher hedge fund

investment. Thus, nothing in the subject audits would have brought to FTI's attention any shortcomings of MBTARF's internal control over financial reporting pointed out by Markopolos-Williams. Had FTI conducted a comprehensive review, like the ones conducted by other watchdog agencies, the results would presumably been quite different. As previously cited, the Louisiana Leg-

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islative auditor concluded after a comprehensive review that the procedures used by three Louisiana pension funds relative to the Fletcher fund didn't follow best practices, and the New York bankruptcy trustee concluded that "red flags should have caused the administrators and auditors to have investigated, disclosed and stopped. None did." ¹⁸

Since FTI's review relied primarily on a qualified verification of KPMG's audits, FTI was presumably aware that the KPMG audits included the following disclaimers that makes it clear that KPMG did not express an opinion on the effectiveness of MBTARF's internal control over financial reporting:

KPMG Audit for 2010 and 2011: "Our audit included consideration of internal control over financial reporting as a basis for designing audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Fund's internal control over financial reporting. Accordingly, we express no such opinion." ¹⁹

"KPMG Audits 2012 and 2013. . . [T]he auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in

the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion."²⁰

Furthermore, the FTI report did not make any finding about the second element of Markopolos-Williams' criticism, that MBTARF was unwilling to provide transparent reports even after it had lost millions of dollars.²¹

Second of Five Red Flags Raised by Markopolos-Williams: Lack of Reporting Transparency

In their report, Markopolos and Williams underscored that the MBTARF did not disclose its \$25 million hedge fund loss, citing its "unwillingness to provide reporting transparency even after significant multi-million dollar losses associated with Ponzi scheme operators Fletcher Asset Management and Weston Capital Management." FTI's response on this matter was the same one that was cited previously: "Nothing came to our attention that suggests the accounting for the Fletcher Investment did not comply with generally accepted accounting principles."

FTI's conclusion that there appeared to be no deviation from generally accepted accounting practices was not responsive to Markopolos-Williams' criticism concerning MBTARF's "unwillingness to provided reporting transparency" relative to the Fletcher hedge fund matter. FTI reported that MBTARF staff had "recorded impairments to the carrying values of the Fletcher Investment (the Fletcher Fixed Income (hedge fund) and the Fletcher Note (fixed income) for the years ended December 31, 2011, 2012 and 2013. The MBTARF wrote down these assets by 40 percent, 33 percent and 100 percent of the balances as of December 31, 2011, 2012 and 2013, respectively."23 FTI failed to address the Markopolos-Williams' criticism that counter to accounting best practices MBTARF had not disclosed those write downs in its 2011 Audited Financial Statement or its 2012 Audited Financial Statement. Pioneer Institute's review of those audited financial statements did not identify any such disclosure having been made therein.

The Trustee's Report and Disclosure Statement in the Fletcher bankruptcy case in the Southern District of New York demonstrate that MBTARF became aware that its Fletcher hedge fund investment had become non-performing when Fletcher failed to fulfill MBTARF's March 24, 2011 request for a \$10 million partial redemption of its investment. Heither MBTARF, its auditor, nor its actuary publicly disclosed this fact until December 2014, a year after Beth Healy of the Boston Globe reported the \$25 million Fletcher hedge fund loss.

Unlike MBTARF, three pension funds in Louisiana that were also victims of the Fletcher scheme jointly issued a public statement on July 11, 2011 disclosing that the Fletcher fund had failed to fulfill their requests to redeem assets in the fund and that they had been informed in early May, 2011 that in

order to fulfill their respective requests to redeem their investments, Fletcher would first have to liquidate the fund. This disclosure prompted an immediate investigation by the Securities and Exchange Commission, as reported by the *New York Times* on the following day.²⁶ Notwithstanding these facts, the MBTARF's 2011 and 2012 audited financial statements made no reference to the Fletcher fund losses.

A December 20, 2011 press report entitled "Pension Sets Plan for Fletcher Loss" stated that

"A Louisiana public pension fund indicated for the first time it is preparing for the possibility of a shortfall in its investments with Fletcher Asset Management, which had offered it a 12% minimum annual return. In November, the Firefighters' Retirement System of Louisiana listed the market value of its investment in Fletcher at about \$57 million, about \$10 million less than a month earlier, according to monthly investment reports."

KPMG's 2012 Audited Financial Statement, issued on August 1, 2013, did not disclose the Fletcher hedge fund losses not-withstanding a report in *The Wall Street Journal* entitled "Judge Orders Liquidation of a Fletcher Hedge Fund" on April 19, 2012 and another stating that on June 29, 2012, Fletcher International Ltd, the master fund for the Fletcher group of funds, filed for Chapter 11 bankruptcy protection.^{28,29}

MBTARF established a narrow scope of audit for FTI that effectively precluded them from reviewing whether MBTARF and KPMG had properly disclosed the \$25 million in hedge fund losses in its 2011 and 2012 annual reports. The scope of review

"FTI leaves the misleading impression that MBTARF's 2011 and 2012 annual reports had disclosed the hedge fund losses."

called for FTI to: "Trace annual returns in annual financial statements for 2011, 2012, 2013 and Management Discussion and Analysis Section of the annual report (2013 only) "
By limiting FTI's review to the "Management Discussion and Analysis Section of the annual report (2013 only)," MBTARF excluded from FTI's assigned task any examination of whether MBTARF had properly disclosed the hedge fund losses in the Management Discussion and Analysis Sections of the earlier KPMG's 2011 and 2012 Audits, the subject raised by Markopolos-Williams. The 2013 KPMG Audit was not publicly released until December 2014, a year after the *Boston Globe* reporter Beth Healy disclosed the \$25 million Fletcher hedge fund loss.³⁰

Representations made in FTI's report give the misleading impression that MBTARF's 2011 and 2012 annual reports had disclosed the hedge fund losses. On page 5 of its report, FTI presents a chart entitled "Investment returns as reported

in the MBTARF Annual Report" including hedge fund losses of 1.94 percent in calendar 2012 and 4.75 percent in calendar 2013, but the data cited therein came exclusively from the 2013 Annual Report, published nearly a year after the losses were disclosed by the *Boston Globe*, and did not appear in the earlier reports.

Third of Five Red Flags Raised by Markopolos-Williams: Use of Outdated Mortality Tables

In their report, Markopolos-Williams made two assertions concerning the MBTARF's use of mortality tables:

- "The MBTA was the only transit authority among the eight major transit authorities in the U.S. that used an outdated mortality table."31
- "[The] use of outdated mortality table [UP 1994] instead of updated mortality table [RP 2000 adjusted to 2013]" represents a "suspicious activity" that results in an understatement of MBTARF liabilities of approximately \$105 million.³²

Mortality tables are one of the most important bases for determining pension fund liability for group annuitants over their expected lifetimes. The use of incorrect or outdated tables can significantly misrepresent actual plan liabilities. Markopolos and Williams asserted that the mortality table used by MBTARF (UP-1994) was outdated and should be substituted with an updated mortality table (RP-2000).³³

In response, FTI claimed: "[I]n our opinion, the mortality rates . . . were reasonable and appropriately applied. It should also be noted that each of these actuarial assumptions were proposed and recommended by [MBTARF's actuary Buck Consultants LLC]."³⁴

One very important fact that was omitted from FTI's March 9, 2016 report is that MBTARF had retained Buck in 2015, long before the date of the FTI report, to conduct an actuarial experience study for the period from January 1, 2010 to December 31, 2014, which resulted in Buck's adopting the RP-2000 mortality table in MBTARF's actuarial valuation of December 31, 2015. This study had either been completed or had nearly been completed at the time that FTI issued its March 6, 2016 report. This fact was not disclosed in the FTI report despite the fact that FTI had interviewed "Buck's lead actuary for the MBTARF" during its investigation and should have been aware of this material event.³⁵

On October 13, 2016, KPMG, MBTARF's auditor, issued its Audited Financial Statement for 2014-2015, stating:

"The actuarial assumptions [including use of the RP-2000 tables] used in the December 31, 2015 valuation were based on the results of an actuarial experience study for

the period from January 1, 2010, through December 31, 2014. Actuarial valuations attempt to estimate costs associated with the pension fund based on a number of demographic, economic and retirement experience."³⁶

Thus, it appears that while FTI was issuing its report debunking Markopolos-Williams' claim that MBTARF's mortality tables were outdated, MBTARF and it actuary, Buck, were concluding that Markopolos-Williams' criticism was correct. MBTARF, FTI, and Buck owe an explanation about the timing of these events and what information was shared by Buck with FTI about it.

As explained above, FTI refuted the Markopolos-Williams' claim that MBTARF's mortality tables were outdated by citing Buck's recommendation of the continued use of the UP-1994 mortality table. In stark contrast, during the same time period, Buck Consulting updated the mortality table of another of its public transit pension fund clients,

the Retirement Plan of the Chicago Transit Authority, from the UP-1994 Mortality Table to the RP-2000 Table, in its actuarial valuation of January 1, 2014.^{37,38} Likewise, Buck Consulting had updated the mortality table of the Houston Firefighters' Relief and Retirement Fund from the 1994

"Why Buck would allow the MBTARF to continue to use an outdated mortality table is puzzling."

Group Annuity Mortality Table to the RP-2000 Mortality Table its 2010 actuarial valuation.³⁹ Likewise, Buck updated the mortality table of the Public Employees' Retirement System of New Jersey as early as July 1, 2008 to the RP-2000 table in its actuarial valuation.⁴⁰ Likewise, Buck Consulting had updated the mortality table of the Ohio Police and Fire Fund to the RP-2000 Mortality Table its January 2013 actuarial valuation.⁴¹ Why Buck would allow the MBTARF to continue to use an outdated mortality table is puzzling.

The American Academy of Actuaries recommended as follows on December 31, 2003: "[T]he RP-2000 Mortality Table was recently developed and approved by the Society of Actuaries and we strongly believe that this table represents the best information available regarding life expectancies for pension plan participants."

The Massachusetts Public Employee Retirement Administration Commission (PERAC) conducted an experience study of the State Retirement System from 1995-1999 that led to adoption of "Mortality RP-2000 Healthy Annuitant table projected 10 years with scale AA (gender distinct) in 2002."⁴³ Since that time, virtually all public retirement systems aside in Massachusetts except MBTARF have used the RP-2000 mortality tables.

Fourth of Five Red Flags Raised by Markopolos-Williams: Increasing Assumed Rate of Return on Investments

In their report, Markopolos and Williams question MBTARF's "unexplained" decision to include a "liberal" increase of \$106 million in the assumed rate of return for its investments, 44 and also MBTARF's increase of expected investment returns from 7.5 to 8 percent.

FTI's response to Markopolos-Williams was that "[t]he expected investment return assumption was determined using a capital market study that provided stochastic modeling of expected future investment returns based on the MBTARF's asset allocation. The change to increase the expected return assumption from 7.5% to 8.0% was made in response to a change in the MBTARF's asset allocation and was based on an analysis prepared by Buck."

In a report issued by the MBTA's Fiscal and Management Control Board (FMCB) on June 27, 2016, three months after FTI issued its report that purported to debunk Markopolos-Williams' claims that MBTARF's 8 percent investment return assumption was too high, FMCB reported that MBTARF's "Assumed rate of return [has been] decreased from 8.0% to 7.75% in 2016."46 The FMCB report included an "Actuarial Value of Assets as estimated by MBTA" that including an assumed rate of return of 7.75 percent for calendar years 2014 and 2015. Thus it appears that only three months after FTI issued its report refuting Markopolos-Williams' claim that MBTARF's assumed rate of return was too high, MBTARF actually reduced it to 7.75 percent. Despite FTI's having interviewed Buck's actuary during its investigation, no mention was made in its report indicating that behind the scenes MBTARF was in the process doing what Markopolos-Williams had called for.

The total financial impact of MBTARF's changes in actuarial assumptions following the Markopolos-Williams report (i.e., implementation of an updated mortality table and reduced assumed rate of return in line with Markopolos-Williams recommendations) is not specifically delineated in KPMG's report, but MBTARF's total pension liability increased by \$208 million from \$2.364 billion on December 31, 2013 to \$2.572 billion on December 31, 2015.

Fifth Red Flag Raised by Markopolos-Williams: Changes to Asset Smoothing Methods

Finally, Markopolos and Williams observed "[c]hanges in asset smoothing methods in 2013" valued at approximately \$96.34 million. In making this observation, Markopolos and Williams called into question MBTARF's change in asset valuation methodology in 2013 that defers recognition of fund performance below assumed rate of return. ⁵⁰ FTI responded by stating that "starting with the December 31, 2013 valuation,"

a change was made that spread asset gains and losses over five years, which more closely conformed with industry norms."51

In its June 27, 2016 Pension Update report, FMCB stated that "Asset smoothing defers recognition of fund underperformance: actuarial value of assets estimated to be ~\$130M higher than market value in 2015." The FMCB estimate of a \$130 million effect of asset smoothing is greater than the Markopolos-Williams estimate of \$96.34 million. Pioneer Institute recommends that independent actuarial audit should review MBTARF's methodology to assess whether it is reasonable.

Conclusion

The five red flags on FTI Consulting's already narrow audit of the MBTARF underscore just how far off the mark their report, conducted at the request of the MBTARF Board, was. The MBTARF is in too much of a crisis to allow its problems to be papered over. As noted in our December report, "Fixing the MBTA Retirement Fund," its liability is today only 58% percent funded. With other issues, including incidents of fraud, it is high time for a truly independent audit of the fund, in accordance with GFOA Best Practices. Given the FMCB's mission and its scope of powers, it is time that the Control Board retain an independent auditor and actuary to review the MBTARF.

Endnotes

- 1. Markopolos-Williams issued a 14-page Powerpoint presentation dated June 26, 2015(Markopolos-Williams Powerpoint) retrievable here: http://www.bostonglobe.com/rw/Boston/2011-2020/WebGraphics/Business/BostonGlobe.com/2015/06/tpension/t-pension.pdf and published by The Boston Globe in a story written by Beth Healy on June 27, 2015: http://www.bostonglobe.com/business/2015/06/27/whistle-blower-markopolos-questions-pension-fund-accounting-shares-report-with-authorities/O5KCbBOdn3g50IHLLVjqWP/story.html, The story explained that Markopolos-Williams had presented "a 103-page report on [the preceding day, June 26 2015] to officials from the US attorney's office, the FBI, the Securities and Exchange Commission, and the Massachusetts inspector general's office."
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- 4. Id. Page 25.
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- 6. Id.
- 7. FTI Consulting Report. Page 2. Emphasis added.
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- Trustee's Report and Disclosure Statement in re Fletcher International, LTD. November 25, 2013. United States Bankruptcy Court. Southern District of New York. Pg. 61.
- 25. Ex-T pension chief recommended \$25m investment that went bust. December 20, 2013. https://www.bostonglobe.com/business/2013/12/20/former-mbta-pension-fund-chief-recommend-ed-million-hedge-fund-investment-that-went-bust/baNMRc-CLcdIoitY8xqx66M/story.html
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- 31. Id. Page 13.
- 32. Id. Page 12.
- 33. For the actuarial valuation of MBTA Retirement Fund on December 31, 2014, Buck's mortality rates were based on the UP 1994 Mortality Table for males projected to year 2020 with Scale AA is used for all active and retired participants.
- 34. FTI Consulting Report. Page 4.
- 35. FTI Consulting Report. Page 20.
- Massachusetts Bay Transportation Authority Retirement Fund Financial Statements and Required Supplementary Information December 31, 2014 and December 31, 2015 (With Independent Auditors 'Report Thereon). Page 25.
- Buck Consulting Retirement Plan for Chicago Transit Authority Employees Actuarial Valuation Report as of January 1, 2013.
 "The 1994 Group Annuity Mortality Table for males and females multiplied by 90 percent." http://www.ctaretirement.org/retirement-plan/reports/2013-actuarial-valuation.pdf.
- 38. Buck Consulting Retirement Plan for CTA Employees Actuarial Valuation Report as of January 1, 2014. "Death change rates to RP2000 Blue Collar table, generational to 2016 based on scale BB and then fully generational." http://www.ctaretirement.org/retirement-plan/reports/2014-actuarial-valuation.pdf
- 39. Houston Firefighters' Relief and Retirement Fund Comprehensive

Annual Financial Report - Period ended June 30, 2014. "The assumptions changed were the following: (1) update to the RP2000 Mortality Table from the 1994 Group Annuity Mortality Table" Page 17.https://hfrrf.org/uploadedFiles/HFRRF/Content/Resource_Center/FY%202014%20Comprehensive%20Annual%20 Financial%20Report.pdf

- 40. Public Employees' Retirement System of New Jersey Report of the Actuary as of July 1, 2008. "Deaths after Retirement: RP 2000 Combined Healthy Male (set forward 1 year) and Female Mortality Tables for service retirement. Special mortality tables are used for dependent beneficiaries and the period after disability retirement." http://www.state.nj.us/treasury/pensions/pdf/financial/2008-actuary-report-pers.pdf
- Ohio Police & Fire Pension Fund January 1, 2012 Actuarial Valuation of Pension Benefits. https://www.op-f.org/Files/ActuarialValuationasOf01012012.pdf
- 42. https://www.actuary.org/pdf/pension/mortality_123103.pdf
- 43. http://www.mass.gov/perac/docs/forms-pub/reports/experience-studies/expstudy.pdf
- 44. Markopolos-Williams Powerpoint. Page 5.
- 45. FTI Consulting Report. Page 23.
- MBTA Pension Update presented at FMCB Meeting June 27, 2016. Page 16. https://www.mbta.com/uploadedfiles/ About_the_T/Board_Meetings/MBTAPensionUpdateFI-NALFMCB6272016.pdf.

- 47. According to KPMG's Annual Audit of 2014-2015
- 48. According to the FMCB's Pension Update issued on June 27, 2016.
- 49. FMCB said in its June 27 2016 report: "As of 6/23/16, Buck (Actuaries) has received final 12/31/15 asset valuation of the Main Fund and is in process of producing the valuation. . . . Preliminary Actuarial Accrued Liability is \$2.572B."
- 50. Markopolos-Williams Powerpoint. Page 12.
- 51. FTI Consulting Report. Page 24.
- 52. FMCB explained further: "Asset smoothing is a common practice used by pension funds to reduce volatility in contribution levels. MBTARF, State-Boston Retirement System, Mass Teachers' Retirement System and Mass State Employees' Systems all use the same method to defer realization of gains/losses (although use different values for maximum deviation from market value)."
- 53. The MBTA Pension Update presented at FMCB Meeting June 27, 2016 states that the MBTARF's Implied Unfunded Liability (based on 2015 Pension Liability at 7.75% discount rate) and 2015 Market Value of Assets is 42 percent.

About the Author

Gregory Sullivan is Pioneer's Research Director, and oversees the Centers for Better Government and Economic Opportunity. Prior to joining Pioneer, Sullivan served two five-year terms as Inspector General of the Commonwealth of Massachusetts and was a 17-year member of the Massachusetts House of Representatives. Greg is a Certified Fraud Investigator, and holds degrees from Harvard College, The Kennedy School of Public Administration, and the Sloan School at MIT.

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