



**STATE OF NEW YORK INSURANCE DEPARTMENT**  
**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, 2001**

**DATE OF REPORT:**

**JULY 22, 2005**

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**EXAMINER:**

**MARC A. TSE**

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STATE OF NEW YORK  
INSURANCE DEPARTMENT  
25 BEAVER STREET  
NEW YORK, NEW YORK 10004

July 22, 2005

Honorable Howard Mills  
Superintendent of Insurance  
Albany, New York 12257

Sir:

In accordance with instructions contained in Appointment No. 21875, dated May 30, 2002 and annexed hereto, an examination has been made into the condition and affairs of the New York State and Local Employees' Retirement System, hereinafter referred to as "ERS", and the New York State and Local Police and Fire Retirement Systems, hereinafter referred to as "PFRS", and collectively referred to as "the Systems" or "CRF," located at 110 State Street, Albany New York 12244.

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

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

## 1. EXECUTIVE SUMMARY

This examination covers the period from April 1, 1996 through March 31, 2001. The examination comprised a verification of assets and liabilities as of March 31, 2001 to determine whether the Systems' 2001 filed annual statement fairly presents their financial condition. This report on examination is confined to financial statements and comments on those matters which involve departures from laws, regulations or rules, or which require explanation or description.

The examination revealed the following:

1. The examiner recommends that, for billing purposes, the employer contribution rates be rounded to one more digit of precision; i.e. to the nearest one hundredth of one percent (.01%). (Item 8)
2. Due to the significant effect the smoothing technique can have on plan costs, it is recommended that the Systems review the actuarial asset smoothing technique, including the 80% to 120% corridor. (Item 10C)
3. Investment performance has declined significantly in the last two years of the examination period, to reach a negative rate of return in the last year. As a consequence, increased employer contributions will be required in the future. (Item 12).

## 2. SCOPE OF EXAMINATION

The prior examination was conducted as of March 31, 1996. This examination covers the period from April 1, 1996 through March 31, 2001. As necessary, the examiner reviewed transactions occurring subsequent to March 31, 2001 but prior to the date of this report (i.e., the completion date of the examination).

The examination comprised a verification of assets and liabilities at March 31, 2001 to determine whether the Systems' 2001 filed annual statements fairly present their financial condition. The examiner reviewed the Systems' income and disbursements necessary to accomplish such verification and utilized the National Association of Insurance Commissioners' Examiners Handbook or such other examination procedures, as deemed appropriate, in such review and in the review or audit of the following matters:

- Systems' history
- Management and control
- Growth of the Systems
- Accounts and records
- Financial statements
- Member benefits

The examiner reviewed the corrective actions taken by the Systems with respect to the violation and the recommendation contained in the prior report on examination. The results of the examiner's review are contained in item 15 of this report.

This report on examination is confined to financial statements and comments on those matters which involve departures from laws, regulations or rules, or which require explanation or description.

### 3. DESCRIPTION OF SYSTEMS

#### A. History

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

The original legislation made provision 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.

As provided in Section 14 of the New York Retirement and Social Security Law, the Attorney General of the State is designated as the legal adviser of the Systems.

B. Management

The Comptroller of the State of New York (“Comptroller”) is the administrative head of the Systems, with 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 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 also 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 is also required to engage the services of an Actuary whose duties include the investigation of mortality, service and compensation experience of the members, and making recommendations based on such investigations. The Actuary is also required to make an annual valuation of the assets and liabilities of the Systems, which becomes part of the Comptroller’s report.

The law further provides that the Comptroller shall adopt and amend only such rules and regulations as he determines to be in the best interest of the Systems and their members.

The Comptroller may also employ such other necessary technical and administrative assistants as he may require. The major administrative functions of the Systems, as of March 31, 2001, were performed by the following:

<u>Name</u>	<u>Title</u>
Jeff Swain	Deputy Comptroller Retirement
Greg Childs	Assistant Deputy Comptroller
Ramon Rodriguez	Assistant Deputy Comptroller
Teri E. Landin	Actuary
George King	Counsel
John Fremont	Director, Retirement Services
Daniel Burns	Director, Accounting
Nancy Wheat	Director, Information Resource Management
Ginger Dame	Director, Member Services
Mathew Shebar	Director, Retirement Information Outreach
Paul Kentoffio	Director, Communication Services
John Hull	Deputy Comptroller Investment and Cash Management
Bruce Balle	Director, Debt Management
Martin Levine	Director, Equity Real Estate / Mortgages
William Barrett	Assistant Deputy Comptroller, Equity and Fixed Income Investments
Marjorie Tsang	Assistant Deputy Comptroller, Real Estate Investments

John Hull and Bruce Balle retired in April 2002.

The Comptroller is the trustee of the various funds of the Systems and is responsible for investing these funds as required by law. He is further authorized to hold, purchase, sell, assign, transfer or dispose of any of these investments, to foreclose mortgages upon default, or to take title to real property which has been acquired by foreclosure. The Comptroller is also required to credit interest on each of the funds of the Systems annually.

All pensions, annuities and other benefits are payable in accordance with the provisions of the New York Retirement and Social Security Law. The funds necessary to meet these benefit payments are required to be deposited only in banks and trust companies organized under the laws of this state or in a national bank located in this state. The Comptroller, however, is required to have such funds on hand for the immediate payment of the following:

1. All pensions, annuities, and other benefits;
2. Such expenses as may necessarily be incurred in acquiring, servicing and foreclosing mortgages and in protecting investments; and

3. Such special expenditures for which the Systems will be paid by the State or a participating employer.

### C. Common Retirement Fund

On April 1, 1967, the Common Retirement Fund (“CRF”) was established pursuant to Section 422 of the New York Retirement and Social Security Law. The CRF initially consisted of the total assets of ERS as of March 31, 1967. Upon the establishment of PFRS on April 1, 1967, such assets were distributed by the Comptroller to ERS and PFRS in the proportion that each retirement system’s assets bears to the total assets of the CRF. The law further provides that at the close of each fiscal year, the Comptroller shall credit each retirement system with a participating interest in such fund in the proportion that the interest attributable to each retirement system bears to the total assets of such fund after considering contributions, earnings, disbursements and expenses attributable to each system. The Comptroller is responsible for the investment of funds of the CRF and the appointment of various advisory committees while the Actuary is responsible for the computation of investment earnings. In addition, the Comptroller is required to establish separate funds and accounts for each retirement system consistent with the CRF, as may be required to carry out the separate purposes and privileges of each retirement system.

The Systems are a unit of the Department of Audit and Control (“DAC”) known as the Division of Retirement. As a unit of DAC, the Systems rely upon DAC’s Office of Investment and Cash Management as their Investment Division and DAC’s internal audit facilities for the Systems’ internal auditor. The Systems employ an independent certified public accountant for an annual review of their financial condition. The Systems are audited on a non-regular basis by an internal auditor of DAC.

Following are listings of the Comptroller’s Advisory Council, Actuarial Advisory Committee, Investment Advisory Committee, and the Real Estate and Mortgage Advisory Committee as of March 31, 2001.

Advisory Council

<u>Name</u>	<u>Principal Affiliation</u>	<u>Year First Appointed</u>
Roger E. Benson	President New York State Public Employees Federation New York State AFL-CIO	1997
Edward C. Farrell	Executive Director Conference of Mayors	1997
Robert R. Gregory	Executive Director Association of Counties	2001
Edward W. Guzdek	President Police Conference of New York, Inc.	1997
G. Jeffrey Haber	Executive Director Association of Towns	1997
Denis Hughes	President New York State AFL-CIO	2001
Donald Killian	Professional Fire Fighters Association	1998
Tim Kremer	Executive Director New York State School Boards Association	2001
Louis J. LaCapra	Chief of Staff Port Authority of New York and New Jersey	1993
Hon. Vincent L. Leibell, III	New York State Senate	2001
Glenn C. Lucas	New York State United Teachers	1997
Kathy B. McCormack	AFSCME Council 82	1997
Hank Mulligan	Metropolitan Police Conference	1997
Christopher W. O'Flinn	Manager Global Benefits, Mobil Corporation	1997

<u>Name</u>	<u>Principal Affiliation</u>	<u>Year First Appointed</u>
Lee Saunders	Executive Director AFSCME District Council 37	1999
Joel Schwartz	CSEA/AFSCME Local 1000	1997
Brian Shanagher	President NYSCOPBA	1999
George C. Sinnott	President Civil Service Commission	2001
Hon. Caesar Trunzo	New York State Senate	1985
Hon. Eric N. Vitaliano	New York State Assembly	1993
Daniel B. Walsh	President Business Council of New York State	1988
Cynthia Wilson	President Retired Public Employees' Association	1995
John R. Zagame	Executive Director Association of Counties	1993
Barbara Zaron	President New York State Organization of Management Confidential Employees	1997

Actuarial Advisory Committee

<u>Name</u>	<u>Principal Affiliation</u>	<u>Year First Appointed</u>
Armand M. De Palo	Senior Vice President and Chief Actuary The Guardian Life Insurance Company of America	1995
Philip Eisenberg	Senior Vice President and Chief Actuary The Mutual Life Insurance Company of New York	1992
Selig Ehrlich	Senior Vice President and Corporate Actuary The Equitable Life Assurance Society of the United States	1999
Michael Heller	Vice President of Actuarial Pension Operations Teachers Insurance and Annuity Association College Retirement Equities Fund	2000
Stephen N. Steinig	Senior Vice President and Chief Actuary New York Life Insurance Company	1994

Investment Advisory Committee

<u>Name</u>	<u>Principal Affiliation</u>	<u>Year First Appointed</u>
Robert E. Angelica	Chairman and Chief Executive Officer AT&T Investment Management Corporation	2000
Brent D. Baird	Private Investor	1997
Hughlyn F. Fierce	Senior Vice President (retired) Chase Manhattan Bank	1990
Cheryl Gordon	Chief Executive Officer (retired) Rothschild Asset Management	2000
Joe Grills	Assistant Treasurer (retired) IBM	1997
Graham Harrison	Retired Vice President and Chief Executive Officer Howard Hughes Medical Institute	1997
George F. Keane	President Emeritus The Common Fund	1997
Martin Liebowitz	Vice Chairman and Chief Investment Officer Teachers Insurance and Annuity Association College Retirement Equities Fund	1997
W. Allen Reed	President General Motors Investment Management Corporation	1997
Dr. Robert G. Smith	Smith Affiliated Capital Corp.	1997
T. Dennis Sullivan	Financial Vice President The Andrew W. Mellon Foundation	1997
Arthur Ziekell	Merrill Lynch Asset Management (retired)	1999

Real Estate and Mortgage Advisory Committee

<u>Name</u>	<u>Principal Affiliation</u>	<u>Year First Appointed</u>
Derrick D. Cephas, Esq.	Partner Cadwalder, Wickersham and Taft	1995
Robert Engel	Senior Executive Vice President HSBC Bank USA	1992
Michael C. J. Fallon	President Fallon & Associates	1987
Thomas Garbutt	Managing Director Teachers Insurance and Annuity Association College Retirement Equities Fund AMREP Corporation	2000
Steven W. Goldmark Sr.	Investment Manager IBM Retirement Fund	2001
Patricia Goldstein	Principal Citadel Realty Group	1998
William F. Heitmann	Senior Vice President and Treasurer Verizon Communication Inc.	1997
Jan Nicholson	President The Grable Foundation	2001
Stanley Shaw, Esq.	Senior Partner Shaw, Licitra, Bohner, Esernio, Schwartz & Pfluger, P.C.	2001
Alan C. Sullivan	Senior Vice President The DeMatteis Organization	1997

#### D. Public Employees' Group Life Insurance Plan

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, the Public Employees' Group Life Insurance Plan ("GLIP") was established, effective January 1, 1970, for the purpose of providing group life insurance for the payment of ordinary death benefits not in excess of \$50,000 in accordance with the appropriate sections of the New York Retirement and Social Security Law. Premiums paid by an employer for any portion of group life insurance in excess of \$50,000 on a member would subject the beneficiary to federal income tax in the year in which the death benefits are paid, in accordance with Section 79 of the Internal Revenue Code. Therefore, if a death benefit in excess of \$50,000 is payable to the estate, beneficiary or beneficiaries of a deceased member, the first \$50,000 is payable as group term life insurance and the excess over \$50,000 is payable in accordance with the appropriate section of the New York Retirement and Social Security Law. Each qualified member of the ERS or the PFRS is insured under the GLIP from January 1, 1970.

Separate funds are established within the ERS and the PFRS to be held in trust by the Comptroller. Such funds consist of all premiums paid by the State and by participating employers, and other monies received and paid into the funds for group term life insurance purposes, together with the investment earnings. Concurrent with the determination of the initial liability, the plan provides for a segregation and a transfer from the pension accumulation funds to ERS and PFRS of an amount determined by the Actuary to be necessary to pay anticipated group term life insurance claims. Subsequent segregations and transfers shall be made from the reserve funds as required to pay the insurance provided by law. The plan further provides that the Actuary shall investigate GLIP's claims experience and 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 soon as practicable after the close of each fiscal year, the Comptroller shall determine the

premium which the State of New York and participating employers in the Systems are required to pay into the reserve funds to discharge the obligations of the plan for the past fiscal year. A statement of the amount so payable shall be 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.

#### 4. CLASSES OF THE SYSTEMS' MEMBERSHIP

Pension legislation enacted in 1973, 1976, and 1983 established distinct classes of the Systems' membership. For convenience, the Systems use a tier concept to distinguish these groups as follows:

- Tier 1 - Those persons who last joined either system before July 1, 1973.
- Tier 2 - Those members of the ERS who last joined that system on or after July 1, 1973, but before July 27, 1976 and who are covered by Article 11 of the New York Retirement and Social Security Law. Tier 2 members of the PFRS are those who last joined that system on or after July 1, 1973 and who are covered by Article 11 of the New York Retirement and Social Security Law.
- Tier 3 - Those state correction officers who last joined the ERS on or after July 27, 1976, and all others who last joined that system on or after July 27, 1976 but before September 1, 1983. Tier 3 members, other than state correction officers, will generally be covered by Article 15 (i.e. Tier 4) of the New York Retirement and Social Security Law but may also qualify for certain provisions of Article 14 of the New York Retirement and Social Security Law.
- Tier 4- Those members (other than state correction officers) who last joined the ERS on or after September 1, 1983. These members are covered by Article 15 of the New York Retirement and Social Security Law.

Retirement benefits, death benefits, disability benefits, and eligibility requirements for benefits differ for each of the above tiers. Historically, the major differences between the Tiers were the normal retirement age and the limit and amount of maximum benefit payments. Various legislation initiatives have improved the benefits of Tiers 2, 3 and 4 since their inception.

The normal retirement age for Tier 1 members is 55. At inception of Tiers 2, 3 and 4, normal retirement age for members was 62, unless they were in a plan that uses years in service as its only criterion. Retirement for Tier 2, 3 and 4 members was permitted between ages 55 and 62 but with a reduction in benefits.

Retirement benefits for Tier 2 members, except any attributable to their own contributions, were subject to a limitation. Chapter 306 of the Laws of 1996, effective July 10,

1996, enabled Tier 2 members with 30 or more years of service credit to retire at full benefit as early as age 55. Prior to the enactment of Chapter 306, the maximum benefit for ERS members, computed with optional modification, could not exceed 60% of the first \$15,300 of final average salary, 50% of final average salary in excess of \$15,300 and 40% of any final average salary in excess of \$27,300. The maximum benefit for PFRS members is limited to the amount payable upon completion of 30 years of service.

Tier 3 members had been covered by the provisions of the Coordinated Escalator Retirement Plan (“CO-ESC”) under temporary legislation as set forth in Article 14 of the New York Retirement and Social Security Law. CO-ESC required employees to contribute 3% of earnings and offered benefits, which were reduced by 50% of the CO-ESC/Social Security retirement benefits. Early service retirement benefits were not reduced by Social Security retirement benefits. Tier 4, Article 15, was enacted in August 1983 and covered both Tier 3 members and new members who joined the Systems on or after September 1, 1983. Tier 3 members have the constitutional right to the benefits of both articles. However recent pension legislation enhancing the benefits of Article 15 makes Tier 4 the benefit of choice for all Tier 3 members.

Historically, Tier 4 members also contributed 3% of their earnings. Recent pension legislation, which will be discussed later in this report, no longer requires these Tier 4 contributions for members with ten years of credited service. The service retirement benefit for a member with less than 20 years was a retirement allowance equal to one-sixtieth of final average salary times years of credit. For members with 20 or more years, the allowance was equal to one-fiftieth of final average salary up to 30 years and an additional three-two hundredths of the final average salary for each year in excess of 30 years.

Chapter 537 of the Laws of 1994, effective September 24, 1994, amended Article 15 of the New York Retirement and Social Security Law, enabling Tier 3 and 4 members to retire at full benefit as early as age 55 if the members have 30 or more years of service credit.

In the 2000 Legislative Session, several benefit improvements were enacted. The major benefit improvements are as follows:

- Cost of Living Adjustments (“COLA”) - COLA legislation provided for two types of adjustments. Firstly, a “catch up” adjustment for those who retired prior to 1997. Secondly, an annual adjustment based on the Cost of Living Index.
- Contributions Eliminated - Tier 3 and 4 members with ten years of membership or service credit no longer have to make their 3% contributions.
- Extra Credit Granted - Tier 1 and 2 members were granted one additional month, up to 24 in total, of service credit for each year of service they accrue at retirement.
- Military Service Credit - Up to 25,000 members and retirees are eligible to receive credit for military service. The cost to members is 3% of the last 12 months of earnings, multiplied by the number of years purchased. Members may purchase this credit anytime up until retirement.
- Equity Among the Tiers - Tier 3 and 4 members covered by Article 15 of the New York Retirement and Social Security Law, between the ages of 55 and 62, with less than 30 years of service, are allowed to retire without having their benefit reduced as much as it would have been previously.

## 5. SIGNIFICANT OPERATING RESULTS

Tables contained in this report may not add to totals due to truncating and rounding.

### A. Common Retirement Fund

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 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.

The following tables indicate the growth of CRF during the period under review:

	<u>March 31,</u> <u>1996</u>	<u>March 31,</u> <u>2001</u>	<u>Increase</u> <u>(Decrease)</u>
Admitted assets	\$ <u>77,403,251,739</u>	\$ <u>113,588,902,141</u>	\$ <u>36,185,650,402</u>
Liabilities	\$ <u>1,401,661,408</u>	\$ <u>461,942,594</u>	\$ <u>(939,718,814)</u>
Equities in funds:			
ERS	\$63,859,833,176	\$ 95,470,745,143	\$31,610,911,967
PFRS	12,048,639,007	17,566,551,292	5,517,912,285
GLIP	<u>93,118,148</u>	<u>89,663,112</u>	<u>(3,455,036)</u>
Total equities	\$ <u>76,001,590,331</u>	\$ <u>113,126,959,547</u>	\$ <u>37,125,369,216</u>
Total liabilities and equities	\$ <u>77,403,251,739</u>	\$ <u>113,588,902,141</u>	\$ <u>36,185,650,402</u>

(000's Omitted)  
Fiscal Year Ending March 31

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Receipts	\$19,032,252	\$21,300,117	\$26,234,244	\$30,361,697	\$11,950,332
Disbursements	<u>12,080,220</u>	<u>13,727,987</u>	<u>16,956,114</u>	<u>20,818,908</u>	<u>7,089,512</u>
Net receipts	\$ <u>6,952,032</u>	\$ <u>7,572,130</u>	\$ <u>9,278,130</u>	\$ <u>9,542,789</u>	\$ <u>4,860,820</u>

Receipts decreased in 2001 mainly due to the decline in the stock market. This is discussed in Section 6 of this report.

Indicated below are the admitted assets for each of the years under review:

<u>Fiscal Year</u>	<u>Admitted Assets</u>
1997	\$ 83,543,175,951
1998	\$106,219,668,603
1999	\$112,937,361,912
2000	\$128,670,879,478
2001	\$113,588,902,141

As of March 31, 2001, the CRF's invested assets were mainly comprised of stocks (39.0%) and bonds (31.6%). It is noted that 6.28% of the CRF's invested assets were comprised of investments in foreign entities.

**B. New York State and Local Employees' Retirement System**

The following tables indicate the financial growth of ERS during the period under review:

	<u>March 31,</u> <u>1996</u>	<u>March 31,</u> <u>2001</u>	<u>Increase</u> <u>(Decrease)</u>
Admitted assets	<u>\$65,429,044,809</u>	<u>\$ 96,588,637,670</u>	<u>\$ 31,159,592,861</u>
Net reserves	\$57,800,225,674	\$100,754,933,816	\$ 42,954,708,142
Accounts payable	156,333,656	189,020,398	32,686,742
Other liabilities	1,111,214	1,292,366	181,152
Excess of admitted assets over total net reserves and other liabilities	<u>7,471,374,265</u>	<u>(4,356,608,910)</u>	<u>(11,827,983,175)</u>
	<u>\$65,429,044,809</u>	<u>\$ 96,588,637,670</u>	<u>\$ 31,159,592,861</u>

(000's Omitted)  
Fiscal Year Ending March 31

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Receipts	\$8,779,176	\$9,302,204	\$11,009,883	\$11,773,919	\$7,789,783
Disbursements	<u>2,947,574</u>	<u>3,063,436</u>	<u>3,227,784</u>	<u>3,405,376</u>	<u>3,778,436</u>
Net receipts	<u>\$5,831,602</u>	<u>\$6,238,768</u>	<u>\$ 7,782,099</u>	<u>\$ 8,368,543</u>	<u>\$4,011,347</u>

Shown below is "Excess of admitted assets over total net reserves and all other liabilities" for each of the years under review:

<u>Fiscal Year</u>	<u>Excess</u>
1997	\$ 7,469,465,043
1998	\$14,153,456,220
1999	\$14,111,532,425
2000	\$15,534,109,561
2001	\$ (4,356,608,910)

The following table indicates the membership of the ERS as of the beginning and closing dates of this examination:

	<u>March 31</u> <u>1996</u>	<u>March 31,</u> <u>2001</u>	<u>Change</u>
Active members	553,649	590,959	37,310
Service pensioners	216,188	232,494	16,306
All other pensioners	<u>35,254</u>	<u>40,653</u>	<u>5,399</u>
	<u>805,091</u>	<u>864,106</u>	<u>59,015</u>

The following tables illustrate the annual benefit levels of the ERS for retirements during 2000-2001 (Table I) and all retirements as of March 31, 2001 (Table II):

Table I  
2000-2001 Retirements

<u>Service Retirements</u>	
-Number granted	10,848
-Average retirement allowance	\$17,176
-Percentage of allowance to FAS*	46%
<u>Ordinary Disability Retirements</u>	
-Number granted	862
-Average disability allowance	\$12,448
-Percentage of allowance to FAS*	35%
<u>Accident Disability Retirements</u>	
-Number granted	38
-Average disability allowance	\$31,623
-Percentage of allowance to FAS*	71%
<u>Performance of Disability Retirements</u>	
-Number granted	39
-Average disability allowance	\$31,958
-Percentage of allowance to FAS*	72%

\*Final average salary

Table II  
All Retirements as of March 31, 2001

<u>Service Retirements</u>	
-Numbers of persons receiving pension	232,494
-Average allowance	\$13,655
<u>Disability Retirements</u>	
-Number of pensioners	17,422
-Average allowance	\$11,857

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

The following tables indicate the financial growth of PFRS during the period under review:

	<u>March 31,</u> <u>1996</u>	<u>March 31,</u> <u>2001</u>	<u>Increase</u> <u>(Decrease)</u>
Admitted assets	<u>\$12,130,180,379</u>	<u>\$17,611,857,985</u>	<u>\$ 5,481,677,606</u>
Net reserves	\$10,711,495,851	\$18,365,223,342	\$ 7,653,727,491
Accounts payable	20,363,568	34,117,761	13,754,193
Other liabilities	106,251	98,339	(7,912)
Excess of admitted assets over total net reserves and other liabilities	<u>1,398,214,709</u>	<u>(787,581,458)</u>	<u>(2,185,796,167)</u>
	<u>\$12,130,180,379</u>	<u>\$17,611,857,985</u>	<u>\$ 5,481,677,606</u>

(000's Omitted)

Fiscal Year Ending March 31

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Receipts	\$1,547,492	\$1,692,023	\$1,963,943	\$2,080,982	\$1,339,428
Disbursements	<u>538,746</u>	<u>558,104</u>	<u>593,555</u>	<u>628,918</u>	<u>694,556</u>
Net receipts	<u>\$1,008,746</u>	<u>\$1,133,919</u>	<u>\$1,370,388</u>	<u>\$1,452,064</u>	<u>\$ 644,872</u>

Shown below is the "Excess of admitted assets over total net reserves and all other liabilities" for each of the years under review:

<u>Fiscal Year</u>	<u>Excess</u>
1997	\$1,400,535,343
1998	\$2,644,359,770
1999	\$2,631,035,576
2000	\$2,874,475,142
2001	\$ (787,581,458)

The following table indicates the membership of PFRS as of the beginning and closing dates of this examination:

	<u>March 31,</u> <u>1996</u>	<u>March 31,</u> <u>2001</u>	<u>Change</u>
Active members	36,481	35,606	(875)
Service pensioners	17,564	19,149	1,585
All other pensioners	<u>5,324</u>	<u>5,782</u>	<u>458</u>
	<u>59,369</u>	<u>60,537</u>	<u>1,168</u>

The following tables illustrate the annual benefit levels of PFRS for retirements during 2000-2001 (Table I) and all retirements as of March 31, 2001 (Table II):

Table I  
2000-2001 Retirements

<u>Service Retirements</u>	
- Number granted	792
- Average retirement allowance	\$50,586
- Percentage of allowance to FAS*	63%
<u>Ordinary Disability Retirements</u>	
- Number granted	5
- Average disability allowance	\$29,890
- Percentage of allowance to FAS*	50%
<u>Accidental Disability Retirements</u>	
- Number granted	93
- Average disability allowance	\$47,569
- Percentage of allowance to FAS*	72%
<u>New Performance of Duty Disability Retirements</u>	
- Number granted	42
- Average disability allowance	\$29,979
- Percentage of allowance to FAS*	50%

\*Final average salary

Table II  
All Retirements as of March 31, 2001

<u>Service Retirements</u>	
- Number of persons receiving pension	19,149
- Average allowances	\$29,297
<u>Disability Retirements</u>	
- Number of pensioners	4,529
- Average allowances	\$30,825

D. Public Employees' Group Life Insurance Plan

The following tables indicate the financial growth of the GLIP during the period under review:

	<u>March 31,</u> <u>1996</u>	<u>March 31,</u> <u>2001</u>	<u>Increase</u> <u>(Decrease)</u>
Admitted assets	<u>\$91,332,225</u>	<u>\$89,499,629</u>	* <u>\$(1,832,596)</u>
Cash	\$ 0	\$ 2,412,726	\$ 2,412,726
Policy claims	25,689,324	30,049,572	4,360,248
Reserves for mortality fluctuations	<u>65,642,901</u>	<u>57,037,331</u>	* <u>(8,605,570)</u>
	<u>\$91,332,225</u>	<u>\$89,499,629</u>	<u>\$(1,832,596)</u>

\*See section 6D1 of this report

Fiscal Year Ending March 31

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Receipts	\$ 66,579,944	\$ 85,546,937	\$58,669,787	\$ 39,114,795	\$ 41,117,386
Disbursements	<u>62,792,429</u>	<u>55,934,743</u>	<u>57,278,452</u>	<u>61,621,503</u>	<u>62,007,292</u>
Net receipts	<u>\$ 3,787,515</u>	<u>\$29,612,194</u>	<u>\$ 1,391,335</u>	** <u>\$(22,506,708)</u>	** <u>\$(20,889,906)</u>

\*\*See section 6D2 of this report

## 6. FINANCIAL STATEMENTS

The following statements show the assets, liabilities and equities of the CRF, the Systems and GLIP for the fiscal year ending March 31, 2001, as compared to the fiscal year ending March 31, 1996, the date of the prior examination; and the comparative statements of income and disbursements for each of the fiscal years under review. The examiner's review of a sample of transactions did not reveal any differences which materially affected their financial conditions as presented in their financial statements contained in the March 31, 2001 filed annual statements.

### A. COMMON RETIREMENT FUND

#### 1. STATEMENT OF ASSETS, LIABILITIES AND EQUITIES

	March 31, <u>1996</u>	March 31, <u>2001</u>
<u>Assets</u>		
Real property owned	\$ 1,128,378,210	\$ 3,278,298,546
Mortgage loans on real estate	1,755,057,299	1,788,763,949
Book value of bonds	24,956,216,435	33,952,166,313
Book value of stocks	17,317,901,027	30,604,461,599
Cash on deposit - not at interest	119,862,209	642,346
Cash on deposit - at interest	91,063,867	386,965,677
International investments	4,880,496,952	7,836,121,369
Land purchase-leasebacks	1,250,000	0
Collateral held for replacement reserve	6,307,395	6,770,687
Business investments	2,840,029,486	4,680,733,420
Commingled equity fund	1,330,057,118	9,703,034,335
Unit trusts-real estate	627,574,361	1,022,137,895
Interest due and accrued on mortgages	14,950,412	14,364,886
Interest due and accrued on bonds	399,787,724	525,222,516
Dividends due and accrued on common stocks	53,538,386	36,187,747
Accrued investment sales	61,742,250	270,309,414
Late charges receivable on mortgages	37,370	
Bonds, mortgages and miscellaneous receivable	2,677,215	41,707,457
International investments receivable	2,030,599,871	368,054,593
Market value of stocks over book value per Schedule D	15,659,240,426	13,702,089,212
Market value of real estate over book value per Schedule A	(353,651,327)	290,271,165
Market value of real estate investment trusts over book value per Schedule D		105,310,394
Market value of business investments over book value	467,781,575	957,639,624

	<u>1996</u>	<u>2001</u>
Market value of international investments over book value	\$ 509,765,104	\$ (707,172,037)
Market value of commingled investments over book value	1,703,131,015	2,709,239,598
Market value of bond investments over book value	1,818,263,415	1,943,527,416
Market value of mortgage investments over book value	<u>(18,806,056)</u>	<u>72,054,019</u>
Total assets	<u>\$77,403,251,739</u>	<u>\$113,588,902,140</u>
 <u>Liabilities and Equities</u>		
Escrow funds on mortgage and leaseback investments	\$ 13,790,668	\$ 10,570,156
Accrued investment purchases	202,605,646	81,184,333
Accrued service fees	46,062	92,416
Accrued advisory fees	11,715,687	17,725,756
Accrued real estate, miscellaneous	(672,682)	81,867,648
Accrued international investments	1,165,384,730	183,497,748
Replacement reserve funds	6,340,239	6,770,687
Deposits of good faith	10,001	1,571,729
Advances on Special Situations	0	41,086,850
Bond commitment fees	2,440,979	2,440,979
Security lending	0	35,125,489
Unclaimed dividends and interest	<u>78</u>	<u>8,802</u>
Total liabilities	<u>\$ 1,401,661,408</u>	<u>\$ 461,942,593</u>
 <u>Equities in Funds</u>		
ERS	\$63,859,833,176	\$ 95,470,745,143
PFRS	12,048,639,007	17,566,551,292
GLIP	<u>93,118,148</u>	<u>89,663,112</u>
Total equities	<u>\$76,001,590,331</u>	<u>\$113,126,959,547</u>
Total liabilities and equities	<u>\$77,403,251,739</u>	<u>\$113,588,902,140</u>

**2. STATEMENT OF INCOME AND DISBURSEMENTS**  
(000's Omitted)

	<u>Fiscal Year Ending March 31,</u>				
	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Ledger assets, April 1,	<u>\$55,054,194</u>	<u>\$62,006,226</u>	<u>\$69,578,357</u>	<u>\$78,856,487</u>	<u>\$88,399,276</u>
<u>Income</u>					
From system:					
ERS	\$ 1,819,168	\$ 1,039,803	\$ 938,323	\$ 895,951	\$ 856,210
PFRS	235,708	142,610	83,188	61,502	57,518
GLIP	57,366	57,679	48,306	19,335	35,050
Interest, dividends, and other income					
Government bonds	976,221	1,057,542	1,103,826	989,546	885,323
Corporate bonds	425,075	510,260	627,630	733,162	847,005
Short term interest	743	427	0	0	0
Foreign interest	46,985	47,436	7,784	391	12
Other income	3	18	14	9	24
Mortgages:					
FHA	5,633	4,998	3,686	3,188	2,706
Conventional	152,704	135,021	103,581	99,674	115,524
Other income	496	603	21,483	(728)	(2,051)
Real estate	210	(250)	1,063	(31,662)	(2,118)
Land purchases - leaseback	125	1,135	0	1,761	0
Alternative investments					
RE co-mingled income	0	0	0	0	72,408
Interest	0	0	0	0	3,081
Other income	0	0	0	0	25,003
Venture capital	65,665	77,216	96,096	88,058	0

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Stocks:					
Dividends	\$ 674,526	\$ 642,210	\$ 620,068	\$ 635,584	\$ 568,404
Global dividends	106,605	123,594	150,088	154,188	177,660
Other	(101,965)	105,992	(111,409)	(141,998)	57,539
Escrow funds on					
investments	39,871	35,097	31,103	33,983	32,486
Good faith deposits	2,444	3,342	36	(907)	41,774
Unclaimed interest					
dividends	112,600	33,752	106,879	42,995	33,398
Income, non-refundable					
deposits	2,074	4,654	1,292	4,810	5,231
Judgments, damages,					
and restitutions	2,365	1,837	1,626	3,643	3,069
Accounts receivables	1,233,949	468,480	902,645	800,065	1,031,211
Prepayment penalties	9,153	2,855	9,753	10,909	55
Income from loaned securities	11,095	16,162	29,187	31,105	35,420
Prior year adjustments (cash)	91	81	13	120	22
Miscellaneous income	291	680	1,666	1,134	332
Gross profit on sales unrealized	(12,699)	972,195	(753,358)	2,595,121	(5,163,848)
Reserve replacement collateral	724	1,723	0	0	0
Increase by accrual/reversal	6,031,132	7,856,142	11,614,026	12,543,446	5,669,741
Gross profit on sales	4,709,447	5,558,463	6,406,748	7,342,491	3,985,364
Gross increase by adjustment	<u>2,424,450</u>	<u>2,398,358</u>	<u>4,188,904</u>	<u>3,444,820</u>	<u>2,576,778</u>
Total income	\$ <u>19,032,252</u>	\$ <u>21,300,117</u>	\$ <u>26,234,244</u>	\$ <u>30,361,697</u>	\$ <u>11,950,332</u>
Increase by transfer	\$ <u>89,749,286</u>	\$ <u>106,373,248</u>	\$ <u>115,772,553</u>	\$ <u>131,688,373</u>	\$ <u>138,324,573</u>
Amounts carried forward	\$ <u>163,835,732</u>	\$ <u>189,679,590</u>	\$ <u>211,585,154</u>	\$ <u>240,906,558</u>	\$ <u>238,674,181</u>

Total income decreased by 60.6% in 2001 compared to 2000. This decrease is mainly due to decreases in gross profit on sales unrealized and gross profit on sales. The Systems attribute the decrease in these lines to the decline in the stock market.

Fiscal Year Ending March 31.

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
<u>Disbursements</u>					
Revolving funds:					
ERS	\$ 2,933,920	\$ 3,056,369	\$ 3,199,850	\$ 3,371,521	\$ 3,726,994
PFRS	533,380	553,144	586,549	622,259	684,060
GLIP	60,926	57,783	56,777	60,893	58,136
Administrative expenses:					
ERS	41,351	42,509	45,811	45,381	48,289
PFRS	6,210	6,046	6,560	6,556	8,551
Mortgages:					
Escrow funds on mortgages	41,028	37,979	31,021	33,907	32,028
Replacement reserve funds	29	14	0	97	0
Service fees	23	0	0	0	0
Good faith deposits	2,852	2,497	0	0	528
Other	264	0	25	0	0
Bonds:					
Investment expenses	400	303	400	400	300
Interest paid on purchases	48,268	23,412	31,498	22,050	33,983
Stock advisory fees	40,851	47,846	59,875	66,612	90,856
Real estate:					
Professional fees	8,418	11,574	14,624	25,504	14,691
Repairs	0	0	0	0	145
Commingled management fees	0	4,803	8,316	1,372	11,627
Other disbursements:					
Venture capital management fees	4,854	1,440	14,669	13,763	7,217
Professional fees	11,887	14,613	5,289	16,309	24,850
Trustee management fees	509	408	352	238	412
Administrative services and supplies	955	1,005	1,131	1,279	3,870

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Miscellaneous expenses	28	45	4,187	10,807	(1,799)
Prior year adjustment cash	432	0	0	0	0
Unclaimed interest and dividends	8,724	30,993	3,870	31,708	37,739
Accrued purchases	117,831	255,985	1,068,542	413,260	363,167
Global receivables	823,910	80,540	106,845	226,342	801,973
Replacement reserve collateral	273	808	419	789	52
Decrease by accrual/reversal	6,032,335	8,907,916	10,852,356	15,291,038	553,024
Decrease by adjustments	<u>1,360,563</u>	<u>589,952</u>	<u>857,147</u>	<u>556,822</u>	<u>588,821</u>
Total disbursements	\$ 12,080,220	\$ 13,727,986	\$ 16,956,114	\$ 20,818,908	\$ 7,089,512
Decrease by transfers	<u>89,749,286</u>	<u>106,373,248</u>	<u>115,772,553</u>	<u>131,688,373</u>	<u>138,324,573</u>
Total disbursements and transfers	<u>\$101,829,506</u>	<u>\$120,101,233</u>	<u>\$132,728,667</u>	<u>\$152,507,282</u>	<u>\$145,414,087</u>
Ledger assets, March 31,	<u>\$ 62,006,226</u>	<u>\$ 69,578,357</u>	<u>\$ 78,856,487</u>	<u>\$ 88,399,276</u>	<u>\$ 93,260,096</u>

B. NEW YORK STATE AND LOCAL EMPLOYEES' RETIREMENT SYSTEM

1. STATEMENT OF ASSETS AND LIABILITIES

	<u>March 31,</u> <u>1996</u>	<u>March 31,</u> <u>2001</u>
<u>Assets</u>		
Cash in organization's office	\$ 15,100	\$ 15,100
Cash on deposit not at interest	(78,948,736)	(74,932,378)
Equity in Common Retirement Fund	47,143,292,140	79,371,635,442
Loans to members	483,995,999	868,623,376
Market value of investments over book value	16,716,541,036	16,099,109,701
Accounts receivable	<u>1,164,149,270</u>	<u>324,186,429</u>
 Total assets	 <u>\$65,429,044,809</u>	 <u>\$96,588,637,670</u>
<u>Liabilities</u>		
Accumulated contributions of members	\$ <u>59,606,566</u>	\$ <u>35,506,854</u>
Present value of benefits payable on account of beneficiaries now drawing allowances:		
Service retirement	17,943,308,846	25,251,042,073
Ordinary disability retirement	666,238,476	1,054,265,275
Accidental disability retirement	457,320,442	529,132,912
Accidental death benefits	16,049,053	19,965,866
Tier 2 post retirement death	45,384	78,582
Ordinary death benefits payable to designated annuitants	47,508,333	42,582,196
Beneficiaries of deceased disability pensioners	75,539,838	130,711,729
Supplemental pensions	<u>617,634,947</u>	<u>5,027,617,049</u>
 Sub-total	 <u>\$19,823,645,319</u>	 <u>\$32,055,395,682</u>

	<u>1996</u>	<u>2001</u>
Present value of benefits provided by employer for members now in active service:		
Service retirement	\$41,390,543,887	\$66,021,131,528
Ordinary disability retirement	1,200,897,099	1,325,018,360
Accidental disability retirement	527,662,301	461,640,303
Ordinary death benefits	1,253,358,567	1,232,385,833
Accidental death benefits	20,579,091	15,367,311
Sick leave	207,912,012	418,757,569
Withdrawals of		
Tier 3 and Tier 4 funds	<u>476,962,465</u>	<u>233,103,195</u>
Total present value of benefits for members in active service	\$45,077,915,422	\$69,707,404,099
Less: Present value of prospective regular contributions and appropriations	<u>7,160,941,633</u>	<u>1,043,372,819</u>
Net reserves for benefits for members now in active service	<u>\$37,916,973,789</u>	<u>\$68,664,031,280</u>
Total net reserves	\$57,800,225,674	\$100,754,933,816
Benefits due and unpaid	156,333,656	189,020,398
Loan insurance reserve	<u>1,111,214</u>	<u>1,292,366</u>
Net reserves and all other liabilities	\$57,957,670,544	\$100,945,246,580
Excess of admitted assets over total net reserves and all other liabilities	<u>7,471,374,265</u>	<u>(4,356,608,910)</u>
Total liabilities	<u>\$65,429,044,809</u>	<u>\$ 96,588,637,670</u>

2. STATEMENT OF INCOME AND DISBURSEMENTS

(000's Omitted)

Fiscal Year Ending March 31,

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Ledger assets, April 1,	\$46,791,815	\$52,623,417	\$59,134,729	\$66,916,828	\$75,285,371
<u>Income</u>					
From Members:					
Regular contributions Tier III, IV	2,104	1,718	1,630	1,745	2,892
Contributions	358,429	370,199	398,656	413,628	331,230
Loan payments	137,589	159,391	179,956	201,227	216,849
Adjustment accounts	1,624	1,644	2,339	2,647	4,684
From employer:					
New York State - normal	905,424	202,369	77,605	72,083	97,202
Participating units - normal	214,960	125,410	105,183	75,798	89,643
Supplemental retirement allowance	279	335	362	210	220
Delinquent interest	130	22	6	5	51
System transfers	12,411	10,073	11,711	13,631	17,633
Amortization payments	4,297	4,486	4,105	3,717	3,637
Amortization interest	38,618	29,241	12,541	19,762	10,853
Deficiency	2,379	1,987	1,748	1,413	1,389
From interest on member loans	34,288	38,856	43,180	46,747	49,508
From other sources:					
A/P beneficiaries	26	0	45	0	0
A/P federal withholding	2,588	1,666	1,997	2,410	3,278
A/P pensioners	207	171	(357)	23	(48)
Amortization credits	35,722	16,772	9,995	8,479	4,092
Advance payments	383	4,235	16,159	3,946	3,135
Advance billing Section 430	1,425	720	2,359	344	30

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Results of operations	\$ 6,980,666	\$ 8,291,814	\$10,084,623	\$10,892,489	*\$ 6,941,296
From administrative expenses	34,974	28,054	44,550	118	124
Pension accumulation,					
Miscellaneous	613	(175)	84	(20)	(665)
Miscellaneous income	1	(10)	127	(70)	70
A/P participating units	72	2,497	548	1,431	107
Unclaimed benefits	(1)	0	0	(17)	0
Survivors benefits	8,822	9,562	9,287	9,836	10,450
Loan insurance	830	996	1,155	1,300	1,457
A /P forgeries - exchange	(22)	20	(11)	(11)	7
Due to administration fund	<u>339</u>	<u>150</u>	<u>301</u>	<u>1,046</u>	<u>657</u>
 Total income	 \$ 8,779,176	 \$ 9,302,204	 \$11,009,883	 \$11,773,919	 *\$ 7,789,783
 Increase by transfers	 <u>8,659,159</u>	 <u>7,151,002</u>	 <u>7,969,387</u>	 <u>8,952,149</u>	 <u>8,721,810</u>
Amounts carried forward	\$ <u>64,230,150</u>	\$ <u>69,076,623</u>	\$ <u>78,113,999</u>	\$ <u>87,642,896</u>	\$ <u>91,796,964</u>

\*Results of operations decreased by 36% in 2001 compared to 2000. Results of operations represent the ERS's portion of the CRF's growth for the year. The decrease in results of operations is the main cause of the decrease in total income in 2001. The System attributes the decrease in results of operation to the decline in the equity markets.

<u>Disbursements</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Payments on account of retirement periodic payments	\$ 2,381,922	\$ 2,536,804	\$ 2,672,268	\$ 2,823,771	\$ 3,000,097
Payments on account of death from ordinary causes	34,268	33,200	30,304	31,598	42,377
Payments on account of resignations	33,445	32,274	26,606	24,524	21,909
Payments to designated annuitants	5,968	5,576	5,314	4,980	4,801
Payments on account of excess contributions	13,679	10,395	6,990	4,589	18,797
Payments on account of error	7	11	9	12	14
Health insurance credits	(1,052)	(72)	(78)	(493)	884
Supplemental pension payments	163,405	118,494	141,360	163,706	302,289
Interest:					
Annuity savings	0	(5)	0	0	0
Tier III, IV contributions	0	0	1	0	2
Paid on death benefits	4,515	2,347	2,271	2,412	2,462
A/R credits	0	0	0	0	4
Transfers to other systems	19,737	23,061	27,206	18,899	19,728
Administrative expenses per Schedule H	41,351	42,510	45,812	45,381	48,287
Advance billing Section 430	1	40	3	57	44
Loans to members	232,057	241,482	253,909	268,692	297,808
Adjustments	6,118	4,529	4,063	4,341	6,070
Accounts receivable refunds	2	0	13	36	37

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
A/P beneficiaries	\$ 2,679	\$ 2,668	\$ 1,851	\$ 2,097	\$ 2,136
A/P exchange	186	150	122	40	96
Miscellaneous expenses	26	2	(7)	84	21
Unclaimed benefits	150	80	181	202	181
Amortization credits	0	0	0	0	271
A/P participating units	255	426	239	247	91
Survivor benefit payments	<u>8,856</u>	<u>9,465</u>	<u>9,346</u>	<u>10,200</u>	<u>10,030</u>
Total disbursements	\$ 2,947,574	\$ 3,063,436	\$ 3,227,784	\$ 3,405,376	\$ 3,778,436
Decrease by transfers	<u>8,659,159</u>	<u>7,151,002</u>	<u>7,969,387</u>	<u>8,952,149</u>	<u>8,721,810</u>
Total of disbursements and decrease by transfers	<u>\$11,606,733</u>	<u>\$10,214,438</u>	<u>\$11,197,171</u>	<u>\$12,357,525</u>	<u>\$12,500,246</u>
Ledger assets, March 31,	<u>\$52,623,417</u>	<u>\$58,862,185</u>	<u>\$66,916,828</u>	<u>\$75,285,371</u>	<u>\$79,296,718</u>

C. NEW YORK STATE AND LOCAL POLICE AND FIRE RETIREMENT SYSTEM1. STATEMENT OF ASSETS AND LIABILITIES

<u>Assets</u>	<u>March 31,</u>	
	<u>1996</u>	<u>2001</u>
Cash on deposit not at interest	\$ (10,395,528)	\$ (9,070,351)
Equity in Common Retirement Fund	8,985,444,753	14,594,108,244
Loans to members	963,044	989,116
Market value of investments over book value	3,063,194,254	2,972,443,048
Accounts receivable	<u>90,973,857</u>	<u>53,387,928</u>
Total assets	<u>\$12,130,180,380</u>	<u>\$17,611,857,985</u>
<u>Liabilities</u>		
Accumulated contributions of members	\$ <u>8,541,884</u>	\$ <u>10,722,571</u>
Present value of benefits payable on account of beneficiaries now drawing allowances:		
Service retirement	\$ 3,370,338,075	\$ 4,744,326,144
Ordinary disability retirement	46,733,412	56,903,114
Accidental disability retirement	964,845,087	1,200,160,801
Accidental death benefits	42,204,719	50,238,287
Tier 2 post retirement death	0	2
Ordinary death benefits payable to designated annuitants	6,487,762	7,225,049
Beneficiaries of deceased disability pensioners	6,839,482	11,889,481
Supplemental pensions	<u>143,692,600</u>	<u>1,124,540,559</u>
Sub-total	<u>\$ 4,581,141,137</u>	<u>\$ 7,195,283,437</u>
Present value of benefits provided by employer for members now in active service:		
Service retirement	\$ 6,507,004,495	\$ 9,628,947,642
Ordinary disability retirement	32,479,934	46,785,379
Accidental disability retirement	920,446,511	673,852,965
Ordinary death benefits	139,995,071	267,846,943
Accidental death benefits	18,074,686	12,128,973
Sick leave	6,367,652	10,328,966
One year final average salary	<u>144,024,223</u>	<u>204,047,623</u>

	<u>March 31,</u>	
	<u>1996</u>	<u>2001</u>
Total present value of benefits for members now in active service	\$ 7,768,392,572	\$ 10,843,938,491
Less: Present value of prospective regular contributions and appropriations	<u>1,646,579,742</u>	<u>(315,278,843)</u>
Net reserves for benefits for members now in active service	\$ <u>6,121,812,830</u>	\$ <u>11,159,217,334</u>
Total net reserves	\$10,711,495,851	\$18,365,223,342
Benefits due and unpaid	20,363,568	34,117,761
Loan insurance reserve	<u>106,251</u>	<u>98,339</u>
Net reserves and all other liabilities	\$10,731,965,670	\$18,399,439,442
Excess of admitted assets over total net reserves and all other liabilities	<u>1,398,214,709</u>	<u>(787,581,458)</u>
Total liabilities	\$ <u>12,130,180,380</u>	\$ <u>17,611,857,984</u>

2. STATEMENT OF INCOME AND DISBURSEMENTS

(000's Omitted)  
Fiscal Year Ending March 31,

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Ledger assets, April 1,	\$ <u>8,975,049</u>	\$ <u>9,983,795</u>	\$ <u>11,117,714</u>	\$ <u>12,488,102</u>	\$ <u>13,940,166</u>
<u>Income</u>					
From members:					
Regular contributions	\$ 935	\$ 1,441	\$ 2,007	\$ 1,217	\$ 2,203
Loan payments	322	316	314	359	349
Adjustment accounts	11	22	48	8	79
From employer:					
New York State -normal	50,753	12,129	1,525	1,560	236
Participating units normal	159,914	106,921	42,268	49,916	38,414
Supplemental					
retirement allowance	20	7,310	21	15	11
Delinquent interest	252	36	1	2	19
System transfers	9,468	6,088	24,731	3,979	13,015
Deficiency	0	0	0	0	0
Amortization payments	1,371	1,854	1,775	1,639	1,660
N. Y. S. Interest	0	723	15	167	0
Interest on loans	38	38	38	42	43
Accounts payable:					
Federal withholding	442	401	515	476	1,002
Pensioners	964	916	877	541	885
Amortization credits	5,406	1,935	4,174	1,372	292
Advance payments	0	9	82	6	18
Advance billing, Section 430	130	146	761	44	121
Results of operations	1,311,341	1,549,196	1,880,240	2,019,769	*1,280,906
From administrative					
expenses	6,034	2,922	4,422	11	6
Pension accumulation, miscellaneous	0	0	14	0	3

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Miscellaneous income	\$ 1	\$ (385)	\$ 0	\$ (203)	\$ 87
A/P participating units	<u>89</u>	<u>3</u>	<u>111</u>	<u>61</u>	<u>81</u>
Total income	\$ 1,547,492	\$ 1,692,023	\$ 1,963,943	\$ 2,080,982	\$ 1,339,428
Increase by transfer	<u>1,445,957</u>	<u>1,324,544</u>	<u>1,473,092</u>	<u>1,626,654</u>	<u>1,806,294</u>
Amounts carried forward	<u>\$11,968,498</u>	<u>\$13,000,362</u>	<u>\$14,554,749</u>	<u>\$16,195,738</u>	<u>\$17,085,888</u>

\*Results of operations decreased by 36% in 2001 compared to 2000. Results of operations represent the PFRS's portion of the CRF's growth for the year. The decrease in results of operations is the main cause of the decrease in total income in 2001. The System attributes the decrease in results of operation to the decline in the equity markets.

Fiscal Year Ending March 31,

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
<u>Disbursements</u>					
Payments on account of retirement periodic payments	\$ 490,222	\$ 516,218	\$ 543,169	\$ 573,708	\$ 609,346
Payments on account of death from ordinary causes	9,165	10,361	9,942	11,737	8,957
Payments on account of resignations	58	4	29	12	8
Payments to designated annuitants	777	696	690	669	645
Payments on account of excess contributions	1,015	838	1,512	911	1,302
Payments to special spouses	3,032	3,151	3,300	3,513	3,782
Supplemental pension payments	25,766	18,741	25,344	29,748	59,821
Interest paid on death benefits	202	410	328	350	292
Transfers to other systems	823	535	774	494	553
Administrative expenses, per Schedule H	6,210	6,046	6,560	6,556	8,551
Advance billing, Section 430	0	0	0	0	34
Loans to members	356	258	393	436	346
Adjustments	41	30	63	34	94
A/P pensioners	723	791	1,183	663	772
A/P beneficiaries	305	15	202	22	12
A/P participating units	45	3	20	61	28
Miscellaneous expenses	4	4	13	1	9
Unclaimed benefits	<u>2</u>	<u>2</u>	<u>33</u>	<u>0</u>	<u>4</u>
 Total disbursements	 \$ 538,746	 \$ 558,104	 \$ 593,555	 \$ 628,918	 \$ 694,556
 Decrease by transfers	 <u>1,445,957</u>	 <u>1,324,544</u>	 <u>1,473,092</u>	 <u>1,626,654</u>	 <u>1,806,294</u>
Total disbursements and transfers	<u>\$1,984,703</u>	<u>\$ 1,882,647</u>	<u>\$ 2,066,647</u>	<u>\$ 2,255,572</u>	<u>\$ 2,500,850</u>
 Ledger assets, March 31,	 <u>\$9,983,795</u>	 <u>\$11,117,714</u>	 <u>\$12,488,102</u>	 <u>\$13,940,166</u>	 <u>\$14,585,038</u>

D. PUBLIC EMPLOYEES' GROUP LIFE INSURANCE PLAN1. STATEMENT OF ASSETS AND LIABILITIES

	<u>March 31,</u>	
<u>Assets</u>	<u>1996</u>	<u>2001</u>
Cash	\$ (2,060,440)	\$ 0
Investment (due from CRF)	93,118,148	89,663,112
Premiums receivable	<u>274,517</u>	<u>(163,483)</u>
Total assets	<u>\$91,332,225</u>	<u>*\$89,499,629</u>
 <u>Liabilities</u>		
Cash	\$ 0	\$ 2,412,726
Claims being processed	17,669,746	20,933,108
Claims unreported	8,019,578	9,116,464
Reserve for mortality fluctuations	<u>65,642,901</u>	<u>57,037,331</u>
Total liabilities	<u>\$91,332,225</u>	<u>*\$89,499,629</u>

\*In 2001, the GLIP fund stopped investing in equities and invested in fixed income securities. Because fixed income securities are less volatile than equities, less reserves and admitted assets are necessary to compensate for fluctuations in market value. The Systems' actuaries targeted a lower admitted asset amount for 2001 than in prior years.

## 2. STATEMENT OF INCOME AND DISBURSEMENTS

	<u>Fiscal Year Ending March 31,</u>				
	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
<u>Receipts</u>					
Premiums received	\$57,093,178	\$57,507,434	\$48,236,249	\$ 20,137,807	\$ 35,222,092
Change in premiums receivable	(314,244)	(262,589)	(182,770)	314,991	(88,998)
Income from interest	9,719,770	11,201,711	13,768,607	12,512,315	53,626,691
Income from capital gains	<u>81,240</u>	<u>17,100,381</u>	<u>(3,152,299)</u>	<u>6,149,682</u>	<u>(47,642,398)</u>
Total	<u>\$66,579,944</u>	<u>\$85,546,937</u>	<u>\$58,669,787</u>	<u>\$ 39,114,795</u>	<u>\$ 41,117,386</u>
<u>Disbursements</u>					
Claims paid	\$61,053,900	\$57,102,052	\$57,298,633	\$ 61,136,000	\$ 61,983,891
Change in claims being processed	902,048	(1,672,225)	351,464	1,151,001	(769,230)
Change in unreported claims	<u>836,481</u>	<u>504,916</u>	<u>(371,645)</u>	<u>(665,498)</u>	<u>792,631</u>
Total	<u>\$62,792,429</u>	<u>\$55,934,743</u>	<u>\$57,278,452</u>	<u>\$ 61,621,503</u>	<u>\$ 62,007,292</u>
Net gain (loss) from operations	<u>\$ 3,787,515</u>	<u>\$29,612,194</u>	<u>\$ 1,391,335</u>	**\$(22,506,708)	**\$(20,889,905)

\*\*GLIP experienced net losses in 2000 and 2001. The losses in 2000 and 2001 are mainly due to the lower premium received and the poor performance of the equity markets. Prior to 1999, the premiums received closely matched claims. Due to the returns provided by the equity market in 1997 and 1999, the premiums were lowered in 1999 and 2000.

## 7. ANNUAL STATEMENT LIABILITIES

### A. 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.

Year ending March 31	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Accumulated contributions of members	51	47	42	38	36
Present Value of Benefits ("PVB") for those now in pay status:					
Service retirement	19,781	20,640	21,668	23,903	25,251
Ordinary disability	743	795	872	983	1,054
Accidental disability	459	464	483	513	529
Accidental death	17	17	18	20	20
Tier 2 post ret death	0	0	0	0	0
Ordinary death benefit to designated annuitants	46	45	44	43	43
Beneficiary of deceased disabled pensioners	85	93	104	120	131
Supplemental pensions	561	938	850		
COLA				4,834	5,028
Total PVB in pay status	21,693	22,993	24,038	30,415	32,055
Present Value of Benefits for those now in active service:					
Service retirement	42,345	45,515	49,161	58,466	66,021
Ordinary disability	1,214	1,250	1,308	1,467	1,325
Accidental disability	765	789	825	927	462
Ordinary death	1,253	1,296	1,394	1,459	1,232
Accidental death	21	22	23	26	15
Sick leave	212	227	247	269	419
Withdrawal benefits	477	265	307	234	233
Total PVB in active status	46,288	49,363	53,266	62,848	69,707
Less Present Value ("PV") of prospective contributions	4,735	(3,068)	(3,631)	5	1,043
Net reserves for active service	41,553	52,431	56,897	62,843	68,664
Total net reserves	63,296	75,471	80,977	93,296	100,755

Year ending March 31	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Benefits due and unpaid	112	103	107	109	189
Loan insurance reserve	1	1	1	1	1
Net reserves and liabilities	63,410	75,575	81,085	93,406	100,945
Excess of admitted assets over reserves and liabilities*	7,469	14,153	14,112	15,534	(4,357)
Total statement liabilities	70,879	89,728	95,196	108,940	96,589

\* Due to actuarial smoothing of certain investment classes and reflection of bonds at book value.

#### B. New York State and Local Police and Fire 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.

Year ending March 31	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Accumulated contributions of members	8	9	10	10	11
Present Value of Benefits for those now in pay status:					
Service retirement	3,612	3,787	3,973	4,349	4,744
Ordinary disability	47	47	51	54	57
Accidental disability	985	999	1,026	1,095	1,200
Accidental death	44	48	46	49	50
Tier 2 post ret death	0	0	0	0	0
Ordinary death benefit to designated annuitants	7	7	7	7	7
Beneficiary of deceased disabled pensioners	7	8	9	11	12
Supplemental pensions	140	236	223		
COLA				1,057	1,125
Total PVB in pay status	4,843	5,129	5,335	6,622	7,195
Present Value of Benefits for those now in active service:					
Service retirement	6,659	7,166	7,959	8,696	9,629
Ordinary disability	33	42	44	50	47
Accidental disability	946	1,204	1,313	1,437	674
Ordinary death	141	149	162	271	268
Accidental death	18	20	21	23	12

Year ending March 31	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Sick leave	6	7	8	8	10
1 year final average salary	137	134	158	176	204
Total PVB in active status	7,943	8,721	9,666	10,661	10,844
Less PV of prospective cont.	1,104	(83)	118	195	(315)
Net reserves for active service	6,838	8,804	9,547	10,466	11,159
Total net reserves	11,690	13,942	14,892	17,098	18,365
Benefits due and unpaid	16	15	12	18	34
Loan insurance reserve	0	0	0	0	0
Net reserves and liabilities	11,706	13,957	14,904	17,116	18,399
Excess of admitted assets over reserves and liabilities*	1,400	2,644	2,631	2,874	(788)
Total statement liabilities	13,107	16,602	17,535	19,991	17,612

\* Due to actuarial smoothing of certain investment classes and reflection of bonds at book value.

## 8. ACTUARIAL COST METHOD AND EMPLOYER CONTRIBUTIONS

The ultimate cost of a defined benefit pension plan is the benefits paid. 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.

Beginning with the 1995 fiscal year, the actuarial cost method used has been the Aggregate Cost Method. 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; i.e.,  $PV_{FutureErCont} = PV_{FutureBen} - Assets - PV_{FutureEeCont}$ . 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,’ and 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.,

- $NRate = PV_{FutureErCont} \div PV_{FuturePayroll}$
- $ErCont = NRate \times Payroll$

For active participants, the valuation used the ‘cell’ method for computational efficiency: members are grouped into cells, based on plan, age, and service. For the 2001 valuation, there were a total of 69 plans (48 for ERS and 21 for PFRS), with each plan representing a set of benefit provisions that result from specific section(s) of the law. For example, all members who are subject to the provisions of Section 384-e, are age 35, and have 5 years of service are grouped into one cell. That cell is 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, is then applied to the cell to yield the present value of future benefits and present value of future payroll for the cell.

Liabilities for retired participants and beneficiaries are calculated on a ‘seriatim’ basis, where each life is valued individually.

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 Systems 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 is the Tier 1 Contributory plan, the first of the 48 ERS plans and the first of the 21 PFRS plans to exist. 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,  $PV_{FutureErCont}$ , is developed as described above, reflecting the actual plan, or benefit level, of each participant (or cell). However, the Present Value of Future Payroll,  $PV_{FuturePayroll}$ , is developed using the indices described above; the total  $PV_{FuturePayroll}$  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 Employer Contribution amounts charged to the various entities will not reflect, however, demographic or other differences among the entities. For example, an entity whose members are, on average, older than the average member age in the System will not pay a higher Employer Contribution on account of the higher age. Similarly, an entity that has a relatively liberal policy regarding disability will not be assessed a higher amount. This approach reflects the ‘cost sharing’ philosophy adopted by the Systems.

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:

- Deficiency Contributions, which cover past service liabilities arising when an entity joins the Systems;
- 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.

The liabilities for the 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 25 years. The total Deficiency Contributions liability as of April 1, 2001 is about \$11 million, or .01% of the total plan liability of \$102 billion.

The liabilities for the Late Start Charges are the present values of past service liabilities generated by certain legislation. They are handled somewhat differently from the liabilities for the Deficiency Contributions. The total Late Start Charges liability of ERS as of April 1, 2001 is about \$34 million, or .03% of the total plan liability. The total Late Start Charges liability for PFRS as of March 31, 2001 is about \$272 million, or 1.5% of the total plan liability.

The Deficiency Contributions and the Late Start Charges for ERS are subtracted from the Present Value of Benefits, along with the Assets and Present Value of Employee Contributions, to yield the Present Value of Future Employer Contributions. Since the liability amount for the Deficiency Contributions is considered *de minimus*, ERS has decided that it will, in future years, be treated as a receivable; i.e., as part 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.

As described above, different normal rates are developed for the various plans. For the April 1, 2001 valuation of ERS the normal rates ranged from .0886% to .2907%, where the rates are expressed as a percentage applied to total salary for the respective plans. For the purpose of the following table, the rates for the plan that represents the largest liability are shown. That plan is described as Article 14 & 15 Regular (Tier 3 & 4), and, as of April 1, 2001, represented 57% of the total benefit liability for all active members. Other plans would have different indices (line 8 of the table), and thus different calculated normal rates.

As described above, different normal rates are developed for the various plans. For the March 31, 2001 valuation of PFRS the calculated normal rates ranged from -2.672% to -1.070%, where the rates are expressed as a percentage applied to total salary for the respective plans. When the normal rate is less than zero, it is set equal to zero for billing. For the purpose of the following table, the rates for the plan that represent the largest liability are shown. That plan is described as Tier 2 384-e, and, as of March 31, 2001, represented 45% of the total benefit

liability for all active members. Other plans would have different indices (line 8 of the table), and thus different calculated normal rates.

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.

Largely as a result of the significant increase in equity prices in the late 1990's, the value of assets held by the Systems has increased so that the calculated normal rate was negative for three of the five years of the examination period. When the calculated normal rate is negative, the billing normal rate is then set to zero.

As [discussed](#) above, the cost for each employer, or entity, recognizes 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.

As [mentioned](#) above, employer contribution rates are rounded to the nearest one-tenth of one percent (.1%) for billing. When employer contribution rates exceeded ten percent, that degree of rounding probably seemed reasonable. And it is likely that rates will again exceed ten percent in the near future. However, with a Normal Rate of .0%, and a Total Billing Rate of

2.3% for the plan [shown above](#) in the 2001 valuation, the rounding to the nearest .1% looks more significant.

With rounding to the nearest .1%, the average amount that would be added to some rates to bring them up to the nearest .1% would be .025%, and the average amount that would be subtracted from other rates to bring them down to the nearest .1% would be .025%. Those amounts 'added' or 'subtracted' could be just under .05%, or, say, .049%. Almost half of the Normal Rate of the plan mentioned above is the result of rounding. As a consequence, there is unintended cross-subsidization among the various entities in the System. And the determination of whether an entity subsidizes, or is subsidized, is random.

The rounding may have been introduced in the past partly to achieve some computational efficiency. However, it is believed that with current technology such efficiency is no longer an issue. In order to significantly reduce the effect of unintended, random cross-subsidization, the examiner recommends that, for billing purposes, the employer contribution rates be rounded to one more digit of precision; i.e., to the nearest one hundredth of one percent (.01%).

A. New York State and Local Employees' Retirement System

Shown below is the development of billing rates for each of the five years of the examination period. The first portion, through line 7, shows values for the entire System. The remaining part of the table, beginning with line 8, shows values for one of the plans of the System.

		<u>Calculation of Employer Contributions</u>				
		(\$000,000 omitted)				
		Valuation date April 1,				
		<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Present Value of Benefits						
	Actives	45,371	48,232	54,313	61,367	68,104
	Retirees	21,693	22,993	24,900	30,415	32,055
	Terminated vested	968	1,178	1,267	1,519	1,639
	Miscellaneous <sup>a</sup>	185	170	169	174	265
1	Total PVB	68,217	72,572	80,649	93,475	102,064
2	Actuarial value of assets	63,482	75,640	81,146	93,470	101,020
3	PV future employee contributions	3,890	4,017	4,341	837	735
4	PV scheduled contribs <sup>b</sup>	399	797	842	42	44
5	PV normal contribution 1 - 2 - 3 - 4	446	(7,882)	(5,679)	(874)	264
6	PV future indexed compensation	215,467	218,098	235,695	248,071	253,866
7	Basic normal rate 5 ÷ 6	.20%	-3.53%	-2.36%	-.34%	.10%
Values below are for the Article 14 & 15 Regular Plan						
8	Index	1.2628	1.2939	1.3437	1.4313	1.3877
9	Calculated normal rate 7 × 8	.26%	-4.57%	-3.12%	-.49	.14
Billing:						
10	Normal rate <sup>c</sup>	.3	.0	.0	.0	.1
11	Administrative rate	.2	.3	.0	.0	.3
12	Group life rate	.4	.3	.1	.2	.2
13	Sick leave rate	.1	.0	.0	.0	.1
14	Total billing rate 10 + 11 + 12 + 13	1.0%	0.6%	0.1	0.2%	0.7%

<sup>a</sup> Almost all of this is Liabilities Payable, benefits due but not yet paid.

<sup>b</sup> Included Deficiency and Late Start Contributions, and for 1997 – 1999, the Supplemental Contributions, which were to provide for ad-hoc cost-of-living increases.

<sup>c</sup> If the calculated normal rate is less than zero, the billing normal rate is set equal to zero.

## B. New York State and Local Police and Fire Retirement System

The table below shows the development of billing rates for each of the five years of the examination period. The first portion, through line 7, shows values for the entire System. The remaining part of the table, beginning with line 8, shows values for the Tier 2 384-e plan mentioned above.

### Calculation of Employer Contributions (\$000,000 omitted)

	Valuation date March 31,				
	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Present Value of Benefits					
Actives	7,931	8,707	9,651	10,642	10,822
Retirees	4843	5,129	5,335	6,622	7,195
Terminated vested	20	23	24	29	33
Miscellaneous <sup>a</sup>	25	23	20	27	43
1 Total PVB	12,820	13,882	15,029	17,319	18,093
2 Actuarial value of assets	11,715	13,965	14,912	17,124	18,409
3 PV scheduled contribs <sup>b</sup>	485	521	522	267	272
4 PV normal contribution 1 - 2 - 3	620	( 604)	- 405	(72)	(587)
5 PV future indexed compensation	30,577	33,622	36,421	36,623	46,496
6 Basic normal rate 4 ÷ 5	1.98%	-1.75%	-1.09%	-.19%	-1.23%
Values below are for the Tier 2 384-e plan					
7 Index	1.7076	1.8064	1.8154	1.8167	2.0148
8 Calculated normal rate 6 × 7	3.38%	-3.17%	-1.97%	-.35	-2.49
Billing:					
9 Normal rate <sup>c</sup>	3.4	.0	.0	.0	.0
10 Late start rate	2.6	2.5	2.5	2.4	2.2
11 Supplemental rate	.5	.0	.0		
12 Group life rate	.0	.1	.1	.0	.1
13 Administrative rate	.3	.3	.0	.0	.0
14 Total billing rate 9 + 10 + 11 + 12 + 13	6.8%	2.9%	2.6	2.4%	2.3%

<sup>a</sup> Almost all of this is Liabilities Payable, benefits due but not yet paid.

<sup>b</sup> Included Late Start Contributions, and for 1997 – 1999, the Supplemental Contributions, which provided for ad-hoc cost-of-living increases.

<sup>c</sup> If the calculated normal rate is less than zero, the billing normal rate is set equal to zero.

## 9. LIABILITIES IN ACTUARIAL VALUATION REPORT AND IN ANNUAL STATEMENT

As mentioned in Section 7 of this report, 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 contributions, as shown in Section 8;
- The amount of “managed overdraft”; this is the portion of liabilities payable for which checks have been sent but not yet cleared; and
- The administrative expense account, for years prior to 2000.

### A. New York State and Local Employees’ Retirement System

The table below shows the reconciliation of the liabilities shown on page 5 of the annual statements with the liabilities used to develop the Employer Rate.

		(\$000,000 omitted)				
		<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
1	Liabilities used for employer rate	68,217	72,572	77,514	93,475	102,064
2	PV future employer contributions	4,735	(3,068)	(3,631)	5	1,043
3	Managed overdraft	62	67	60	64	75
4	Admin exp account	10	(1)	1		
5	Net reserves and all other liabilities on page 5 of AS 1 – 2 – 3 – 4	63,410	75,574	81,084	93,406	100,946

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

The table below shows the reconciliation of the liabilities shown on page 5 of the annual statements with the liabilities used to develop the Employer Rate.

		(\$000,000 omitted)				
		<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
1	Liabilities used for employer rate	12,819	13,882	15,030	17,319	18,093
2	PV future employer contributions	1,104	(83)	118	195	(315)
3	Managed overdraft	7	7	8	8	9
4	Admin exp account	2	1	0		
5	Net reserves and all other liabilities on page 5 of AS 1 - 2 - 3 - 4	11,706	13,957	14,904	17,116	18,399

## 10. ACTUARIAL ASSET VALUATION METHOD

As described earlier in 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 smoothes 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, real estate, alternative investments, and treasury inflation-protected securities (“TIPS”). Bonds and mortgages are valued at amortized value, and short-term investments 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, where the expected gain is determined using a 7% assumed increase in market value. This 7% is consistent with the 8% assumed rate of return for plan assets, since part of the total rate of return consists of dividends, which are assumed to be approximately 1%. The smoothed value is then limited to be no more than 120% nor less than 80% of market value; this mirrors the limitations found in Employee Retirement Income Security Act (“ERISA”), which affects mostly private plans.

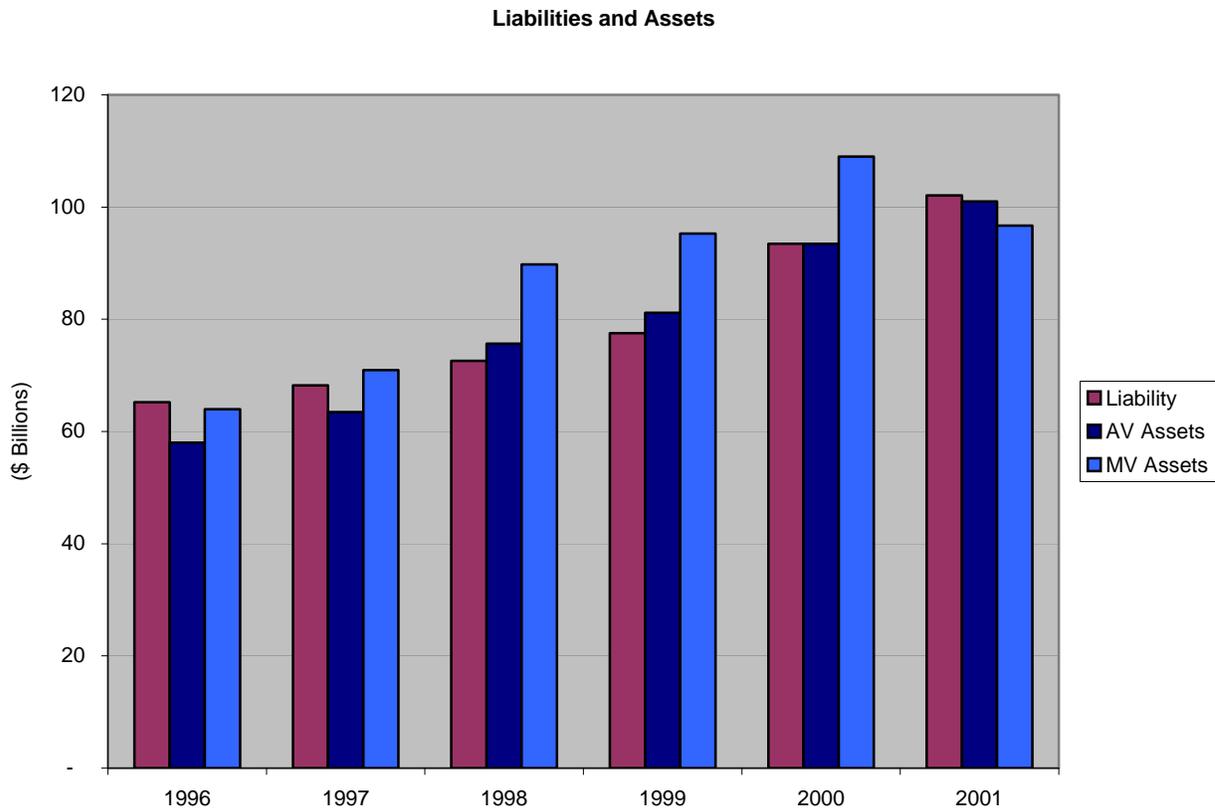
### A. New York State and Local Employees’ Retirement System

With the relatively rapid increase in equities prices in the late 1990’s, the actuarial value of assets lagged behind the market value; in 1998 the actuarial value was 84% of market value. However, with the downturn in equities near the end of the examination period, the actuarial value of assets, being influenced by the trajectory in the preceding four years, ‘overshot’ the market value of assets in 2001, and was 105% of the market value.

The use of the smoothing technique can have a significant effect on plan costs. In the 1998 valuation, the “smoothing adjustment,” or difference between the market value and actuarial value of assets, was over \$11 billion. The total liability with that valuation was \$73 billion and the actuarial value of assets was \$76 billion, so that no contribution was required. However, if in the 1998 valuation, the liability were higher than both the actuarial value and the

market value of assets such that an employer contribution were required, the consequence of using the lower actuarial value of assets instead of market value would have been a higher employer contribution by about 7.9% of payroll, or about \$1,270 million. In other years (such as 2001), when the actuarial value of assets exceeds the market value, the employer contribution calculated using the actuarial value would be less than the contribution based on the market value (based on a hypothetical liability which exceeded both asset values; such a scenario will probably be realized very shortly after 2001).

The following chart illustrates the plan liability, actuarial value of assets and market value of assets for each valuation date from 1996 through 2001.



The chart shows that, beginning in 1997, the market value of assets exceeded the plan liability. However, the actuarial value lags behind the market value, since it is based on the average of previous years' market values. In 2001 the market value declined significantly, and the actuarial value, being influenced by previous years' values, continued a modest increase.

The table below shows the reconciliation between the admitted assets in the statement and the actuarial value of assets for each of the examination years (\$000,000 omitted)

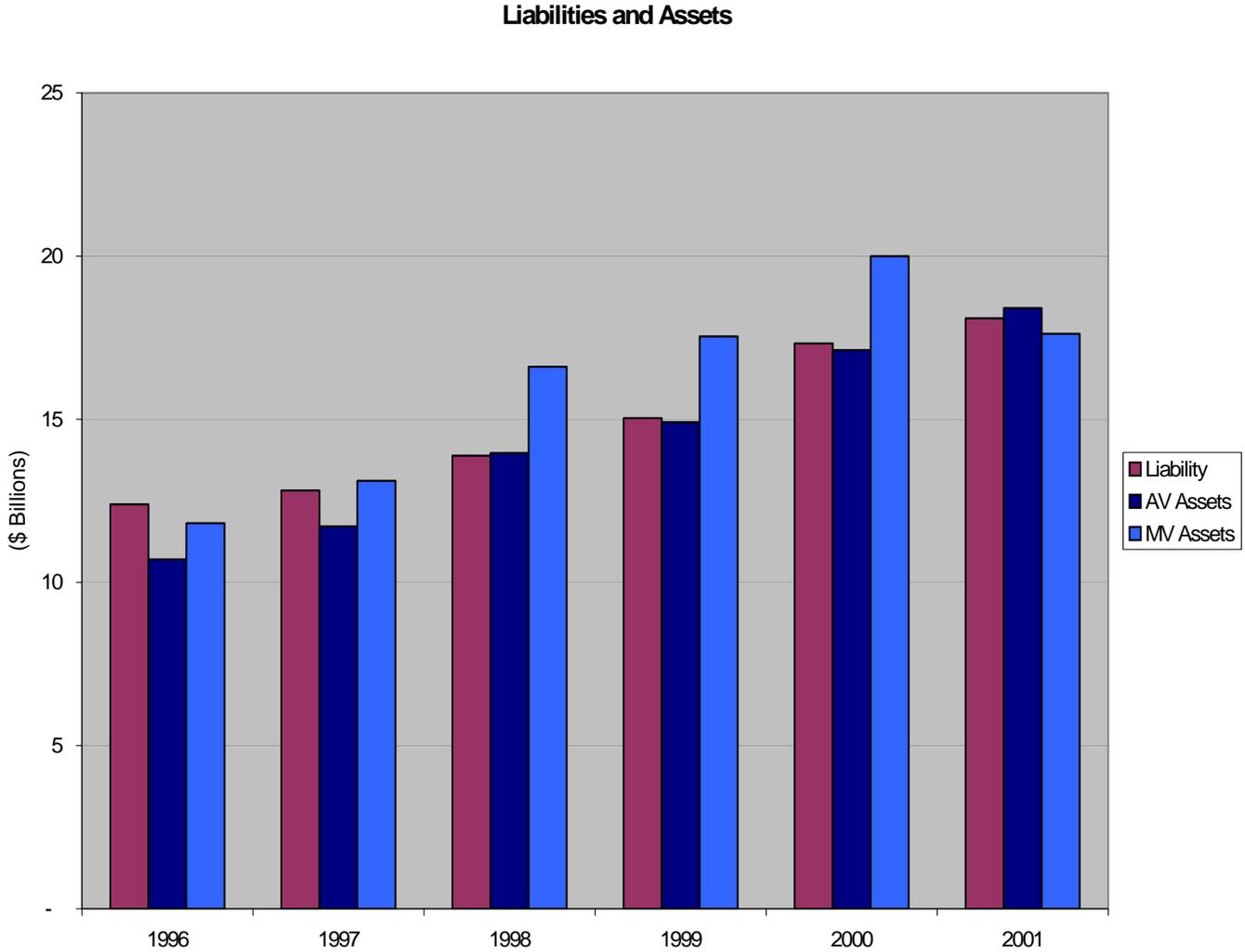
	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
1 Admitted assets	70,879	89,728	95,196	108,940	96,589
2 Managed overdraft	62	67	60	64	75
3 Administrative expense acct	10	(1)	1		
4 Non-member contributions				(32)	(32)
5 Market value less amortized value of bonds and mortgages	(689)	(2,469)	(1,879)	(21)	(1,629)
6 Smoothing adjustment	(6,780)	(11,685)	(12,232)	(15,481)	6,017
7 Assets for valuation purposes 1 + 2 + 3 + 4 + 5 + 6	63,482	75,640	81,146	93,470	101,020

#### B. New York State and Local Police and Fire Retirement System

With the relatively rapid increase in equities prices in the late 1990's, the actuarial value of assets lagged behind the market value; in 1998 the actuarial value was 84% of market value. However, with the downturn in equities near the end of the examination period, the actuarial value of assets, being influenced by the trajectory in the preceding four years, 'overshot' the market value of assets in 2001, and was 104% of the market value.

The use of the smoothing technique can have a significant effect on plan costs. In the 1998 valuation, the "smoothing adjustment," or difference between the market value and actuarial value of assets, was over \$2 billion. The total liability with that valuation was \$13.9 billion and the actuarial value of assets was \$14.0 billion, so that no contribution was required. However, if, in the 1998 valuation, the liability were higher than both the actuarial value and the market value of assets such that an employer contribution were required, the consequence of using the lower actuarial value of assets instead of market value would have been a higher employer contribution by about 6.3% of payroll, or about \$208 million. In other years (such as 2001), when the actuarial value of assets exceeds the market value, the employer contribution calculated using the actuarial value would be less than the contribution based on the market value (based on a hypothetical liability which exceeded both asset values; such a scenario will probably be realized very shortly after 2001).

The following chart illustrates the plan liability, actuarial value of assets and market value of assets for each valuation date from 1996 through 2001.



The chart shows that, beginning in 1997, the market value of assets exceeded the plan liability. However, the actuarial value lags behind the market value, since it is based on the average of previous years' market values. In 2001 the market value declined significantly, and the actuarial value, being influenced by previous years' values, continued a modest increase.

The table below shows the reconciliation between the admitted assets in the statement and the actuarial value of assets for each of the examination years (\$000,000 omitted)

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
1 Admitted assets	13,107	16,602	17,535	19,991	17,612
2 Managed overdraft	6	6	8	8	9
3 Administrative expense acct	2	1	0		
4 Non-member contributions				(0)	(0)
5 Market value less amortized value of bonds and mortgages	(129)	(461)	(350)	(4)	(299)
6 Smoothing adjustment	(1,271)	(2,183)	(2,281)	(2,871)	1,087
7 Assets for valuation purposes 1 + 2 + 3 + 4 + 5 + 6	11,715	13,965	14,912	17,124	18,409

### C. Recommendation

Due to the significant effect the smoothing technique can have on plan costs, it is recommended that the Systems review the actuarial asset smoothing technique, including the 80%-to-120% corridor mentioned at the beginning of this section.

## 11. FUNDING RATIOS

Attachment B of the Systems' annual statements to the Department provide, as a measure of funding adequacy, the ratio of assets available for active members to the liability attributed to those members.

A common method of determining the liability attributable to active members would be to use the Pension Benefit Obligation ("PBO"). The PBO is the present value of pension benefits resulting from employee service up to the statement date, based on salaries projected to the date of retirement. (PBO thus is different from the annual statement's "Present Value of Benefits for Members now in Active Service," which involves members' total anticipated service as of the date of retirement.) The PBO includes vested benefits for terminated members.

Statement No. 27 of the Government Accounting Standards Board (GASB 27) states that the actuarial cost method used for funding should be used to determine the PBO. However, as mentioned in Section 8, the Systems use the Aggregate Cost Method to develop costs. One of the characteristics of this method is that it does not develop a PBO. Therefore, in the course of normal funding calculations, the Systems do not develop this measure of funded status.

Another measure of funded status, one that is available regardless of cost method, is a comparison between plan assets and total plan liability, or present value of future benefits. Two such comparisons are shown below for each System: one using market value of plan assets, the other using actuarial value of assets. This type of measure may be considered more conservative than the method using PBO because the liability value used in this measure is greater than the liability used in the PBO method. The total plan liability used in this measure is based on not only service to date, which is basis of the PBO method, but also includes future projected service for all current participants.

A. New York State and Local Employees' Retirement System

		(\$000,000 omitted)				
		<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
1	Total plan liabilities	68,217	72,572	77,514	93,475	102,064
2	Market value of assets	70,951	89,794	95,257	109,004	96,664
3	Actuarial value of assets	63,482	75,640	81,146	93,470	101,020
4	Market funded ratio					
	2 ÷ 1	104%	124%	123%	117%	95%
5	Actuarial funded ratio					
	3 ÷ 1	93%	104%	105%	100%	99%

The first three rows of this table are represented in the [chart](#) in Section 10A of this report.

As both sets of funded ratios indicate, the funded status of the plan reached a healthy peak in the late 1990's, and was declining at the end of the examination period. As a consequence, employer contribution rates, which had been reduced to very low levels in the late 1990's, will begin to increase in years after the examination period.

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

		(\$000,000 omitted)				
		<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
1	Total plan liabilities	12,820	13,882	15,030	17,319	18,093
2	Market value of assets	13,116	16,609	17,543	19,999	17,621
3	Actuarial value of assets	11,715	13,965	14,912	17,124	18,409
4	Market funded ratio					
	2 ÷ 1	102%	120%	117%	115%	97%
5	Actuarial funded ratio					
	3 ÷ 1	91%	101%	99%	99%	102%

The first three rows of this table are represented in the [chart](#) in Section 10B of this report.

Based on the market value of assets, the funded status of the plan reached a healthy peak in the late 1990's, and was declining at the end of the examination period. However, the

actuarial asset valuation method smoothes the peaks and valleys of the market values. As a consequence, the funded ratio based on the actuarial value of assets was relatively level during most of the examination period. But since the actuarial value follows the market value, as the market value decreases, the actuarial value will also decrease.

## 12. GAIN AND LOSS

As described in [section 8](#) of this report, 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 three sources of gain/loss: investment return, salary increases and new entrants. These three 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 five years of this examination period have seen employer contribution rates declining to less than 1% because the investment performance has significantly exceeded the assumed 8% return over several years. However, the investment performance has declined significantly in the last two years of the examination period, to reach a negative rate of return in the last year. As a consequence, increased employer contributions will be required in the future.

This should not be surprising. Since the inception of the System in 1921, the average total employer contribution rate has been over 11%, and reached a high of over 23% in the early eighties. The rate dropped to below 5% for the first time in the mid-nineties.

In addition, the normal contribution rate for new entrants is about 12%; i.e., the cost for new entrants, if all actuarial assumptions are exactly realized, would be about 12% of pay. This is the level toward which the employer contribution rate will tend to move, if future plan experience does not differ significantly from the actuarial assumptions.

#### A. New York State and Local Employees' Retirement System

	<u>Gain/Loss by Source for each year</u>					
	<u>Change in Employer Contribution (\$000,000 omitted)</u>					
	<u>1996</u>	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Prior year employer cont.	793	559	270	217	149	166
Gain/Loss due to:						
Investments	-208	-258	-98*	-55*	**	-57
Salary increase	-115	-117	-103	-46	**	0
New entrants	+45	+61	+136	+101	**	+184
Other	+9	+27	+12	-67	18	-66
Current year employer cont.	524	272	217	150	167	227

\* Since the employer contribution rate was zero, the amount shown here is only the amount necessary to reduce the rate to zero.

\*\* Not determined, since employer contribution rate was zero.

The prior and current year employer contributions are shown to provide some perspective on the magnitude of the gains and losses shown. The current year employer contribution shown here is before application of various credits, so it may not exactly match the next year's prior year employer contribution.

The table above indicates, for example, that during the year ending March 31, 1997, the investment earnings exceeded the assumed 8% in an amount that reduced the employer contribution by \$258 million, and the salaries for continuing employees increased less than what had been assumed, so that the employer contribution was reduced by \$117 million.

Actuarial valuations are typically done on a 'closed group' basis; no new entrants are assumed. As a consequence, any new employees will generate an actuarial loss, since the

liability associated with those employees was not anticipated in the actuarial calculations. For the year ending March 31, 1997, the new entrants generated \$61 million in liabilities.

As discussed in more detail in Section 13, some fluctuation in gain/loss by source is to be expected. However, a consistent pattern of gains or losses suggests that the actuarial assumption should be modified. Section 13 describes the process by which that is accomplished by the System.

#### B. New York State and Local Police and Fire Retirement System

##### Gain/Loss by Source for each year

	Change in Employer Contribution (\$000,000)					
	1996	1997	1998	1999	2000	2001
Prior year employer cont.	217	169	129	48	39	34
Gain/Loss due to:						
Investments	-28	-44	-94*	-37*	**	**
Salary increase	-13	-19	0	+22	**	**
New entrants	+8	+8	+17	+15	**	**
Other	-10	14	-7	-6	-2	+1
Current year employer cont.	174	128	45	42	37	35

\* Since the employer contribution rate was zero, the amount shown here is only the amount necessary to reduce the rate to zero.

\*\* Not determined, since employer contribution rate was zero.

The prior and current year employer contributions are shown to provide some perspective on the magnitude of the gains and losses shown. The current year employer contribution shown here is before application of various credits, so it may not exactly match the next year's prior year employer contribution.

The table above indicates that, for example, during the year ending March 31, 1997, the investment earnings exceeded the assumed 8% in an amount that reduced the employer contribution by \$44 million, and the salaries for continuing employees increased less than what had been assumed, so that the employer contribution was reduced by \$19 million.

Actuarial valuations are typically done on a 'closed group' basis; no new entrants are assumed. As a consequence, any new employees will generate an actuarial loss, since the liability associated with those employees was not anticipated in the actuarial calculations. For the year ending March 31, 1997, the new entrants generated \$8 million in liabilities.

As discussed in more detail in Section 13, some fluctuation in gain/loss by source is to be expected. However, a consistent pattern of gains or losses suggests that the actuarial assumption should be modified. Section 13 describes the process by which that is accomplished by the System.

### 13. 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 valuations of April 1, 1997, 1998, 1999 and 2000 were initially effective April 1, 1996 (“1996 assumptions”). Based on results of experience studies covering the period April 1, 1995 through March 31, 2000, new actuarial assumptions were adopted effective with the April 1, 2001 valuation (“2001 assumptions”).

#### A. New York State and Local Employees’ Retirement System

The mortality assumptions consist of sets of rates for each of four classes of members of ERS. 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 three sets of rates: (1) less than 5 years of service, (2) from 5 to less than 10 years of service, and (3) 10 or more years of service. The rates for each set vary by age.

The retirement assumptions consist of three sets of rates: (1) Tier 1, Age 55 Plan, (2) Tier 2, 3 and 4, Age 55 Plan and (3) New York State Correction Officers, 25 Year Plan. Each set contains rates that vary by age.

The salary scale contains rates that vary by age.

The interest assumption was 8% in both the 1996 assumptions and the 2001 assumptions.

The experience study that was performed each year compared the actual experience with that predicted by the assumption, for each of the demographic assumptions. This comparison was shown in the form of ratios of number of actual to number of expected events, or decrements (e.g., number of withdrawals).

The experience study performed as of March 31, 2000 showed ratios of actual to expected decrements for both the 1996 assumptions and the 2001 assumptions. That is, the *actual* number of decrements is based on experience from April 1, 1995 through March 31, 2000 for both ratios presented. For the first ratio, the *expected* number of decrements is based on the 1996 assumptions, and for the second ratio, the *expected* number of decrements is based on the 2001 assumptions.

The experience study performed as of March 31, 2001 showed ratios of actual to expected (A/E Ratios) based on actual experience from April 1, 2000 to March 31, 2001 and expected experience based on the 2001 assumptions.

The table below shows the two A/E Ratios described above from the 2000 experience study and the A/E Ratio from the 2001 study for most of the demographic assumptions used by the System.

Assumption	Actual to Expected Ratios		
	1995 – 2000 Experience		2000 – 2001 Experience
	1996 Assumptions	2001 Assumptions	2001 Assumptions
Ordinary death	.820	.999	.931
Accidental death	.587	.714	.000
Ordinary disability	.827	1.014	.886
Accidental disability	.357	.949	.562
Withdrawal: <5 years service	<sup>a</sup>	.999	.972
Withdrawal: 5 to <10 years	<sup>a</sup>	.997	1.065
Withdrawal: 10+ years	1.112	1.001	.920
Retirement: Tier 1	1.614	1.000	.924
Retirement: Tier 2, 3, 4	.758	.962	.886
Retirement: State Corr. Officers	.950	.950	.838
Service pensioner mortality	1.118	1.257 <sup>b</sup>	1.177 <sup>b</sup>

<sup>a</sup> not determined

<sup>b</sup> Pensioner mortality tables were created with a loading factor to anticipate future decreases in mortality due to advances in medicine. The loading factor is such that, if mortality rates did not decrease, the A/E ratio would be 1.25.

The experience study based on 1995 – 2000 experience shows that, for active employees, the ratio of actual to expected mortality, using the 1996 assumptions, was, for all ages combined, .820. This ratio, being less than one, indicates that the active employee mortality assumptions being used in the valuations for 1996 through 2000 predicted more deaths than had actually occurred during the five years. With the new assumptions that were effective April 1, 2001, the rates of mortality were decreased, so that the ratio of actual deaths to the number predicted by the assumptions was .999. The third column in the table above shows that the ratio of the actual deaths that occurred in the one year ending March 31, 2001 to the number of deaths expected according to the 2001 assumptions was .931. Since the period over which the experience is measured in the third column is only one year, the results shown are not as credible as the ratios in the first two columns, which are based on a five-year experience period.

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

aggregate, the salary scale generates an expected one-year increase in salary for the entire population of 5.8%. Of that increase, 3.0% is assumed to be due to inflation [as measured by the Consumer Price Index (“CPI”)], and the remaining 2.8% is due to productivity and merit.

The table below shows the actual salary increase percentages experienced by full-time members of ERS for each year and the average for all years of the experience study period, compared to the CPI.

<u>Year ending March 31</u>	<u>Salary increase</u>	<u>CPI</u>
1997	3.5%	2.8%
1998	4.5	1.4
1999	6.0	1.7
2000	3.8	3.7
Average	4.4	2.4

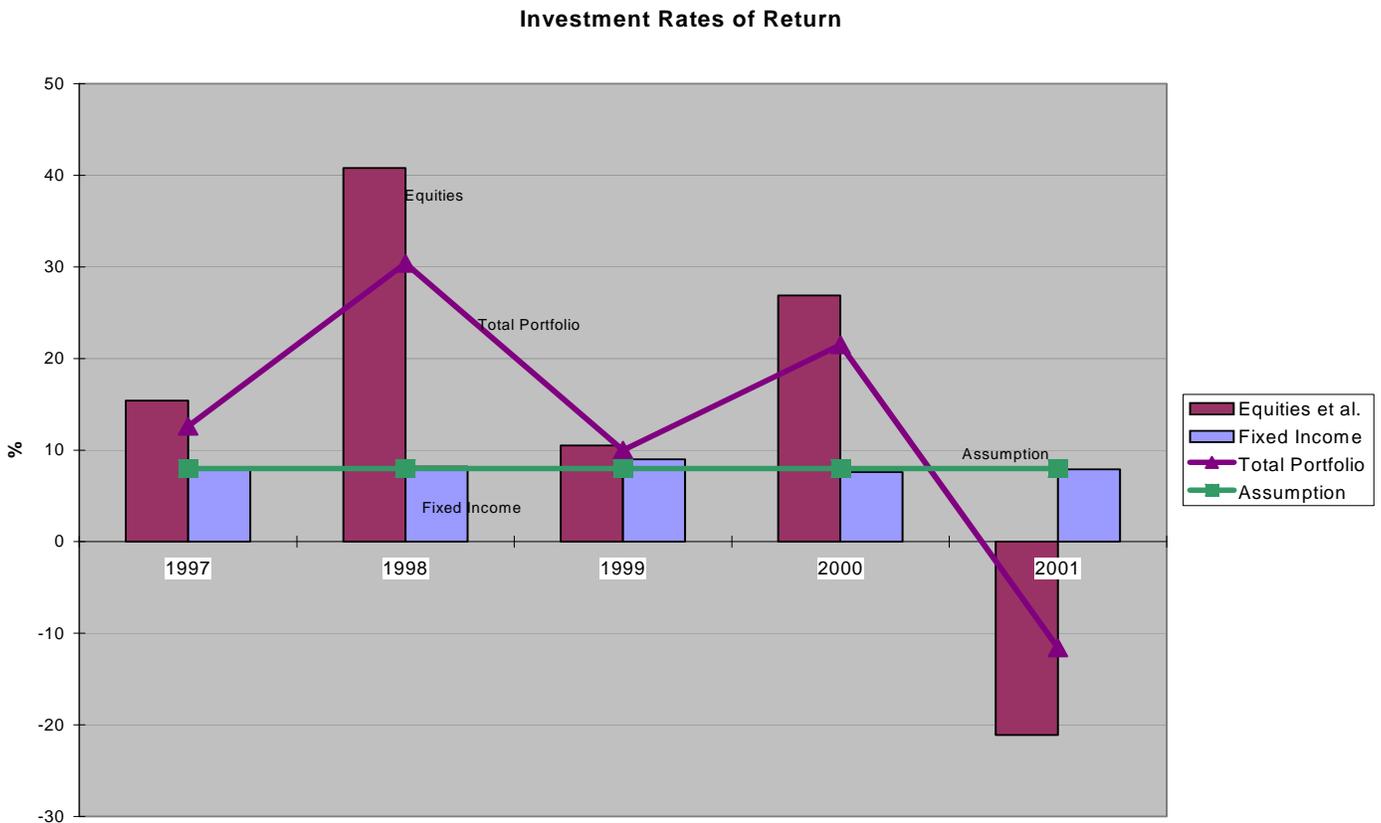
The salary scale assumption described above was based on the experience shown here, and modified so that the expected one-year increase in salary was 5.8%.

To review the interest assumption, ERS considered 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). ERS determined that, for each of the categories, the rates of return were expected to continue to decline from rates observed at the conclusion of the experience study. Actual rates of return for the total portfolio had been in excess of the assumed 8% rate during the experience study. ERS decided to keep the interest assumption at 8% for the 2001 and subsequent valuations.

The table below shows the rates of return on the two major investment categories and on the total portfolio for the examination period.

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Assumption	8.0	8.0	8.0	8.0	8.0
Equities et al.	15.4	40.8	10.5	26.9	-21.1
Fixed income	8.0	8.2	9.0	7.6	7.9
Total portfolio	12.6	30.4	10.0	21.5	-11.6

The graph below illustrates the above numbers.



The vertical bars represent the two major components of the total portfolio: equities and fixed income securities. The lines show the actual return of the total portfolio and the assumed return of the total portfolio; the purple line (Total Portfolio) represents the weighted average of the two vertical bars, and the green line, Assumption, is the actuarial ‘guess’ as to what the Total Portfolio return will be.

This graph illustrates the volatility of the actual rate of return over a (probably atypical) five-year period; the total portfolio rate has ranged from a high of over 30% to a low of -11.6%. However, the benefits provided by this plan to the current participants are payable over a long range in the future, from now to a few decades from now. Therefore, while on a long-term basis the interest rate assumption should not deviate substantially from the average rate of return, on a short term basis significant deviations can be tolerated.

#### B. New York State and Local Police and Fire Retirement System

The mortality assumptions consist of sets of rates for each of four classes of members of PFRS. 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. 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 three sets of rates: (1) less than 5 years of service, (2) from 5 to less than 10 years of service, and (3) 10 or more years of service. The rates for each set vary by age.

The retirement assumptions consist of six sets of rates: (1) Tier 1, Age 55 Plan, (2) Tier 2, Age 55 Plan, (3) 25 Year Plan, (4) – (6) three different 20 Year Plans. Each set contains rates that vary by age.

The salary scale contains rates that vary by age.

The interest assumption was 8% in both the 1996 assumptions and the 2001 assumptions.

The experience study that was performed each year compared the actual experience with that predicted by the assumption, for each of the demographic assumptions. This comparison was shown in the form of ratios of number of actual to number of expected events, or decrements (e.g., number of withdrawals).

The experience study performed as of March 31, 2000 showed ratios of actual to expected decrements for both the 1996 assumptions and the 2001 assumptions. That is, the *actual* number of decrements is based on experience from April 1, 1995 through March 31, 2000 for both ratios presented. For the first ratio, the *expected* number of decrements is based on the

1996 assumptions, and for the second ratio, the *expected* number of decrements is based on the 2001 assumptions.

The experience study performed as of March 31, 2001 showed ratios of actual to expected (A/E Ratios) for experience from April 1, 2000 to March 31, 2001 and the 2001 assumptions.

The table below shows the two A/E Ratios describe above from the 2000 experience study and the A/E Ratio from the 2001 study for most of the demographic assumptions used by the Police and Fire System.

Assumption	Actual to Expected Ratios		
	1995 – 2000 Experience		2000 – 2001 Experience
	1996 Assumptions	2001 Assumptions	2001 Assumptions
Ordinary death	.918	.998	.844
Accidental death	.597	1.173	.820
Ordinary disability	.803	.985	.620
Accidental disability	.350	.986	.994
Withdrawal: <5 years service	<sup>a</sup>	.992	1.010
Withdrawal: 5 to <10 years	<sup>a</sup>	.979	1.016
Withdrawal: 10+ years	1.206	.991	.841
Retirement: 20 year half pay	.788	.999	1.050
Retirement: 20 year add'l pay	.765	1.000	1.533
Service pensioner mortality	1.013	1.250 <sup>b</sup>	1.095 <sup>b</sup>

<sup>a</sup> not determined

<sup>b</sup> Pensioner mortality tables were created with a loading factor to anticipate future decreases in mortality due to advances in medicine. The loading factor is such that, if mortality rates did not decrease, the A/E ratio would be 1.25.

The experience study based on 1995 – 2000 experience shows that, for active employees, the ratio of actual to expected mortality, using the 1996 assumptions, was, for all ages combined, .918. This ratio, being less than one, indicates that the active employee mortality assumptions being used in the valuations for 1996 through 2000 predicted more deaths than had actually occurred during the five years. With the new assumptions that were effective April 1, 2001, the rates of mortality were decreased, so that the ratio of actual deaths to the number predicted by the assumptions was .998. The third column in the table above shows that the ratio of the actual deaths that occurred in the one year ending March 31, 2001 to the number of deaths expected according to the 2001 assumptions was .844. Since the period over which the experience is

measured in the third column is only one year, the results shown are not as credible as the ratios in the first two columns, which are based on a five-year experience period.

The salary increase assumption, or salary scale, consists of a set of rates that vary by age. Each rate shows the expected ratio of salary one year in the future to the current salary. In the aggregate, the salary scale in the 1996 assumptions generated an expected one-year increase in salary for the entire population of 6.7%; that was changed with the 2001 assumptions so that the expected one-year increase would be 7.0%. Each of those increase percentages is made up of two components: a inflation component [as measured by the Consumer Price Index (“CPI”)] of 3.0% for each set of assumptions, and a productivity and merit component of 3.7% for the 1996 assumptions, increased to 4.0% for the 2001 assumptions.

The table below shows the actual salary increase percentages experienced by full-time members of PFRS for each year and the average for all years of the experience study period, compared to the CPI.

<u>Year Ending March 31</u>	<u>Salary Increase</u>	<u>CPI</u>
1997	4.7%	2.8%
1998	8.5	1.4
1999	8.8	1.7
2000	4.4	3.7
Average	6.6	2.4

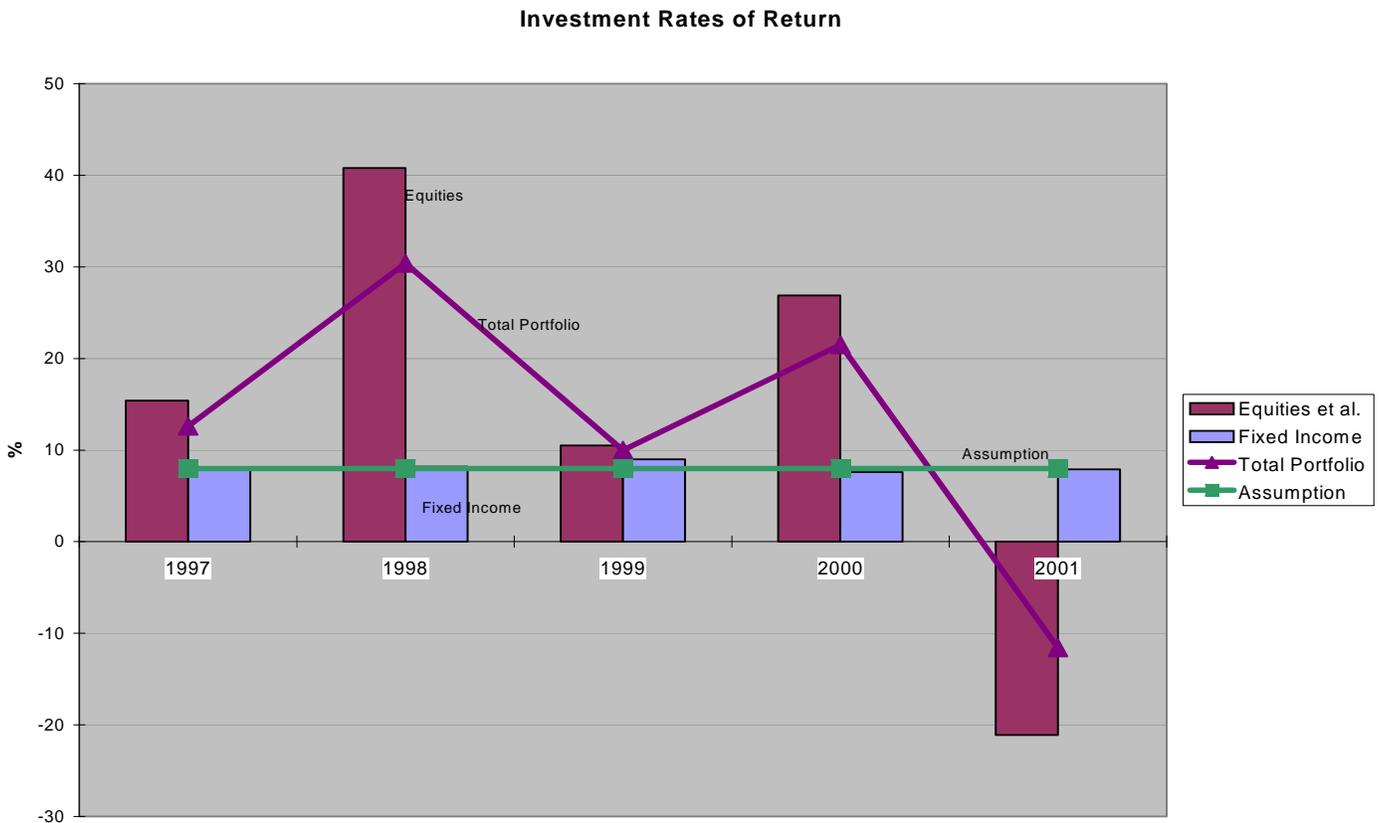
The salary scale assumption described above was based on the experience shown here, and modified so that the expected one-year increase in salary was 7.0%.

To review the interest assumption, PFRS considered 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). PFRS determined that, for each of the categories, the rates of return were expected to continue to decline from rates observed at the conclusion of the experience study. Actual rates of return for the total portfolio had been in excess of the assumed 8% rate during the experience study. PFRS decided to keep the interest assumption at 8% for the 2001 and subsequent valuations.

The table below shows the rates of return on the two major investment categories and on the total portfolio for the examination period.

	<u>1997</u>	<u>1998</u>	<u>1999</u>	<u>2000</u>	<u>2001</u>
Assumption	8.0	8.0	8.0	8.0	8.0
Equities et al.	15.4	40.8	10.5	26.9	-21.1
Fixed Income	8.0	8.2	9.0	7.6	7.9
Total Portfolio	12.6	30.4	10.0	21.5	-11.6

The following graph illustrates the above numbers.



The vertical bars represent the two major components of the total portfolio: equities and fixed income securities. The lines show the actual return of the total portfolio and the assumed return of the total portfolio; the purple line (Total Portfolio) represents the weighted average of the two vertical bars, and the green line, Assumption, is the actuarial 'guess' as to what the Total Portfolio return will be.

This graph illustrates the volatility of the actual rate of return over a (probably atypical) five-year period; the total portfolio rate has decreased from over 30% to -11.6%. However, the benefits provided by this plan to the current participants are payable over a long range in the future, from now to a few decades from now. Therefore, while on a long-term basis the interest rate assumption should not deviate substantially from the average rate of return, on a short term basis significant deviations can be tolerated.

#### 14. 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.

Based on the sample reviewed, no significant findings were noted.

## 15. PRIOR REPORT SUMMARY AND CONCLUSIONS

Following are the violation and recommendation contained in the prior report on examination and the subsequent actions taken by the Systems in response to each citation:

<u>Item</u>	<u>Description</u>
A	<p>The Systems violated Section 136.6 of Department Regulation No. 85 for failing to report contributions which are more than three months overdue to the Superintendent.</p> <p>The Systems reported contributions, which are more than three months overdue to the Superintendent in each of its annual statements filed subsequent to the previous report on examination.</p>
B	<p>The examiner again recommends that the Systems account for service credit for unused sick leave in the same manner as they would for normal service credit.</p> <p>The review of a sample of retirees receiving service credit for unused sick leave did not reveal instances whereby unused sick leave was applied differently than normal service credit.</p>

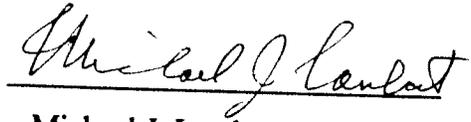
## 16. SUMMARY AND CONCLUSIONS

Following are the violation, recommendations and comments contained in this report:

<u>Item</u>	<u>Description</u>	<u>Page No(s).</u>
A	The examiner recommends that, for billing purposes, the employer contribution rates be rounded to one more digit of precision; i.e., to the nearest one hundredth of one percent (.01%).	51
B	Due to the significant effect the smoothing technique can have on plan costs, it is recommended that the Systems review the actuarial asset smoothing technique, including the 80%-to-120% corridor mentioned at the beginning of this section.	60
C	The five years of this examination period have seen employer contribution rates declining to less than 1% because the investment performance has significantly exceeded the assumed 8% return over several years. However, the investment performance has declined significantly in the last two years of the examination period, to reach a negative rate of return in the last year. As a consequence, increased employer contributions will be required in the future.	64



Respectfully submitted,

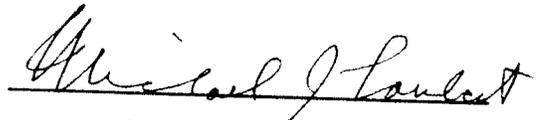


Michael J. Lambert

Principal Actuary

State of New York ) SS  
County of New York

MICHAEL J. LAMBERT, being duly sworn, deposes and says that the foregoing actuarial report, subscribed by him, is true to the best of his knowledge and belief.



Michael J. Lambert

Subscribed and sworn to before me  
this 23rd day of JANUARY, 2003.



DANIEL J. GUMAER  
Notary Public, State of New York  
No. 016058535  
Qualified in Suffolk County  
Commission Expires 05/04/03

APPOINTMENT NO. 21875

**STATE OF NEW YORK**  
**INSURANCE DEPARTMENT**

I, GREGORY V. SERIO, Superintendent of Insurance of the State of New York, pursuant to the provisions of the Insurance Law, do hereby appoint:

**MARC TSE**

*as a proper person to examine into 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 the said*

**SYSTEM**

*with such other information as he shall deem requisite.*

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

*this 30th day of May, 2002*

**GREGORY V. SERIO**  
Superintendent of Insurance

*Greg V. Serio*  
Superintendent

