NEW YORK STATE DEPARTMENT OF FINANCIAL SERVICES

REPORT ON EXAMINATION

OF THE

NEW YORK STATE AND LOCAL EMPLOYEES'

AND THE

NEW YORK STATE AND LOCAL POLICE AND FIRE

RETIREMENT SYSTEMS

CONDITION: MARCH 31, 2016

DATE OF REPORT: FEBRUARY 28, 2018

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EXAMINER:	CHRISTINE D. MAVOUR

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NEW YORK STATE
DEPARTMENT of
FINANCIAL SERVICES

Andrew M. Cuomo
Governor

Maria T. Vullo
Superintendent

January 14, 2019

Honorable Maria T. Vullo
Superintendent of Financial Services
New York, New York 10004

Madam:

In accord with instructions contained in Appointment No. 31554, dated December 12**,** 2016 and annexed hereto, an examination has been made into the condition and affairs of the New York State and Local Employees' Retirement System, the New York Police and Fire Retirement System, and the New York State Common Retirement Fund, hereafter referred to as "the System", at its home office located at 110 State Street, Albany, New York 12257.

Wherever "Department" appears in this report, it refers to the New York State Department of Financial Services.

The report indicating the results of this examination is respectfully submitted.

1. SCOPE OF EXAMINATION

The examination covers the five-year period from April 1, 2011 through March 31, 2016. The examination was conducted observing the guidelines established by the Government Accounting Standards Board and by the Actuarial Standards Board. As necessary, the examiner reviewed transactions occurring subsequent to March 31, 2016 but prior to the date of this report (i.e., the completion date of the examination).

In the course of the examination, a review was also made of the manner in which the New York State and Local Employees' Retirement System, hereinafter referred to as "the System," conducts its operations and fulfills its contractual obligations to members and claimants. The results of this review are contained in item 3 of this report.

The examination included a verification of assets and actuarial present values as of March 31, 2016, to determine whether the System's filed March 31, 2016 annual statement fairly presents its funding status. The examination included a review of the following matters:

History of the system
Governance and Management
Accounts and records
Financial statements
Actuarial issues
Treatment of members
Member benefits

2. SYSTEM OVERVIEW

A. History

The New York State and Local Retirement System (the "System") was established by the enactment of Chapter 741 of the Laws of 1920 and began operations effective January 1, 1921.

The original legislation provided for the membership of state employees. Subsequent amendments authorized the inclusion of political subdivisions of the state, public and quasi-public organizations and certain New York City libraries as participating employers and extended membership to their employees.

The retirement law was contained in Articles 4 and 5 of the Civil Service Law until July 1, 1956. Effective July 1, 1956, all provisions concerning retirement contained therein were incorporated in the Retirement and Social Security Law. Effective April 1, 1967, Chapter 1,000 of the Laws of 1966, Article 8 amended the Retirement and Social Security Law and established a separate retirement system for policemen and firemen, which was called the New York State Policemen's and Firemen's Retirement System.

Effective July 30, 1987, Chapter 506 of the Laws of 1987 amended the official titles of the two retirement systems to the New York State and Local Employees' Retirement System ("ERS") and the New York State and Local Police and Fire Retirement System ("PFRS").

Article 8, Title 3, Section 315 of the New York Retirement and Social Security Law states that the policemen's and firemen's retirement system, established by such article, shall be subject to the supervision of the Superintendent of Insurance. Such supervision shall be in accordance with the provisions of the New York Insurance Law to the extent that such provisions are applicable to the policemen's and firemen's retirement system and are not inconsistent with the provisions of such article. Article 1, Title 2, Section 15 of the New York Retirement and Social Security Law states that the employees' retirement system, continued by such article, shall be subject to the supervision of the Superintendent of Insurance. Such supervision shall be in accordance with the provisions of the New York Insurance Law to the extent that such provisions are applicable to the employees' retirement system and are not inconsistent with the provisions of such article. Section 314 of the New York Insurance Law provides the Superintendent with the authority to examine the affairs of the Systems at least once every five years. Section 14 of the New York Retirement and Social Security Law (RSSL), designates the Attorney General of the State as the legal adviser of the Systems.

B. <u>Management</u>

1. <u>Common Retirement Fund ("CRF") and the Employees Retirement Systems ("ERS")</u>

Control of the administration and operation of the System is vested in the Comptroller of the State of New York. The State Comptroller is sole trustee of the New York State Common Retirement Fund (CRF), and is directly accountable for the performance, oversight and management of the Fund. As the administrative head of the System and trustee of its assets, the Comptroller is a fiduciary. That is the Comptroller must: act solely in the interest of the System's members and beneficiaries; and must perform his responsibilities with the "care, skill, prudence and diligence under the circumstances then prevailing that a prudent person acting in a like capacity and familiar with such matters would use in the conduct of an enterprise of a like character and with like aims." The Comptroller has the authority to adopt or amend rules and regulations for the administration and transaction of the business of the Systems and for the custody and control of their funds. The Comptroller is also responsible for the maintenance of all necessary accounting records and data needed for the actuarial valuation of the various funds of the Systems. He is required to establish funds which, in his judgment, are necessary or required for proper fiscal management and to perform such other functions as are required for the execution of the provisions of the New York Retirement and Social Security Law.

The Comptroller has the authority to employ such other necessary technical and administrative assistants as necessary. During the period under review the Comptroller employed administrative officers (directors) to manage the day-to-day operations of the ERS' fifteen separate bureaus. ERS in this context refers to the NYS and Local Employees and NYS and Local Police and Fire Retirement Systems. Each ERS bureau's functions are summarized below.

<u>Accounting Bureau</u>

The Accounting Bureau maintains accurate, independent accounting records and provides timely and accurate reporting to internal and external customers. The bureau prepares and distributes the System's annual financial statements and participates in the preparation of the System's Comprehensive Annual Financial Report (CAFR). Investment data regarding stocks, bonds, money markets, mortgages, real estate and other investments are processed daily. This requires ongoing interaction with the Division of Pension Investment and Cash Management (PICM) and the Fund's master custodian, currently JP Morgan Chase. The bureau also works with the Information Technology Services bureau to produce federal tax forms for the System's membership and provides customers with timely and accurate tax information. In addition, the bureau monitors changes in accounting standards and laws that affect qualified pension plans and ensures compliance with its governing bodies. The bureau is managed by one director and two assistant directors.

Actuarial Bureau

The Actuarial Bureau ensures that the Retirement System service, disability, death and withdrawal benefits are properly funded and that adequate assets are available to pay benefits as they become due. This involves analyzing trends in retirements, withdrawal and mortality for the members, retirees and beneficiaries to project what may occur in the future. An actuarial valuation is performed each year using this analysis and economic assumptions to project benefit amounts for every member, retiree and beneficiary. The bureau also analyzes proposed laws and provides fiscal costs for hundreds of legislative proposal every year. The bureau is managed by one director and one assistant director.

Administrative Services/Quality Performance Bureau

The Administrative Services/Quality Performance Bureau supports all division bureaus in workforce development, internal controls, budgeting, financial tracking, purchasing, personnel, labor relations, emergency management planning, space planning and performance consulting. This support enables staff to achieve the division's goals and objectives and helps the bureaus better serve the employees, members, retirees, employers and other customers. The bureau is managed by one director and one assistant director.

Advisory Council Affairs Bureau

Advisory Council Affairs Bureau provides outreach to improve communication between the Retirement System and its stakeholders. This includes Employee Representatives (Unions), Municipal Representatives (Employers), Pensioner Representatives (Retirees), and others. The bureau's starting point is the Comptroller's Advisory Council to the Retirement Systems, which includes Statewide Representatives from those entities mentioned. The bureau is managed by one director.

Benefits Calculation and Disbursement Services Bureau

The Benefit Calculations and Disbursement Services Bureau is responsible for all major benefit determinations, from establishing members' eligibility for benefits through payment of service retirement, disability retirement, and death benefits. Upon request, the bureau also provides benefit estimates and service credit totals to members. The bureau is managed by one director and three assistant directors who oversee the various aspects of estimates and disbursements calculations.

Benefit Information Services Bureau

The Benefit Information Services Bureau is comprised of two main areas: Information Services, which represents 15 New York State consultation sites, and the Call Center, located at 90 State Street. Information Services employees provide individual consultations (either in person, via telephone or video conferencing) and conduct meetings with members. The Call Center is the primary contact for Retirement System members and retirees, and provides customer service through a variety of platforms. The Call Center also mails forms and booklets, takes death reports, changes addresses and provides other types of assistance to members and their employers. The bureau is managed by one director and three assistant directors.

Disability Services Bureau

The Retirement System provides disability retirement benefits to members who become permanently disabled during the course of their public service careers and are unable to perform the duties of the position in which they were serving at the time they apply for the benefit. The bureau is managed by one director and two assistant directors, who maintain the different disability retirement benefits and accidental death benefit programs for each membership tier.

Executive Bureau

The Executive Bureau provides leadership and direction for all other bureaus of the Retirement System. The Executive Deputy Comptroller, with the help of the Deputy Comptroller and the Assistant Comptroller, establish administrative policies and allocate staffing and financial resources. Working closely with bureau directors and their staff, the Executive Bureau establishes policies and procedures relating to Retirement System benefits, membership and employer contributions. The bureau also recommends new retirement legislation or changes to existing legislation and represents the Retirement System regarding Federal legislation affecting public retirement benefits. The Executive Bureau authorizes and sponsors the Redesign Project, which is in the midst of a multi-year initiative to design, develop and implement a new web-based information system that will facilitate the work performed within the division as well as provide the System's members, retirees and employers with secure access to their accounts. The Executive Bureau is under the leadership of the Executive Deputy Comptroller, one Deputy Comptroller, and one Assistant Comptroller

Hearing Administration and Matrimonial Bureau

The mission of the Hearing Administration and Matrimonial Bureau is to ensure accurate and timely implementation of court orders directing the System to divide pension benefits as a marital asset for divorce litigation. The Hearing Administrative and Matrimonial Bureau is responsible for scheduling and supervising the quasi-judicial hearings required under the Retirement and Social Security Law and the State Administrative Procedures Act. The staff conducts pre-hearing review, recruits and supervises hearing officers and outside court reporters, schedules hearings, prepares and distributes verbatim hearing records, reviews the hearing officer's recommended decisions and distributes the Comptroller's final hearing decisions. The bureau is managed by two directors.

Information Technology Services Bureau

The Retirement Systems' information technology needs are primarily met through applications resources that support the System's business needs within the Division of CIO. The Bureau of ERS Applications Technology provides comprehensive support for MEBEL and other client/server and web-based applications. Other technical services include: MEBEL Mainframe technical architecture, Networking (Videoconferencing, printing and remote access), Desktop/Help Desk, System Administration/Database Support, Security Administration, and Software Services. A dedicated Business Relationship Manager monitors these services and manages all of the System's IT related expenditures. The bureau is managed by one director, and two assistant directors.

Member & Employer Services Bureau

The Member & Employer Services bureau has two major functional areas. Member Services is responsible for the registration of individuals to membership in ERS or PFRS and the maintenance of their accounts until membership has ended. This includes transfers between public retirement systems, service credit purchases, refund of excess contributions, beneficiary change and tier reinstatement. The bureau is also responsible for the storage and maintenance of member files. Employer Services is the primary contact between the Retirement System and participating employers. The bureau staff processes employer reports, issues employer invoices, conducts employer training and education, and manages employer participation and new plan adoptions and issues employer invoices. This bureau is managed by one director and five assistant directors.

Pension Integrity Bureau

The Pension Integrity Bureau's mission is to ensure that the retirement data is accurate, complete and reliable and the bureau has three teams that work together to accomplish this mission. The Independent Contractor/Employee (ICE) Team identifies, reviews and prepares cases where there is some question as to the members' status as an employee or independent contractor. Much of the ICE team's work involves corresponding with employers, members and their legal representatives to collect sufficient information to use in making final benefit determinations. The Compliance Audit Team audits retirement data to ensure that the data is reported and recorded correctly. This is accomplished through desk and field audits by Pension Integrity Bureau staff, and by coordinating with OSC's State and Local Government Accountability and Internal Audit staff. The Quality Assurance Team identifies division-wide vulnerabilities and inconsistencies and assists bureaus by analyzing unique cases or situations. The team also works closely with other bureaus to improve the reliability of retirement data. The Pension Integrity Bureau is managed by one director.

Program Optimization, Support & Transformation Bureau

The bureau's mission is to provide exceptional business support services for the System's partners. The bureau is responsible for assisting with the maintenance and enhancement of the existing business processes related system components being used by the staff to service customers and other stakeholders. This includes playing an active role in all phases of the System Development Life Cycle. The goal of the bureau is to provide any assistance that the Retirement

System's business partners may need by continually maintaining and enhancing their existing business processes and systems. The Bureau provides a comprehensive and coordinated array of services and expertise designed to adapt effectively to each unique business challenge. The bureau is managed by one director and three assistant directors.

The Redesign Bureau

The Redesign Project is transforming the way the System does business. The Retirement System's primary information system (MEBEL) has been in operation for more than 30 years and the System is looking to expand the service channels to better meet its membership needs. This multi-year program will be released incrementally – in 2015 the System Portal was introduced as a new tool for the staff to do their work. In 2016, Retirement Online was introduced, a new self-service application for members, retirees, employers and others who work with the System. The bureau is managed by one director and two assistant directors.

Retirement Communications Bureau

The Retirement Communications Bureau is responsible for creating information resources for members, retirees and employers, as well as Retirement System employees. The bureau also provides services for other OSC divisions and outside agencies. The bureau produces a wide variety of multimedia, video and print material. In addition, they design and maintain the Retirement System's public website and the division's Intranet website. The bureau is managed by one director and one assistant director.

Advisory Committees

The Comptroller also maintains several advisory committees that meet periodically throughout the year and provide independent, expert assistance in guiding the CRF. For the period under review these advisory committees included: the Audit Advisory Committee, the Advisory Council for the Retirement System; the Investment Advisory Committee; the Real Estate Advisory Committee; and the Actuarial Advisory Committee.

Audit Advisory Committee

The Audit Advisory Committee, appointed by the Comptroller pursuant to Insurance Regulation No. 85 (11 NYCRR 136-2), reviews and reports to the Comptroller on the annual internal and external audit process related to the System and the Common Retirement Fund, and on the Comprehensive Annual Financial Report. The committee serves the Comptroller in an advisory capacity only. The audit committee charter indicates that the committee shall be comprised of no less than three and no more than seven members as determined by the Comptroller. One member will reflect the interests of public employees and one member will reflect the interests of public employers. All members are required to be financially literate and unaffiliated, and at least one member will be a financial expert. The Committee meets three times each year, or as frequently as circumstances dictate. All committee members are expected to attend each meeting, in person or via telephone-conference or video conference. The committee may meet periodically with management, the Chief Audit Executive, the Director of Compliance, and the external auditor. The Committee's duties include but are not limited to reviewing the process for selecting the external auditors, review of the external auditors' audit plan and engagement letter, review of the annual audited financial statements of the System, including the impact of recent regulatory and professional pronouncements; review with management and the external auditors, all required communication to the committee under generally accepted auditing standards. The Committee also reviews the Office of Internal Audit's plan, charter, activities, staffing, organizational reporting relationship, and reports resulting from its audit engagements pertaining to the System.

Actuarial Advisory Committee

The Actuarial Advisory Committee is appointed by the Comptroller pursuant to Insurance Regulation No. 85 (11 NYCRR 136-2.6). The Committee provides advice on decisions regarding the Retirement System and the Common Retirement Fund that must be made for the exclusive benefit of members, retirees and beneficiaries of the Retirement System. The Committee also provides assistance to the Retirement System actuary and the Comptroller regarding the proper funding of the Retirement System. At a minimum, the Committee annually reviews the setting of the actuarial assumptions used in determining annual employer contributions. The Actuarial Advisory Committee is to have no fewer than five members, and who must be "unaffiliated persons," as defined in 11 NYCRR 136-2.2(k). Members of the Committee are to have expertise and experience in actuarial science. The Committee holds annual meetings, called and chaired by the Comptroller; additional meetings may be held as deemed necessary by the Comptroller or a majority of the Committee. The Committee may determine additional rules and procedures to govern it. Its duties include review and discussion of the actuarial soundness and financial condition of the Fund; annual review of actuarial assumptions and employer contribution

s; and discussion of other actuarial items such as the application of emerging, developing, and current actuarial standards and disclosures. The Committee also reviews and discusses any actuarial reports that will be issued by an actuarial consultant prior to issuing such report and it discusses any report recommendations at its next meeting following the issuance of the report.

Investment Advisory Committee

The Investment Advisory Committee is appointed by the Comptroller pursuant to Section 423 of the Retirement and Social Security Law. The Investment Advisory Committee advises the Comptroller on general investment issues. The Committee reviews the investment policy statement and any amendments. The Committee consists of not less than seven members who are appointed by the Comptroller, to serve for his term of office. A vacancy occurring from any cause other than expiration of the Comptroller's term shall be filled by the Comptroller for the remainder of the term. No officer or employee of any state department or agency is eligible for membership on of the committee. Members are required to be experienced in the investment field and shall have served, or shall be serving, as a senior officer or member of the board of an insurance company, banking corporation or other financial or investment organization authorized to do business in the state of New York. The Committee provides advice to the Comptroller on investment policies relating to monies of the Common Retirement Fund and also reviews the investment portfolio of the Fund and makes such recommendations as may be deemed necessary. The members of the Committee shall be entitled to reimbursement for their actual and necessary expenses, but shall receive no compensation for their services.

Real Estate Advisory Committee

The Real Estate Advisory Committee is appointed by the Comptroller, with the consent of the Investment Advisory Committee, pursuant to Section 423 of the Retirement and Social Security Law. The Real Estate Advisory Committee reviews proposed mortgage and real estate investments. In the event the Real Estate Advisory Committee disapproves a proposed mortgage or real estate investment, the investment will not be presented to the Comptroller and therefore the Common Retirement Fund cannot make the investment. No officer or employee of any state department or agency is eligible for membership on the committee. The Committee convenes periodically on call of the comptroller or the chairman. The members of the Committee shall be entitled to reimbursement for their actual and necessary expenses, but shall receive no compensation for their services.

Advisory Council of the Retirement Systems:

The Advisory Council for the Retirement System, appointed by the Comptroller pursuant to regulations of the Comptroller (2 NYCRR Part 320), advises and makes recommendations to the Comptroller on the formulation of policies in relation to the administration and management of the Common Retirement Fund and the Retirement System. Membership for the Council is drawn from employee representatives, municipal representatives, state and agency representatives, business representatives, labor and business organizations and legislative representatives.

2. New York Public Employees' Group Life Insurance Plan ("GLIP")

Pursuant to the New York Retirement and Social Security Law, a death benefit is payable upon the death of a member who dies in service. Since the receipt of such a benefit may result in unfavorable income tax consequences for beneficiaries under the Internal Revenue Code, the Legislature of the State of New York enacted Chapters 336 and 371, Laws of 1969, and Chapter 581, Laws of 1970, which became Sections 185 and 186 of the New York Retirement and Social Security Law. These provisions authorize the Comptroller to take the necessary steps to provide for a more favorable tax treatment of the ordinary death benefit. Accordingly, effective January 1, 1970 GLIP was established for the purpose of providing group life insurance ordinary death benefits not in excess of $50,000 in accordance with the appropriate sections of the New York Retirement and Social Security Law. Each qualified member of the New York State Employees' Retirement System and the New York State Policemen's and Firemen's Retirement System is insured under the GLIP from January 1, 1970.

Effective April 1, 1996, post-retirement ordinary death is also covered under the group life insurance plan. This benefit is paid to beneficiaries of members of the New York State and Local Retirement System.

Annually, the actuary shall investigate plan's claims experience. On the basis of these investigations, and upon the recommendation of the actuary, the Comptroller shall certify the premium rates computed to be necessary to fund the group term life insurance authorized to be paid by the plan, as follows: As soon as practicable after the beginning of each fiscal year, the actuary shall estimate the amount which will be necessary to maintain a reserve which will be sufficient to pay at least one-half the amount of benefits estimated to become payable during a fiscal year. On the basis of such estimate, the Comptroller shall certify the premium which the State of New York and participating employers in the retirement systems are required to pay into the reserve funds to discharge the obligations of the plan. A statement of the amount so payable is submitted to the State of New York and to each participating employer in accordance with the appropriate sections of the New York Retirement and Social Security Law.

C. Growth[1]

1. Common Retirement Fund ("CRF")

The assets of the Systems are invested through the CRF with each system being credited, at the end of each fiscal year, with a participating interest in the CRF in proportion and percentage that the interest attributable to each System bears to the total assets of the CRF after considering contributions, earnings, disbursements and expenses attributable to each system.

Plan Net Assets (end of fiscal year March 31, (000))	**2011**	**2016**	**Change**
Investments	$147,237,006	$178,639,701	$31,402,695
Securities lending collateral - invested	7,498,089	11,732,966	4,234,877
Receivables and other assets	4,179,904	6,484,158	2,304,254
Total assets	$158,914,999	$196,856,825	$37,941,826
Liabilities:			
Securities lending obligations	$ (7,678,952)	$ (11,741,243)	$ (4,062,291)
Payables and other liabilities	(1,687,496)	(1,475,377)	212,119
Total liabilities	$ (9,366,448)	$ (13,216,620)	$ 3,850,172
Net assets held in trust for pension benefits	$149,548,551	$183,640,205	$34,091,654

[1] All tables are as of end of each fiscal year March 31

As of March 31, 2016, the Common Retirement Fund's invested assets were mainly comprised of domestic equity (34.45%), global fixed income (25%), international equity (16.35%), and private equity (7.8%).

Invested Assets (end of fiscal year March 31, (000)	**2011**	**2016**	**Change**
Short-term Investments	$ 8,360,235	$ 5,578,801	$ (2,781,434)
Government bonds	21,417,207	0	(21,417,207)
Global fixed income	0	44,661,200	44,661,200
Corporate bonds	9,620,648	0	(9,620,648)
Domestic equity	55,720,380	61,544,070	5,823,690
International equity	24,224,573	29,211,336	4,986,763
Private equity	14,620,463	13,961,373	(659,090)
Absolute return strategy investments	4,215,569	8,029,411	3,813,842
Opportunistic funds	575,652	1,719,316	1,143,664
Real assets	0	498,068	498,068
Real estate and mortgage loans	8,482,279	13,436,126	4,953,847
Total investments	$147,237,006	$178,639,701	$31,402,695

Beginning in fiscal year 2015, the System reported government bonds as part of global fixed income.

Changes in net assets	**2012**	**2013**	**2014**	**2015**	**2016**
Additions:					
Net investment income	$ 7,868,313	$ 14,717,622	$ 20,598,593	$ 12,444,891	$ (384,834)
Total contributions	5,016,050	5,737,032	6,538,112	6,313,041	5,779,715
Total additions	$ 12,884,363	$ 20,454,654	$ 27,137,705	$ 18,757,932	$ 5,394,881
Deductions:					
Total benefits paid	$ (8,937,831)	$ (9,521,536)	$ (9,977,526)	$(10,513,714)	$(11,060,472)
Administrative expenses	(100,649)	(105,720)	(105,662)	(107,151)	(106,620)
Total deductions	$ (9,038,480)	$ (9,627,256)	$(10,083,188)	$(10,620,865)	$(11,167,092)
Net increase (decrease)	$ 3,845,883	$ 10,827,398	$ 17,053,517	$ 8,137,067	$ (5,772,211)
Net assets held in trust	$153,394,434	$164,221,832	$181,275,349	$189,412,416	$183,640,205

2. New York State and Local Employees' Retirement System ("ERS")

Changes in net assets (000)	**2012**	**2013**	**2014**	**2015**	**2016**
Additions:					
Total net investment income	$ 6,681,603	$ 12,496,378	$ 17,496,541	$ 10,582,102	$ (327,069)
Employers Contributions	3,878,717	4,524,395	5,137,935	4,893,110	4,347,619
Members Contributions	268,545	264,788	273,545	272,004	289,333
Interest on account receivable	62,222	50,970	104,059	121,136	128,648
Other	72,599	71,961	71,618	72,013	69,684
Total additions	$ 10,963,686	$ 17,408,492	$ 23,083,698	$ 15,940,392	$ 4,508,215
Deductions:					
Retirement benefits	$ (7,316,153)	$ (7,826,778)	$ (8,200,112)	$ (8,655,099)	$ (9,045,042)
Death benefits	(172,340)	(177,113)	(185,169)	(174,652)	(179,861)
Other	(73,815)	(71,515)	(79,780)	(77,388)	(150,294)
Administrative expenses	(87,232)	(92,134)	(92,266)	(93,357)	(93,012)
Total deductions	$ (7,649,540)	$ (8,167,540)	$ (8,557,327)	$ (9,000,496)	$ (9,468,209)
Net increase (decrease)	$ 3,314,146	$ 9,240,952	$ 14,526,371	$ 6,939,896	$ (4,959,994)
Net assets held in trust	$130,506,040	$139,746,992	$154,273,363	$161,213,259	$156,253,265

Employees' Retirement System

	2012	**2013**	**2014**	**2015**	**2016**
Retirees and beneficiaries	371,468	380,899	389,288	396,781	407,112
Active members	505,575	498,266	493,209	491,558	494,411
Vested inactive members	116,532	115,664	116,356	117,079	117,883
Total	993,575	994,829	998,853	1,005,418	1,019,406
Ratio of retirees and beneficiaries to active members	.73	.76	.78	.81	.82

3. New York State and Local Police and Fire Retirement System ("PFRS")

Changes in net assets (000)	**2012**	**2013**	**2014**	**2015**	**2016**
Additions:					
Total net investment income	$ 1,186,710	$ 2,221,244	$ 3,102,052	$ 1,862,789	$ (57,765)
Employers contributions	706,461	811,650	926,198	904,339	792,585
Members contributions	4,702	4,346	7,853	12,789	17,298
Interest on receivable	9,862	7,060	11,408	14,243	15,711
Other	12,942	1,862	5,496	23,380	118,837
Total additions	$ 1,920,677	$ 3,046,162	$ 4,053,007	$ 2,817,540	$ 886,666
Deductions:					
Retirement benefits paid	$ (1,361,669)	$ (1,429,274)	$(1,494,897)	$(1,597,978)	$(1,675,252)
Death benefits paid	(12,620)	(17,057)	(18,651)	(8,439)	(8,329)
Other benefits paid	(1,234)	201	(1,083)	(158)	(1,694)
Administrative expenses	(13,417)	(13,586)	(13,396)	(13,794)	(14)
Total deductions	$ (1,388,940)	$ (1,459,716)	$ (1,525,861)	$ (1,620,369)	$(1,698,883)
Net increase (decrease)	$ 531,737	$ 1,586,446	$ 2,527,146	1,197,171	(812,217)
Net assets held in trust	$22,888,394	$24,474,840	$27,001,986	$ 28,199,157	$27,386,940

Police and Fire Retirement System

	2012	**2013**	**2014**	**2015**	**2016**
Retirees and beneficiaries	31,706	32,537	33,117	33,527	33,831
Active members	31,024	30,780	31,218	31,372	31,720
Vested inactive members	3,093	2,864	2,876	3,169	3,385
Total	65,823	66,181	67,211	68,068	68,936
Ratio of retirees and beneficiaries to active members	1.02	1.06	1.06	1.07	1.07

3. TREATMENT OF MEMBERS

The examiner reviewed a sample of various types of retirement benefits to members and beneficiaries. The examiner also reviewed the various controls involved, checked the accuracy of the computations and traced the accounting data to the books of account.

A review of disability claims revealed that the System's disability claim forms fail to contain a statement that warns claimants of the consequences of filing fraudulent claims.

The examiner recommends that the System include a fraud warning statement on its disability claim forms as a best practice, and that warning statement be placed immediately above the space provided for the signature of the person executing the claim form and shall be printed in type which will produce a warning statement of conspicuous size.

4. ACTUARIAL

A. Annual Statement Liabilities

1. New York State and Local Employees' Retirement System

Shown below are the plan liabilities as reported in the annual statements to the Department for the five years of the examination period. These liabilities are somewhat different from the liabilities used for developing plan contribution requirements, as described later in this report. Amounts shown are in millions of dollars.

Fiscal Year Ending March 31 of	**2016**	**2015**	**2014**	**2013**	**2012**
Pensioners and Beneficiaries (in millions)					
Annuity Reserve Fund	$83	$90	$102	$102	$108
Pension Reserve Fund	$86,559	$81,838	$76,941	$71,015	$67,652
Special Reserve for D.A.	$54	$56	$57	$56	$58
COLA	$8,405	$8,179	$8,428	$7,570	$7,393
Total PV of Pensioner/Bene Benefits	$95,101	$90,163	$85,528	$78,743	$75,211
Active Members					
Service Retirement Benefits	$86,045	$85,392	$83,865	$81,264	$79,440
Vested Retirement Benefits	$2,551	$2,621	$2,542	$2,563	$2,670
Refund of Tiers 3-6 Member Contributions	$359	$312	$302	$268	$245
Accidental Disability Benefits	$422	$405	$403	$417	$370
Ordinary Disability & IPOD Benefits	$1,153	$1,135	$1,273	$1,266	$1,249
Accidental Death Benefits	$28	$27	$26	$27	$25
COLA - Active Member Benefits	$2,982	$3,004	$2,944	$2,637	$2,639
Death Benefits over $50,000	$834	$819	$1,041	$1,043	$1,032
Post Retirement Death Benefits	$95	$91	$110	$113	$114
Sick Leave Benefits	$632	$630	$615	$589	$588
Benefits to Vesteds and Non-Vesteds	$3,620	$3,494	$3,089	$2,978	$2,815
Pending Retirements	$2,418	$2,557	$1,469	$1,274	$1,569
Total PV of Active Members Benefits	$101,139	$100,487	$97,679	$94,439	$92,756
Total Actuarial Present Value of Benefits	$196,240	$190,650	$183,207	$173,182	$167,967

Note: Totals may not sum due to rounding

2. <u>New York State and Local Police and Fire Retirement System</u>

Shown below are the plan liabilities as reported in the annual statements to the Department for the five years of the examination period. These liabilities are somewhat different from the liabilities used for developing plan contribution requirements, as described later in this report. Amounts shown are in millions of dollars.

Fiscal Year Ending March 31 of	**2016**	**2015**	**2014**	**2013**	**2012**
Pensioners and Beneficiaries (in millions)					
Annuity Reserve Fund	$10	$10	$10	$10	$10
Pension Reserve Fund	$16,124	$15,597	$14,459	$13,531	$12,653
Special Reserve for D.A.	$21	$22	$22	$20	$19
COLA	$1,330	$1,334	$1,365	$1,293	$1,289
Special Acc Death Benefits-Sec 361-a	$113	$108	$102	$94	$89
Total PV of Pensioner/Bene Benefits	$17,598	$17,071	$15,958	$14,948	$14,060
Active Members (in millions)					
Service Retirement Benefits	$15,547	$14,904	$14,427	$13,687	$13,656
Vested Retirement Benefits	$59	$56	$63	$61	$63
Refund of Tiers 3-6 Member Contributions	$13	$10	$8	$4	$2
Accidental Disability Benefits	$859	$822	$964	$927	$939
Ordinary Disability Benefits	$35	$32	$34	$33	$33
IPOD Disability Benefits	$572	$546	$489	$468	$472
Accidental Death Benefits	$43	$40	$40	$37	$37
COLA - Active Member Benefits	$239	$239	$226	$203	$204
Death Benefits over $50,000	$237	$226	$258	$244	$245
One Year FAS Benefits	$264	$259	$254	$254	$256
Sick Leave Benefits	$29	$27	$22	$22	$22
Benefits to Vesteds and Non-Vesteds	$111	$107	$96	$92	$84
Pending Retirements	$1,019	$711	$380	$359	$565
Total PV of Active Members Benefits	$19,027	$17,979	$17,261	$16,391	$16,578
Total Actuarial Present Value of Benefits	$36,625	$35,050	$33,219	$31,339	$30,638

Note: Totals may not sum due to rounding

B. Actuarial Cost Method and Employer Contributions

The ultimate cost of a defined benefit pension plan is the benefits paid and plan expenses. That cost is paid for by employer contributions, any employee contributions, and investment earnings. An actuarial cost method is the technique by which the amount of employer contributions is allocated to time periods.

For 70 years the actuarial funding method used by the System was the aggregate method. Chapter 210 of the Laws of 1990 changed the funding method to a modified projected unit credit method beginning in fiscal year ending March 31, 1991. This law was challenged and the challenge was upheld by the Supreme Court. On appeal, both the Appellate Division and the Court of Appeals unanimously agreed with the Supreme Court. These decisions allowed the Comptroller to return to the aggregate funding method, beginning with the 1995 fiscal year. Under this method, the present value of future employer contributions is determined by subtracting the actuarial value of plan assets and the present value of future employee contributions from the present value of future plan benefits. The resulting present value of future employer contributions is then 'spread,' or allocated to plan years in the future in such a way that the employer contribution for each year is a constant percentage of expected payroll in that year. This is done by dividing the present value of future employer contributions by the present value of expected future payroll. The resulting percentage is called the 'normal rate,' which is then multiplied by the payroll as of the valuation date to yield the amount of contribution to be made for a plan year; i.e.,

- PVFutureErCont = PVFutureBen − Assets − PVFutureEeCont
- NRate = PVFutureErCont ÷ PVFuturePayroll
- ErCont = NRate x Payroll

The System provides benefits for state employees and for employees of cities, towns, villages, etc. in the state. Each of those employers provides a plan, or set of benefit provisions, that are encoded in specific sections of the law.

For active participants, the valuation process uses a seriatim method: one record per member per plan. Prior to the 2002 valuation, the process used a 'cell' method for computational efficiency: members were grouped into cells, based on plan, age, and service. For example, all members who were subject to the provisions of Section 384-e, were age 35, and had 5 years of service were grouped into one cell. That cell was treated as one 'member,' with a salary equal to the total salary of all members in that cell. A single set of valuation factors, for the various benefits, was then applied to the cell to yield the present value of future benefits and present value of future payroll for the cell. Increases in computational power enabled the System to convert to the more accurate seriatim method, where calculations are performed on each individual member record.

Liabilities for retired participants and beneficiaries are also calculated on a seriatim basis, with one record per life.

As mentioned above, each participant is in one of several plans. The various plans have different benefit levels and thus would have different costs. So that each entity (state, city, town, village, etc.) in the System pays a contribution rate that is commensurate with the benefit level(s) chosen by that entity, the valuation process develops an 'index' for each plan. The index is the ratio of the cost of that benefit level to the cost of the 'base' benefit, which for the first three valuations in the examination period is the Tier 1 Contributory plan, the first of the 50 ERS plans and the first of the 21 PFRS plans to exist, and for the last two valuations in the examination period is the Tier 4 Regular plan (Article 15) in ERS and the Twenty Year plan (Section 384D) in PFRS in anticipation of the exhaustion of Tier 1 active members. For this purpose, the cost of each benefit level is developed on a pure entry age normal basis.

The Present Value of Future Employer Contributions, *PVFutureErCont*, is developed as described above, reflecting the actual plan, or benefit level, of each participant. However, the Present Value of Future Payroll, *PVFuturePayroll*, is developed using the indices described above; the total *PVFuturePayroll* for each plan developed by the standard actuarial technique is multiplied by the index for that plan. Thus, the Normal Rate, *NRate*, developed for the entire System (all plans combined), will be the Normal Rate appropriate for the base benefit, which has an index value of 1.000.

In developing the Employer Contribution (*ErCont*) to be charged to each entity, the Normal Rate developed above for the base benefit is, for each participant, multiplied by the index for the plan that participant is in, and multiplied by the participant's salary. Thus the Employer Contribution charged to each entity reflects appropriately the benefits the participants in that entity have.

The Normal Rates as developed above are the rates developed for most, but not all, of the benefits and expenses the plan will incur. Separate charges are developed for the following:

- Late Start Charges, which handle past service liabilities arising from certain legislation;
- Administrative Expenses; and
- Group Life, which is the first $50,000 of active member death benefit.

Liabilities for Deficiency Contributions are the present values of past service liabilities that are generated when an entity joins ERS; for each entity, that liability is amortized over up to 25 years. In previous years, a separate charge, added to the Normal Rate, was developed for the Deficiency Contribution. However, the System determined that the amounts involved were *de minimus*, so, beginning with the 2002 valuation, the Deficiency Contribution was recognized by being treated as a receivable in the determination of plan assets.

The rates for the Administrative Expense and the Group Life are calculated, essentially, on a one-year term basis; i.e., the expected payout for the following year is divided by the expected payroll base for the year. Those rates, expressed as a percentage of payroll, are added to the Normal Rate.

For the purpose of billing the various entities, the Systems round most of the calculated rates to the nearest .1%. The administrative rate is rounded up to the next higher tenth of a percent. The rate for the sick leave benefit is also, effectively, rounded up to the next higher tenth of a percent.

As discussed above, the cost for each employer, or entity, reflects the benefit level chosen by that entity for its employees; an entity that chooses a higher level of benefits than another entity will pay a higher contribution rate (as a percentage of payroll) than the other entity. The entities will also differ from each other with respect to other issues that they may have less control over: demographic issues, such as average age of employees, and historical, “cultural” issues such as the degree of conservatism or liberalism in granting disability benefits.

The procedure used to calculate costs for each entity ignores those differences; with respect to those issues, all entities are treated as one state-wide entity. Thus a town for whom the average age of its employees is 30 will pay the same employer contribution rate as another (otherwise identical) town which has an average age of 50 for its public employees. It could be said that the taxpayers of the former town are subsidizing the cost of the benefits of the employees of the latter town.

This ‘cost sharing’, or inter-entity subsidization, is an intentioned aspect of the funding mechanics. And, while the examiner has not developed specific figures, it is believed that, for most entities, the degree of subsidization (either plus or minus) is relatively small; for a small number of entities, it may be more significant.

1. New York State and Local Employees' Retirement System

Shown below is the development of billing rates for each of the last three years of the examination period.

Development of Employer Contribution

	Valuation Date	4/1/2014	4/1/2015	4/1/2016
	Contribution for fiscal year	2/1/2016	2/1/2017	2/1/2018
(1)	Present Value of Benefits	183,206,671,699	190,650,187,962	196,238,491,958
(2)	Actuarial Value of Assets	145,984,667,656	156,648,357,133	162,118,796,616
(3)	Present Value of Future Employee Contributions	2,004,614,088	2,250,944,819	2,787,908,757
(4)	Unfunded Actuarial Accrued Liability			
(5)	Others (Receivables and Late Start Contributions)	4,304,597,145	3,957,988,589	3,523,064,891
(6)	Present Value of Future Normal Cost (1)-(2)-(3)-(4)-(5)	30,912,792,810	27,792,897,421	27,808,721,694
(7)	Present Value of Future Compensation	177,028,745,763	203,087,374,638	209,100,862,077
(8)	Normal Cost Rate (6) + (7)	0.1746	0.1369	0.1330
(9)	Salaries	25,493,194,294	25,715,810,804	26,268,260,750
(10)	Normal Cost (8) X (9)	4,451,626,372	3,519,258,118	3,493,466,002
(11)	Amortization Payments			
(12)	Interest Adjustments	(53,335,344)	204,123,947	202,627,953
(13)	Expenses	101,972,777	102,863,243	105,073,043
(14)	Others (GLIP, Sick Leave, Other Electable Benefits)	164,749,864	143,713,586	146,218,816
(15)	Employer Contributions	4,627,943,004	3,993,740,934	4,027,245,042

(2) Initial AVA of $162,284,115,580 reduced by assets dedicated to GLIP, non-member contributions, administrative overbill account, loan insurance reserve, & annuity savings fund.

Employer contributions in (15) will not match employer contributions on the Statement of Changes in Net Plan Assets because (a) most employers do not pay their bill on February 1 (b) reconciliations of previous bills are not included above (c) some employers are also paying amortizations of previous liabilities (d) billing salary projections differ from valuation salary projections.

2. New York State and Local Police and Fire Retirement System

The table below shows the development of billing rates for each of the last three years of the examination period.

Development of Employer Contribution

	Valuation Date	4/1/2014	4/1/2015	4/1/2016
	Contribution for fiscal year	2/1/2016	2/1/2017	2/1/2018
(1)	Present Value of Benefits	33,220,422,107	35,049,409,336	36,625,773,979
(2)	Actuarial Value of Assets	25,474,458,365	27,329,957,892	28,362,408,246
(3)	Present Value of Future Employee Contributions	229,003,105	291,096,121	374,270,341
(4)	Unfunded Actuarial Accrued Liability			
(5)	Others (Receivables & 1 yr FAS)	830,202,308	739,980,856	784,667,182
(6)	Present Value of Future Normal Cost (1)-(2)-(3)-(4)-(5)	6,686,758,329	6,688,374,467	7,104,428,210
(7)	Present Value of Future Compensation	27,977,842,514	30,862,857,032	32,748,807,299
(8)	Normal Cost Rate (6) + (7)	0.2390	0.2167	0.2169
(9)	Salaries	3,411,296,653	3,413,824,745	3,658,595,867
(10)	Normal Cost (8) X (9)	815,306,480	739,819,332	793,684,834
(11)	Amortization Payments			
(12)	Interest Adjustments	(9,768,262)	42,910,988	46,035,294
(13)	Expenses	13,645,187	17,069,124	14,634,383
(14)	Others (Sick Leave and other electable benefits)	14,214,609	14,084,377	18,555,740
(15)	Employer Contributions	842,073,308	828,156,409	894,828,858

(2) Initial AVA of $28,412,211,264 reduced by assets dedicated to GLIP, non member contributions, administrative overbill account, loan insurance reserve, & annuity savings fund.

Employer contributions in (15) will not match employer contributions on the Statement of Changes in Net Plan Assets because (a) most employers do not pay their bill on February 1 (b) reconciliations of previous bills are not included above (C) some employers are also paying amortizations of previous liabilities (d) billing salary projections differ from valuation salary projections.

C. Liabilities in Actuarial Valuation Report and in Annual Statement

The liability amount reported to the Department in the annual statements is slightly different from the amount used in the calculation of the employer contribution. The liabilities used for the determination of the Employer Rate are shown in the Actuarial Valuation Reports and are the present value, as of the valuation date, of benefits expected to be paid in the future to current plan participants.

The liabilities shown on page 5 of the annual statement are the liabilities used for the determination of the Employer Rate reduced by:

- The present value of future employer and employee contributions;
- The amount of “managed overdraft”; this is the portion of liabilities payable for which checks have been sent but not yet cleared.

D. Actuarial Asset Valuation Method

As described in the second paragraph of page 20 of this report the calculation of the employer contribution involves the calculation of the excess (if any) of the present value of future benefits over plan assets. Some of the asset classes can be fairly volatile, and the use of market values for those classes can result in undesirable fluctuations in the calculated cost of the plan. To reduce those fluctuations, the Systems use an actuarial asset valuation method which smooths the peaks and valleys of a market value measurement. The asset classes that are considered more volatile, and for which the smoothing technique is used, are equities, international investments, private equity investments and equity real estate. Bonds and mortgages are valued at amortized value, and short-term investments are valued at market, for the first year of the examination period, after which all assets are valued at market.

The smoothing technique is a five-year moving average of market values. The method phases in unexpected gains/(losses) over a five-year period. The unexpected gain for a year is the actual gain less the expected gain.

The following chart shows, for both the New York State and Local Employees’ Retirement System and the New York State and Local Police and Fire Retirement System a history of the actuarial accrued liability, the actuarial value of assets and the market value of assets along with the plan’s funded status for each year expressed in terms of both the actuarial value of assets and the market value of assets.

Valuation Date	Market Value of Assets (MVA)	Actuarial value of Assets (AVA)	Actuarial Accrued Liability (AL)	Ratio of Assets to AI based on	
				MVA	AVA
ERS					
4/1/07	$133,135	$121,116	$114,525	116.2%	105.8%
4/1/08	132,474	128,916	120,183	110.2%	107.3%
4/1/09	94,242	126,438	125,136	75.3%	101.0%
4/1/10	114,058	125,482	133,574	85.4%	93.9%
4/1/11	127,192	126,395	140,087	90.8%	90.2%
4/1/12	130,349	125,688	144,107	90.5%	87.2%
4/1/13	139,580	132,067	149,211	93.5%	88.5%
4/1/14	154,119	145,985	158,638	97.2%	92.0%
4/1/15	161,065	156,648	167,065	96.4%	93.8%
PFRS					
4/1/07	$23,490	$21,379	$20,074	117.0%	106.5%
4/1/08	23,372	22,767	21,072	110.9%	108.0%
4/1/09	16,695	22,423	21,597	77.3%	103.8%
4/1/10	20,194	22,230	22,998	87.8%	96.7%
4/1/11	22,357	22,205	24,169	92.5%	91.9%
4/1/12	22,837	22,009	25,048	91.2%	87.9%
4/1/13	24,436	23,112	25,815	94.7%	89.5%
4/1/14	26,961	25,474	27,377	98.5%	93.0%
4/1/15	28,154	27,330	29,336	96.0%	93.2%

E. Funding Ratios

A measure of funded status is a comparison between the actuarial asset value and the actuarial accrued liability. The actuarial accrued liability does not represent a liability for benefits owed to participants; it could be thought of a theoretical value of assets that would exist if (1) the current plan provisions and assumptions had always been in place, (2) the employer had always contributed the actuarially-determined contribution, and (3) plan economic and demographic experience had always matched the assumptions.

The following chart shows, for both the New York State and Local Employees' Retirement System and the New York State and Local Police and Fire Retirement System, a history of the portion of the actuarial accrued liability covered by the actuarial value of assets. The chart shows that in all years the actuarial value of assets has been sufficient to fully fund both the portion of the total actuarial accrued liability attributable to employee contributions and retired lives. However, for fiscal years after the one ended 3/31/2009 the actuarial value of assets has not been sufficient to also cover the portion of the actuarial accrued liability attributable to active participants.

Valuation Date	Accrued Liability ($ in millions)				Actuarial Assets ($ in millions)	Portion of Actuarial Accrued Liabilities Covered by Actuarial Assets		
	Member Contributions (1)	Retiree (2)	Active (3)	Total (1) + (2) + (3)		(1)	(2)	(3)
ERS								
4/1/07	$7,112	51,231	$56,182	$114,525	$121,116	100%	100%	111.7%
4/1/08	7,430	54,945	57,808	120,183	128,916	100	100	115.1%
4/1/09	7,718	57,419	59,999	125,136	126,438	100	100	102.2%
4/1/10	7,979	62,692	62,903	133,574	125,482	100	100	87.1%
4/1/11	8,214	67,412	64,461	140,087	126,395	100	100	78.8%
4/1/12	8,168	75,210	60,729	144,107	125,688	100	100	69.7%
4/1/13	8,328	78,743	62,140	149,211	132,067	100	100	72.4%
4/1/14	8,462	85,528	64,648	158,638	145,985	100	100	80.4%
4/1/15	8,608	90,183	68,294	167,085	156,648	100	100	84.7%
PFRS								
4/1/07	$22	10,638	$9,414	$20,074	$21,379	100%	100%	113.9%
4/1/08	22	11,156	9,894	21,072	22,767	100	100	117.1%
4/1/09	26	11,588	9,983	21,597	22,423	100	100	108.3%
4/1/10	27	12,891	10,080	22,998	22,230	100	100	92.4%
4/1/11	29	13,383	10,757	24,169	22,205	100	100	81.7%
4/1/12	2	14,060	10,986	25,048	22,009	100	100	72.3%
4/1/13	5	14,948	10,862	25,815	23,112	100	100	75.1%
4/1/14	10	15,958	11,409	27,377	25,474	100	100	83.3%
4/1/15	20	17,072	12,244	29,336	27,330	100	100	83.6%

F. <u>Gain and Loss</u>

The required employer contribution is determined each year by the actuarial valuation. Projections of current plan members are made using actuarial assumptions regarding probabilities of retiring, withdrawing, dying or becoming disabled each year in the future. Active member salaries are projected to increase according to assumed increase percentages. Expected benefit payments are calculated for the assumed events of retirement, withdrawal, etc., based on service and salary history at the time of event. The resulting projected liabilities are discounted at the assumed interest rate.

That final discounted value is the present value of future benefits, which is then used in determining the normal contribution rate.

Actual experience will rarely match the various assumptions mentioned above. The comparison between actual experience and that predicted by actuarial assumptions is called gain and loss analysis. The comparison is most useful when it is done by component; i.e., when it measures the gain/loss of specific assumptions (for example, investment return or salary increase).

Gain or loss can be expressed in terms of the change in liability or assets resulting from the experience of a specific assumption being different from that which was assumed. Another way of expressing gain/loss is to indicate how much of the change in required employer contribution from the previous year is due to changes in specific assumptions. This is the manner in which the Systems presented the results of its gain/loss analysis with respect to two sources of gain/loss: investment return and salary increases. These two sources generally have a larger impact than other sources of gain/loss. The other sources, mostly the demographic assumptions such as withdrawal, mortality and disability, were not separately analyzed.

The tables below show, for each potentially significant experience source, the effect on the employer normal cost rate due to the difference between actual experience and that predicted by the actuarial assumption. Favorable experience (lower liabilities or higher assets than expected) is a gain, and unfavorable experience (higher liabilities or lower assets than expected) is a loss and is shown as a negative number. The gain or (loss) is expressed as a percentage of salary.

1. New York State and Local Employees' Retirement System

Source	Gain or (Loss)
FY 2012 Investment Performance	0.3%
FY 2013 Investment Performance	-0.3%
FY 2014 Investment Performance	-0.7%
FY 2015 Investment Performance	0.1%
FY 2016 Investment Performance	1.1%
Non-Investment Assumptions (Demographic, salary scale, COLA)	0.1%
New Entrant	-0.7%
GLIP, Administrative Contributions	0.0%
Miscellaneous	-0.1%

2. New York State and Local Police and Fire Retirement System

Source	Gain or (Loss)
FY 2012 Investment Performance	0.3%
FY 2013 Investment Performance	-0.4%
FY 2014 Investment Performance	-0.8%
FY 2015 Investment Performance	0.1%
FY 2016 Investment Performance	1.2%
Non-Investment Assumptions (Demographic, salary scale, COLA)	0.9%
New Entrant	-0.8%
GLIP, Administrative Contributions	0.0%
Miscellaneous	-0.3%

G. Actuarial Assumptions

Each of the actuarial assumptions can be grouped into one of two categories: demographic or economic. The assumptions that would be considered demographic are mortality, disability, withdrawal and retirement. The economic assumptions are interest and salary scale. Withdrawal and retirement are, to some extent, influenced by economic factors, but they are generally considered to be in the demographic category.

The Systems review the actuarial experience each year to monitor the appropriateness of the assumptions. The results of the review are presented in reports to the Comptroller. Based on the length of time since the assumptions were last changed and based on the extent of the deviation of experience from assumptions, the reports will recommend that either the assumptions remain unchanged for the next year, or that they be changed. The assumptions used in the most recent actuarial valuation are those adopted as a result of the 2015 five-year experience study of the Systems dated August, 2015.

The Common Retirement Fund holds the assets of the two retirement systems, ERS and PFRS. Therefore, the interest assumption is not different for the two systems, but is based on experience and expectations for the Fund as a whole.

To review the interest assumption, for the first three valuations in the examination period, the Systems consider the rates of return on the two major asset categories separately: assets to be smoothed (equities et al.), and amortized cost investments (mortgages and bonds). For the last two valuations in the examination period, the System considered the Division of Pension Investment and Cash Management's (PICM) most recent asset allocation study and asset allocation policy. The capital market assumptions and the correlation coefficients between asset classes given in the PICM report are entered into an in-house stochastic simulation model to confirm the portfolio expectations in the asset allocation study.

The mortality assumptions for the Systems consist of sets of rates for each of four classes of the members. Those classes are (1) active members, (2) service retirees, (3) disability retirees and (4) beneficiaries and designated annuitants. Each of the sets contains rates that vary by age, the retiree and beneficiary classes vary by sex, and the retiree classes also vary by labor category: clerk or laborer. There are two sets of rates for active members: one for ordinary death, one for accidental death.

The disability assumptions consist of two sets of rates for active members: one for ordinary disability, one for accidental disability. Each of the sets contains rates that vary by age.

The withdrawal assumptions consist of sets of rates by completed years of service groups.:

The retirement assumptions consist of separate sets of rates for different employee Tier groups.

The salary scale contains rates that vary by service. The salary increase assumption, or salary scale, consists of a set of rates that vary by service. Each rate shows the expected ratio of salary one year in the future to the current salary.

The following table contains the recommendations made by the Systems' Actuary in an August, 2015 report for changes in the actuarial assumptions for both Systems. Each of these changes was adopted for the Actuarial Valuations for the fiscal year beginning April 1, 2016.

Summary of Assumptions and Methods

Assumption or Method	Current	Recommendation
Inflation/COLA	2.7% / 1.4%	**2.5% / 1.3%**
Investment Return	7.5%	**7.0%**
ERS Salary Scale	4.8% average (using FY 2014 data) Indexed by Service	**3.8%** average (using FY 2015 data) Indexed by Service
PFRS Salary Scale	5.4% average (using FY 2014 data) Indexed by Service	**4.5%** average (using FY 2015 data) Indexed by Service
Asset Valuation Method	5 year level smoothing of gains or losses above or below the assumed return applied to all assets and cash flows	5 year level smoothing of gains or losses above or below the assumed return applied to all assets and cash flows **(no change)**
Pensioner Mortality	Gender/Collar specific tables based upon FY 2006-2010 experience with Society of Actuaries Scale MP-2014 loading for mortality improvement.	Gender/Collar specific tables based upon **FY 2011-2015 experience** with Society of Actuaries Scale MP-2014 loading for mortality improvement.
Active Member Decrements	Based upon FY 2006-2010 experience	Based upon **FY 2011-2015 experience**

5. SUMMARY AND CONCLUSIONS

Following is the recommendation contained in this report:

Item	Description	Page No.
A	The examiner recommends that the System include a fraud warning statement on its disability claim forms as a best practice, and that warning statement be placed immediately above the space provided for the signature of the person executing the claim form and shall be printed in type which will produce a warning statement of conspicuous size.	17

Respectfully submitted,

/s/

Christine Mavour
Associate Insurance Examiner

STATE OF NEW YORK)
)SS:
COUNTY OF NEW YORK)

Christine Mavour, being duly sworn, deposes and says that the foregoing report, subscribed by her, is true to the best of her knowledge and belief.

/s/

Christine Mavour

Subscribed and sworn to before me

this__________ day of ____________________

APPOINTMENT NO. 31554

NEW YORK STATE

DEPARTMENT OF FINANCIAL SERVICES

I, MARIA T. VULLO, Superintendent of Financial Services of the State of New York, pursuant to the provisions of the Financial Services Law and the Insurance Law, do hereby appoint:

CHRISTINE MAVOUR

as a proper person to examine the affairs of the

NEW YORK STATE AND LOCAL EMPLOYEES' RETIREMENT SYSTEM

and to make a report to me in writing of the condition of said

SYSTEM

with such other information as she shall deem requisite.

In Witness Whereof, I have hereunto subscribed my name and affixed the official Seal of the Department at the City of New York

this 12th day of December, 2016

MARIA T. VULLO
Superintendent of Financial Services

By: Mark McLeod

MARK MCLEOD
DEPUTY CHIEF - LIFE BUREAU