# Comprehensive Annual Financial Report of the Qualified Pension Plan and the Tax Deferred Annuity Program

For the Years Ended June 30, 2015 and June 30, 2014





# **Board of Education Retirement System of the City of New York**

A Fiduciary Fund of the City of New York



A FIDUCIARY FUND OF THE CITY OF NEW YORK

# COMPREHENSIVE ANNUAL FINANCIAL REPORT OF THE QUALIFIED PENSION PLAN AND THE TAX DEFERRED ANNUITY PROGRAM

FOR THE YEARS ENDED JUNE 30, 2015 AND JUNE 30, 2014

Prepared by Harvey A. Gordon, Executive Director, Acting Patrick Hederman, Director of Fiscal Operations

STATE OF NEW YORK

This page is intentionally left blank

## NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY

# **TABLE OF CONTENTS**

INTRODUCTORY   Section I	Page   1
Letter of Transmittal	3
Board of Trustees	8
Organization Chart	9
Consulting and Professional Services	10
Certificate of Achievement for Excellence in Financial Reporting	11
FINANCIAL   Section II	Page   1
Independent Auditors' Report	3
Management's Discussion and Analysis (Unaudited)	5
Combined Financial Statements	
<ul> <li>Combining Statement of Fiduciary Net Position</li> </ul>	11
<ul> <li>Combining Statement of Changes in Fiduciary Net Position</li> </ul>	13
<ul> <li>Notes to the Combined Financial Statements</li> </ul>	15
Required Supplementary Information (Unaudited)	
<ul> <li>Schedule 1- Changes in Employers' Net Pension Liability &amp; Related R</li> </ul>	atios 42
Schedule 2- Employers' Contributions	43
Schedule 3- Investment Returns	46
Additional Supplementary Information	
Schedule of Investment Expenses	47
<ul> <li>Schedule of Direct Payments to Consultants</li> </ul>	50
Schedule of Administrative Expenses	51
INVESTMENT   Section III	Page   1
Report on Investment Activity	3
Assets Allocation Fixed	6
Investment Summary Fixed and Variable	8
Schedule of Investment Return Fixed	9
<ul> <li>Largest Equity Holdings Fixed</li> </ul>	10
<ul> <li>Largest Bonds Holdings Fixed</li> </ul>	11
<ul> <li>Largest International Equity Holdings Fixed</li> </ul>	12
<ul> <li>Largest Europe Australasia Far East ("EAFE") Holdings Fixed</li> </ul>	13
<ul> <li>Largest Emerging Market ("EM") Holdings Fixed</li> </ul>	14
<ul> <li>Largest Economically Targeted Investments Fixed</li> </ul>	15
Largest Treasury Inflation Protected Securities ("TIPS") Holdings Fixed	16
Largest Domestic Equity Holdings "Variable A" Program	17
Schedule of Payments of Commissions to Brokers	18

ACTUARIAL   Section IV	Page   1
Actuary's Certification Letter	3
Summary of Actuarial Assumptions and Methods	8
Schedule of Active Member Valuation Data	19
<ul> <li>Funded Status based on Entry Age Actuarial Cost Method</li> </ul>	20
<ul> <li>Comparative Summary of Actuarial Values and Percentages covered by Actuarial Value of Assets (Solvency Test)</li> </ul>	21
Schedule of Retirants and Beneficiaries	23
Schedule of Statutory vs. Acturarial Contributions	24
Summary of Plan Provisions	25

### **STATISTICAL** | Section V Page | 1 • Introduction • Schedule of Revenue by Source • Schedule of Expense by Type • Schedule of Refund by Type • Schedule of Changes in Net Position • Schedule of Benefit Expenses by Type • Schedule of Retired Members by Type of Benefits • Schedule of Summary of Actives of Age and Service • Schedule of Annual Average Benefit Payments Amounts • Schedule of Participating Employers

3

4

6

8

10

14

15

18

21

22



A FIDUCIARY FUND OF THE CITY OF NEW YORK

# COMPREHENSIVE ANNUAL FINANCIAL REPORT OF THE QUALIFIED PENSION PLAN AND THE TAX DEFERRED ANNUITY PROGRAM

# INTRODUCTORY SECTION PART I

FOR THE YEARS ENDED JUNE 30, 2015 AND JUNE 30, 2014

INTRODUCTORY | Section I | 1

This page is intentionally left blank



### BOARD OF EDUCATION RETIREMENT SYSTEM OF THE CITY OF NEW YORK 65 COURT STREET, 16<sup>th</sup> FLOOR BROOKLYN, NEW YORK 11201- 4965

718-935-5400 OUTSIDE NEW YORK STATE 1-800-843-5575

December 23<sup>rd</sup>, 2015

Board of Trustees Board of Education Retirement System City of New York 65 Court Street, 16<sup>th</sup> Floor Brooklyn, NY 11201

Ladies and Gentlemen:

It is with great pleasure that I present the Comprehensive Annual Financial Report (CAFR) of the New York City Board of Education Retirement System (BERS) for the fiscal years ended June 30, 2015 and June 30, 2014. BERS administers the BERS Qualified Pension Plan (the "QPP") and the BERS Tax Deferred Annuity Program (the "TDA Program"). In 2014, as a result of an analysis performed by the City's management, a decision was made to present the financial statements of the New York City Board of Education Retirement System on a combined basis for presentation purposes.

The QPP originated on August 31<sup>st</sup>, 1921 and provides pension benefits to non-pedagogical employees of the Department of Education, certain other specific schools and certain employees of the New York City School Construction Authority. The QPP combines features of a defined benefit pension plan with those of a defined contribution plan and functions in accordance with existing State statutes and City laws.

The TDA Program became operational on February 1<sup>st</sup>, 1970 and is administered pursuant to the Internal Revenue Code Section 403(b) and existing State statutes and City laws. Certain members of the QPP have the option to participate in the TDA Program, which provides a means of deferring income tax payments on their voluntary tax-deferred contributions until the period after retirement or upon withdrawal of contributions. Contributions to the TDA Program are made by the members only. The TDA Program is maintained as a separate plan.

The accuracy of the data, and the completeness and fairness of the presentation, including all disclosures, are the responsibility of BERS. All disclosures necessary to enable the reader to gain an understanding of the system's financial activities have been included. Analysis of the changes that affected BERS fiduciary net position is presented in the Management's Discussion and Analysis section of this report.

### MAJOR LEGAL INITIATIVES - July 1, 2014 through June 30, 2015

### Chapter 427 of 2014 (A06914A) - Retirement Service Credit for Military

This act amends the military law to provide non-contributory retirement service credit for any member of the New York City Retirement Systems who was called to active military duty on or after September 11, 2001 and prior to January 1, 2006 who did not receive his or her full salary from a participating employer and who otherwise would be eligible to receive retirement service credit in the retirement system for such active military service.

### Chapter 319 of 2014 (S07692) - Disclosure of Records

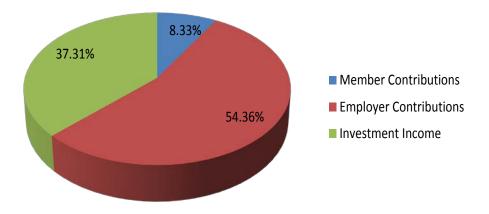
This act amends the public officers' law to allow the disclosure of records or personal information belonging to a "data subject" to any of the New York City Retirement Systems without requiring a written request or consent from the data subject if the information being sought is necessary to process statutory pension benefits.

### FUNDING

The financial objective of the QPP is to fund members' retirement benefits during their active service. The Employer contributes amounts that, together with member contributions and investment income, would ultimately be sufficient to accumulate assets to pay benefits when due. The Office of the Actuary establishes employer contribution rates which, expressed as a percentage of annualized covered payroll, remain approximately level from year to year. An adequate funding level provides assurance and security for payment of future benefits. In fiscal year 2015, BERS sought to maintain a level of funding within the established guidelines of the Government Accounting Standards Board (GASB). The chart below summarizes the contribution funding sources for fiscal year 2015 for the QPP.

### **Funding Sources**

Funds	Percentage	Contribution (in thousands)
Member Contributions	8.33%	\$39,564
Employer Contributions	54.36%	\$258,099
Investment Income	37.31%	\$177,166
Total		\$474,829



Contributions to the TDA program are made on a voluntarily basis by certain members of the QPP. TDA Members who elect to participate in a fixed return fund investment program accounts are credited with the statutory rate of interest, currently 7% for UFT members and 8.25% for all other members. Members can also elect to participate in a variable return fund program.

### **INVESTMENTS**

#### **Investment Summary**

BERS investments within the fixed return fund increased in value for the fiscal year ending June 2015 with a return of 3.4% compared to 3.5% for the Board of Education Policy Benchmark, against which it is measured. Performance was modest and in line with benchmark.

The Fund increased in value and ended the fiscal year at \$4.4 billion (compared to \$4.2 billion for FY2014). Performance versus peers was just slightly behind its median comparably sized peer and ranked at the 51st percentile. Over the longer-term 10-year time period, the Fund remains ahead of benchmark, 7.3% versus 7.1% and ranks favorably versus its peers.

### **Investment Description**

The pension fund is a long-term investment fund structured to provide assets for the payouts needed for the benefits of the participants. The Trustees establish a target asset mix after considering the long-term growth prospects for the diversified group of investments and the cost of the plan participants' benefits. This asset allocation does not change significantly from year to year, and the fund is rebalanced to the target mix as it pays out benefits and receives contributions. The goal of the broad diversification of the fund is to have some portion of the investments in above average performing segments regardless of the overall market conditions. For more detailed information, please refer to our investment section.

The System's assets are invested in two investment programs. These are the fixed return fund, which is managed by BERS, and the variable return fund (consisting primarily of equity securities), which is managed by the Teachers' Retirement System (TRS).

Under the fixed return program, the mix of investment assets purchased with monies from the TDA Program fixed return fund is the same as that purchased with member and employer contributions to the QPP. Members' TDA Program accounts are credited with the statutory rate of interest, currently 7% for UFT members and 8.25% for all other members. TDA Program members and certain Tier 1 and Tier 2 QPP members may transfer their balances between the fixed return fund and the variable return fund on a quarterly basis.

The QPP's assets within the variable return fund are co-invested with those assets of the TDA Program that are earmarked for the variable return fund. These financial statements reflect both the QPP and the TDA Program's investment activity in the fixed return fund; as well as, the variable return fund.

### **Investment Policy**

BERS' investment policy statement, ratified by the Board of Trustees in January 2009 and amended in October 2011 and in January 2013, addresses investment objectives, investment philosophy and strategy, monitoring and evaluating performance, risk management, security lending protocol and rebalancing investment mix. The investment policy is available upon request.

#### **Investment Valuation**

Investments are reported at fair value. Securities purchased pursuant to agreements to resell are carried at the contract price, exclusive of interest, at which the securities will be resold. Fair value is defined as the quoted market value on the last trading day of the period, except for the International Investment Funds (the "IIF") and Alternative Investment Funds (the "ALTINVF"). The IIF are private funds of publicly traded securities which are managed by various investment managers on behalf of BERS. Fair value is determined by BERS management based on information provided by the various investment managers. The investment managers determine fair value using the last available quoted price for each security owned adjusted by any contributions to or withdrawals from the fund during the period. The ALTINVF are investments for which exchange quotations are not readily available and are valued at estimated fair value as determined in good faith by the General Partner (GP). These investments are initially valued at cost with subsequent adjustments that reflect third party transactions, financial operating results and other factors deemed relevant by the GP. Fair value is determined by plan management based on information provided by the various gP's after

review by an independent consultant and the custodian bank for the fund. No investment in any one security represents 5% or more of BERS net position held in trust for benefits.

### ECONOMIC AND MARKET COMMENT

The US economy continued to grow, and the labor market data indicated continued improvement. The Federal Reserve ended its quantitative easing program in October 2014 and dropped the word "patient" from its reports in subsequent meetings. This allowed for a path to more normal interest rates with an increase expected by the end of 2015. GDP was solid with the latest government estimates reporting 2.3% growth during the fiscal year. Inflation remained constrained and grew at 0.1%, well below the Federal Reserve's informal 2.0% target. The job market continued to show continued improvement and added an average 250,000 jobs a month, a significant increase over the prior year's average job creation. The unemployment rate continued to decline, falling from 6.1% to 5.3% over the course of the fiscal year, and edging closer to what is considered full employment. These favorable indicators of economic health have had a proportionate effect on BERS investments.

The U.S. stock market, as measured by the Russell 3000 stock index, returned 7.3%, well below the 25.2% posted for the previous fiscal year. Equities began the fiscal year strong but came under pressure during the second half as renewed concern in Greece and signs of slowing growth in China were feared to present contagion risks to the rest of the global economy. International equity performance dipped into negative territory for the year, as the MSCI EAFE posted a loss of -3.9%. This is not surprising given their more direct vulnerability to fiscal concerns in Europe and the potential for economic instability in Asia. Fixed income returns were positive and benefited from flight-to-quality sentiment that emerged toward the latter half of the fiscal year. The Barclays Aggregate Index, which represents a proxy of investment-grade bonds, returned 1.9% for the fiscal year. The better performing sectors included Treasuries and US agency securities. Credit-sensitive sectors did less well with high yield ending slightly negative.

### **OTHER INFORMATION**

### **Internal Control**

The Executive Director is responsible for establishing and maintaining an internal control structure designed to provide reasonable assurance that the assets of the system are safeguarded and to ensure that adequate accounting data are compiled to allow for the preparation of financial statements in conformity with generally accepted accounting principles. The system's internal control practices are designed to provide reasonable assurance that these objectives are met.

The concept of reasonable assurance recognizes that the cost of a control should not exceed the benefits likely to be derived and that the valuation of costs and benefits requires estimates and judgments by management.

### Accounting and Reporting

This CAFR has been prepared in conformity with principles of governmental accounting and reporting, promulgated by the Governmental Accounting Standards Board (GASB), and according to guidelines adopted and published by the Government Finance Officers Association of the United States and Canada (GFOA).

The QPP as well as the TDA Program use the accrual basis of accounting where the measurement focus is on a flow of economic resources. Revenues are recognized in the accounting period in which they are earned and expenses are recognized in the period incurred. Contributions from members are recognized when respective employers make payroll deductions from the QPP's members and the TDA Program participants. Employer contributions to the QPP are recognized when due, and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of governing the QPP and the TDA Program.

In Fiscal Year 2015, BERS adopted Governmental Accounting Standards Board ("GASB") Statement No. 72, *Fair Value Measurement and Application*. GASB 72 requires the System to use valuation techniques which are appropriate under the circumstances and are either a market approach, a cost approach or income

approach. There was no material impact on the System's financial statements as a result of the implementation of GASB 72.

### **Independent Audit**

The five major retirement systems of the City of New York are required to undergo an annual audit by a firm of certified public accountants, in accordance with generally accepted auditing standards. Deloitte & Touche LLP, whose opinion is presented in the Financial Section of this report, conducted the audit of the financial statements of BERS for the fiscal year ended June 30, 2015. The five New York retirement systems also undergo a five year audit conducted by the New York State Department of Financial Services. During the fiscal year 2015, BERS went through an audit covering fiscal year 2009 thru fiscal year 2014.

### **Professional Services**

Buck Consultants and Britten Network are consultants retained by the Retirement Board to perform professional services that are essential to the effective and efficient operations of the BERS.

BERS is going through the process of installing Enterprise Resource Planning software, Comprehensive Pension Management System (CPMS). It is a multiyear project and the services of Vitech Systems Group Incorporated; GTJZ Consulting; and KPMG LLP have been retained to guide BERS.

The Chief Actuary provides actuarial services for the five major pension systems maintained by the City. His actuarial report and certification are included in this annual report. The New York City Comptroller and the Teachers' Retirement System retain investment managers to assist in the execution of investment policy in accordance with statutory authority, Retirement Board decisions and standard governing fiduciary practices.

### Awards

The GFOA awarded a Certificate of Achievement for Excellence in Financial Reporting to the BERS for its CAFR for the fiscal year ended June 30, 2014. The Certificate of Achievement is a prestigious national award, recognizing conformance with the highest standards for preparation of a state and local government finance reports.

In order to be awarded a Certificate of Achievement, a government unit must publish an easily readable and efficiently organized comprehensive annual financial report, whose contents conform to program standards. The CAFR must satisfy both generally accepted accounting principles and applicable legal requirements.

A Certificate of Achievement is valid for a period of one year only. BERS has received a Certificate of Achievement over the last twenty eight consecutive years. We believe our current report continues to conform to the Certificate of Achievement program requirements and it will be submitted to the GFOA.

### Acknowledgments

The dedicated service of the managers and staff of BERS made the preparation of this CAFR, on a timely basis, possible. In addition, our appreciation is extended to those members of the staffs of the Bureaus of Accountancy and Asset Management of the New York City Comptroller's Office and the Office of the Actuary who worked closely with the BERS personnel in the compilation of this report. We hope that the members of the Retirement Board, officials of the Department of Education of the City of New York, our members and the citizens of the City will find this report informative and helpful.

Respectfully submitted,

Haway A. Sordon

Harvey A. Gordon Executive Director, Acting



FOR THE FISCAL YEAR ENDED JUNE 30, 2015

## **BOARD OF TRUSTEES**

HON, FRED BAPTISTE HON. ISAAC CARMIGNANI HON. T. ELZORA CLEVELAND HON. JOSEPH D'AMICO HON. DEBORAH DILLINGHAM HON. CARMEN FARIÑA HON. NORM FRUCHTER HON. VANESSA LEUNG HON. KAMILLAH PAYNE-HANKS HON. LORI PODVESKER HON. ROBERT POWELL HON. MILAGROS RODRIGUEZ HON. BENJAMIN SHULDINER HON. ROBERTO SOTO-CARRIÓN HON. LAURA ZINGMOND HON. MIGUELINA ZORRILLA-ARISTY

<u>Prepared By:</u> Harvey Gordon, Executive Director Patrick Hederman, Director of Fiscal Operations

> <u>Actuary:</u> Sherry Chan Chief Actuary

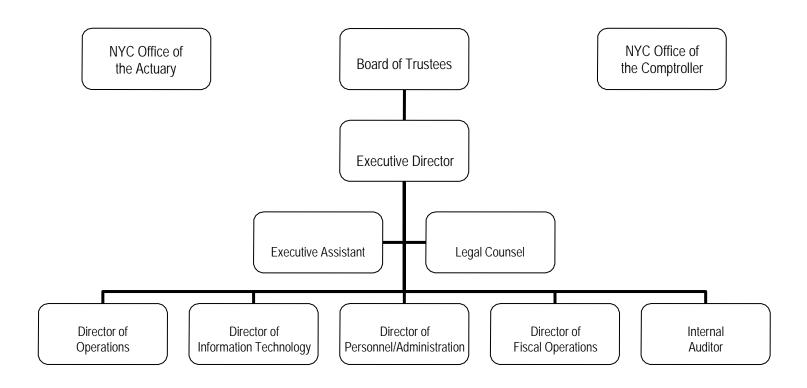
<u>Custodian of the Funds:</u> Scott M. Stringer, Comptroller of the City of New York

<u>Headquarters Address</u>: Board of Education Retirement System City of New York 65 Court Street, 16<sup>th</sup> Floor Brooklyn, New York 11201



# **ORGANIZATIONAL CHART**

FOR THE FISCAL YEAR ENDED JUNE 30, 2015





# **CONSULTING AND PROFESSIONAL SERVICES**

FOR THE FISCAL YEAR ENDED JUNE 30, 2015

### **ACTUARY**

Office of the Actuary 75 Park Place, 9<sup>th</sup> Floor New York, NY 10013-6301

### **AUDITORS**

Deloitte & Touche LLP 30 Rockefeller Plaza New York, NY 10112

### **CUSTODIAN OF FUNDS**

Office of the Comptroller 1 Centre Street New York, NY 10007

### **CONSULTANT**

Britten Network 536 Main Street Royersford, PA 19468

### **INVESTMENT CONSULTANT**

Buck Investment Consultants 485 Lexington Avenue New York, NY 10167

### **CPMS CONSULTANT**

Vitech Systems Group, Inc. 401 Park Avenue South, 12<sup>th</sup> Floor New York, NY 10016

### **CPMS CONSULTANT**

Gary Tunnicliffe & Jack Ziegler, LLC 321 Union Street, #4A Brooklyn, NY 11231

### **CPMS CONSULTANT**

KPMG LLP 345 Park Avenue New York, NY 10154



Government Finance Officers Association

# Certificate of Achievement for Excellence in Financial Reporting

Presented to

**New York City** 

# **Board of Education Retirement System**

# **Qualified Pension Plan, New York**

For its Comprehensive Annual Financial Report for the Fiscal Year Ended

June 30, 2014

Seg Nº

Executive Director/CEO



A FIDUCIARY FUND OF THE CITY OF NEW YORK

# COMPREHENSIVE ANNUAL FINANCIAL REPORT OF THE QUALIFIED PENSION PLAN AND THE TAX DEFERRED ANNUITY PROGRAM

# FINANCIAL SECTION PART II

FOR THE YEARS ENDED JUNE 30, 2015 AND JUNE 30, 2014

FINANCIAL | SECTION II | 1

This page is intentionally left blank



**Deloitte & Touche LLP** 30 Rockefeller Plaza New York, NY 10112-0015 USA Tel: +1 212 492 4000 Fax: +1 212 492 5000 www.deloitte.com

### **INDEPENDENT AUDITORS' REPORT**

To the Board of Trustees of the New York City Board of Education Retirement System:

### **Report on the Combining Financial Statements**

We have audited the accompanying combining financial statements of fiduciary net position of the New York City Board of Education Retirement System Qualified Pension Plan and the New York City Board of Education Retirement System Tax-Deferred Annuity Program, which collectively comprise the New York City Board of Education Retirement System (the "Plans"), a fiduciary fund of the City of New York, as of June 30, 2015 and 2014, and the related combining statements of changes in fiduciary net position for the years then ended, and the related notes to the combining financial statements, which collectively comprise the Plans' basic combining financial statements as listed in the table of contents.

### Management's Responsibility for the Combining Financial Statements

Management is responsible for the preparation and fair presentation of these combining financial statements in accordance with accounting principles generally accepted in the United States of America; this includes the design, implementation, and maintenance of internal control relevant to the preparation and fair presentation of the combining financial statements that are free from material misstatement, whether due to fraud or error.

### Auditors' Responsibility

Our responsibility is to express opinions on these combining financial statements based on our audits. We conducted our audits in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audits to obtain reasonable assurance about whether the combining financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the combining financial statements. The procedures selected depend on the auditor's judgment, including the assessment of the risks of material misstatement of the combining financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the Plans' preparation and fair presentation of the combining financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Plans' internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the combining financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

### Opinions

In our opinion, the combining financial statements referred to above present fairly, in all material respects, the combining fiduciary net position of the Plans as of June 30, 2015 and 2014, and the changes in combining fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America.

### **Other Matters**

### Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis, Schedule 1, Schedule 2, and Schedule 3, as listed in the table of contents, be presented to supplement the basic combining financial statements. Such information, although not a part of the basic combining financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of the financial reporting for placing the basic combining financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic combining financial statements, and other knowledge we obtained during our audit of the basic combining financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

#### Other Supplementary Information

Our audits were conducted for the purpose of forming an opinion on the basic combining financial statements. The Introductory Section, Additional Supplementary Information, Investment Section, Actuarial Section, and Statistical Section, as listed in the foregoing table of contents, are presented for the purpose of additional analysis and are not a required part of the basic combining financial statements.

The Additional Supplementary Information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic combining financial statements. Such information has been subjected to the auditing procedures applied in the audits of the basic combining financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic combining financial statements or to the basic combining financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America by us and the other auditors. In our opinion the Additional Supplementary Information is fairly stated, in all material respects, in relation to the basic combining financial statements taken as a whole.

The Introductory Section, Investment Section, Actuarial Section, and Statistical Section have not been subjected to the auditing procedures applied in the audit of the basic combining financial statements and, accordingly, we do not express an opinion or provide any assurance on them.

1) eloitte & Touche LLP

October 29, 2015

### MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED) JUNE 30, 2015 AND 2014

This narrative discussion and analysis of the New York City Board of Education Retirement System's ("BERS" or the "System") financial performance provides an overview of the System's combining financial activities for the Fiscal Years ended June 30, 2015 and 2014. It is meant to assist the reader in understanding the System's combining financial statements by providing an overall review of the combining financial activities during the years and the effects of significant changes, as well as a comparison with the prior years' activities and results. This discussion and analysis is intended to be read in conjunction with the System's combining financial statements. The System administers the BERS Qualified Pension Plan (the "QPP") and the BERS Tax-Deferred Annuity Program (the "TDA Program").

### **OVERVIEW OF BASIC COMBINING FINANCIAL STATEMENTS**

The following discussion and analysis is intended to serve as an introduction to the System's basic combining financial statements. The basic combining financial statements, which are prepared in accordance with Governmental Accounting Standards Board ("GASB") pronouncements and include the financial statements of the QPP and the TDA Program, are as follows:

- The Combining Statements of Fiduciary Net Position—presents the financial position of the System at fiscal year end. It provides information about: the nature and amounts of resources with present service capacity that the System presently controls (assets); consumption of net assets by the System that is applicable to a future reporting period (deferred outflow of resources); present obligations to sacrifice resources that the System has little or no discretion to avoid (liabilities); and acquisition of net assets by the System that is applicable to a future reporting period (deferred outflow of resources and liabilities/deferred inflow of resources being reported as net position. Investments are shown at fair value. All other assets and liabilities are determined on an accrual basis.
- The Combining Statements of Changes in Fiduciary Net Position—presents the results of activities during the fiscal year. All changes affecting the assets/deferred outflow and liabilities/deferred inflow of the System are reflected on an accrual basis when the activity occurred, regardless of the timing of the related cash flows. In that regard, changes in the fair values of investments are included in the year's activity as net appreciation (depreciation) in fair value of investments.
- The Notes to Combining Financial Statements—provide additional information that is essential to a full understanding of the data provided in the combining financial statements. The notes present information about the System's accounting policies, significant account balances and activities, material risks, obligations, contingencies, and subsequent events, if any.
- **Required Supplementary Information**—as required by GASB includes the management discussion and analysis and information presented after the notes to the combining financial statements.

### FINANCIAL HIGHLIGHTS

### **QPP** Fiduciary Net Position

During Fiscal Year 2015, the QPP's net position held in trust for benefits increased to \$3.36 billion, a net increase of \$80.53 million or 2.46% from Fiscal Year 2014. The increase in net position during Fiscal Year 2015 was due to increases in member contributions, employer contributions and the fair value of

investment. The member contributions, employer contributions and fair value of investment including the collateral security lending, increased by 6.37%, 20.28%, and 0.87%, respectively. The QPP's fair value of investments including collateral security lending was \$4.78 billion, a net increase of \$41.39 million.

During Fiscal Year 2014, the QPP's net position held in trust for benefits increased to \$3.28 billion, a net increase of \$625.61 million or 23.58% from Fiscal Year 2013. The increase in Fiscal Year 2014 was due primarily to the increase in the fair value of investment, which increased by 18.03%. The QPP's fair value of investments including collateral security lending was \$4.74 billion, a net increase of \$723.88 million.

QPP Fiduciary Net Position June 30, 2015, 2014, and 2013			
(In thousands)			
	2015	2014	2013
Assets:			
Cash	\$ 17,933	\$ 8,903	\$ 903
Receivables	95,756	223,667	164,666
Investments, at fair value	4,479,080	4,327,245	3,620,069
Collateral from securities lending	302,135	412,592	395,890
Other	 18,074	 14,150	 10,559
Total assets	 4,912,978	 4,986,557	 4,192,087
Liabilities:			
Accounts payable	6,110	14,783	11,190
Payable for investments purchased	86,747	273,978	257,507
Accrued benefits payable	5,461	6,816	7,784
Due to the TDA Program from the System	1,152,729	999,123	866,065
Payables for securities lending	 302,135	 412,592	 395,890
Total liabilities	 1,553,182	 1,707,292	 1,538,436
Net position held in trust for benefits	\$ 3,359,796	\$ 3,279,265	\$ 2,653,651

Total receivables decreased from \$223.67 million in Fiscal Year 2014 to \$95.76 million at the close of Fiscal Year 2015. The decrease in receivables is primarily caused by the decrease in the receivable of investment securities sold which decreased by 71.96%. Included in these receivables are QPP member's outstanding loans at Fiscal Year 2015 and 2014 which were \$44.68 million and \$42.31 million, respectively.

The QPP's receivables and payables for investments are primarily generated through the timing differences between the trade and settlement dates for investment securities purchased or sold.

As of June 30, 2015, the QPP's other assets increased to \$18.07 million from \$14.15 million, a 27.73% increase. A continuation of capitalization of expenses for an Enterprise Resource Plan ("ERP") project is the main component of the QPP's other assets.

### **Changes in QPP Fiduciary Net Position**

During Fiscal Year 2015, QPP member contributions increased to \$39.56 million, a 6.37% increase from the 2014 contribution amount of \$37.19 million.

During Fiscal Year 2014, QPP member contributions decreased to \$37.19 million, a 4.77% decrease from the 2013 contribution amount of \$39.06 million. This decrease can be explained as a normalization of member contributions compared to Fiscal Year 2013 where increase was due to the onset of Tier 6 on April 1, 2012.

Employer contributions received by the QPP in Fiscal Year 2015 were at \$258.10 million, an increase of 20.28% over the Fiscal Year 2014 figure of \$214.59 million. This increase is primarily due to the net result of actuarial gains and losses.

Employer contributions received by the QPP in Fiscal Year 2014 were at \$214.59 million, an increase of 9.35% over the Fiscal Year 2013 figure of \$196.25 million. This increase is primarily due to the net result of actuarial gains and losses.

Employer contributions are made on a statutory basis based on the One-Year Lag methodology.

#### Changes in QPP Fiduciary Net Position Years Ended June 30, 2015, 2014, and 2013

(In thousands)			
	2015	2014	2013
Additions:			
Member contributions	\$ 39,564	\$ 37,193	\$ 39,056
Employer contributions	258,099	214,590	196,246
Net investment income	174,503	874,539	658,543
Net securities lending income	2,663	914	2,284
Transfer of investment income to the TDA Program from the System	(44,954)	(206,615)	(163,756)
Net payments to other retirement systems	 (115,144)	 (70,916)	 (176,301)
Total	 314,731	 849,705	 556,072
Deductions:			
Benefit payments and withdrawals	223,244	214,315	204,093
Administrative expenses	 10,956	 9,776	 8,927
Total deductions	 234,200	 224,091	 213,020
Net increase in net position	80,531	625,614	343,052
Net position held in trust for benefits: Beginning of year	 3,279,265	 2,653,651	 2,310,599
End of year	\$ 3,359,796	\$ 3,279,265	\$ 2,653,651

The benefit payments and withdrawals slightly increased by 4.17% in Fiscal Year 2015, from \$214.31 million to \$223.24 million. The increase in Fiscal Year 2015 was primarily due to an increase in the pension benefits to retirees, which went up 4.68% to \$211.69 million.

During Fiscal Year 2014, plan benefits and withdrawals increased by 5.01%, from \$204.09 million to \$214.31 million. The increase in Fiscal Year 2014 was primarily due to an increase in the pension benefits to retirees, which went up 5.63% to \$202.23 million.

In 2015, the administrative expenses account showed an increase of 12.07% to \$10.96 million. The increase was primarily due to higher personnel expenses in 2015, which increased by 12.61%.

In 2014, the administrative expenses account showed an increase of 9.51% to \$9.78 million. The marginal increase was due to higher personnel expenses in 2014, which increased by 13.25%.

### **TDA Program Fiduciary Net Position**

During Fiscal Year 2015, the TDA Program's net position held in trust for benefits increased to \$1.61 billion, a net increase of \$168.11 million or 11.69% from Fiscal Year 2014. The increase in Fiscal Year 2015 was due to an increase in member contributions and the fair value of investment, which increased by 17.44% and 6.91% respectively.

During Fiscal Year 2014, the TDA Program's net position held in trust for benefits increased to \$1.44 billion, a net increase of \$199.39 million or 16.11% from Fiscal Year 2013. The increase in Fiscal Year 2014 was primarily due to an increase in the fair value of investment, which increased by 21.31%.

At the end of Fiscal Year 2015, the TDA Program's fair value of investment including collateral security lending was \$449.14 million for the variable return fund and \$1.15 billion receivable from the QPP. At the end of Fiscal Year 2014, the TDA Program's fair value of investment including collateral security lending was \$420.12 million for the variable return fund and \$999.12 million in the fixed return fund through co-investment with the QPP.

#### **TDA Program Fiduciary Net Position** June 30, 2015, 2014, and 2013 (In thousands) 2015 2014 2013 Assets: Cash \$ 122 S 2,902 \$ 309 Receivables 41,264 39,102 37,011 Investments, at fair value 419,530 403,176 346,168 Due to the TDA Program from the System 1,152,729 999,123 866,065 Collateral from securities lending 29,607 16,940 138 Other 4,279 3,619 3,256 Total assets 1,647,531 1,464,862 1,252,947 Liabilities: Accounts payable 1.879 42 2.996 3,668 Payable for investments purchased 4.428 5,388 Accrued benefits payable 6,750 6,045 6,355 16,940 Securities lending transactions 29,607 138 Total liabilities 41,959 27,400 14,877 Net position held in trust for benefits 1,605,572 1,437,462 1,238,070

Total receivables went from \$39.10 million in Fiscal Year 2014 to \$41.26 million at the end of Fiscal Year 2015. Included in these receivables, the TDA Program's member loans outstanding went from \$34.76 million at the close of Fiscal Year 2014 to \$36.51 million at the close of Fiscal Year 2015, a 5.03% increase. Member loans outstanding at the end of Fiscal Year 2013 were \$31.52 million.

The TDA Program's other assets went from \$3.62 million in Fiscal Year 2014 to \$4.28 million at the end of Fiscal Year 2015, an increase of 18.24%.

The TDA Program's receivables and payables are primarily generated through the timing differences between the trade and settlement dates for investment securities purchased or sold within the variable return fund.

### **Changes in TDA Program Fiduciary Net Position**

Changes in TDA Program Fiduciary Net Position Years Ended June 30, 2015, 2014, and 2013 (In thousands)

	2015	2014	2013
Additions:			
Member contributions	\$ 74,890	\$ 63,767	\$ 61,550
Net investment income	22,769	82,136	62,114
Net securities lending income	181	87	20
Transfer of investment income to the TDA Program from the System	44,954	206,615	163,756
Net receipts from (payments to) other retirement systems	 67,571	 (110,273)	 (86,810)
Total	 210,365	 242,332	 200,630
Deductions:			
Benefit payments and withdrawals	39,222	40,410	34,657
Administrative expenses	 3,033	 2,530	 2,455
Total deductions	 42,255	 42,940	 37,112
Net increase in net position	168,110	199,392	163,518
Net position held in trust for benefits:	1 427 462	1 220 070	1 074 550
Beginning of year	 1,437,462	 1,238,070	 1,074,552
End of year	\$ 1,605,572	\$ 1,437,462	\$ 1,238,070

During Fiscal Year 2015, member contributions to the TDA Program increased to \$74.89 million, a 17.44% increase from the \$63.77 million contributed in Fiscal Year 2014.

Member contributions to the TDA Program increased to \$63.77 million during Fiscal Year 2014, a 3.60% increase from the \$61.55 million contributed in Fiscal Year 2013.

The benefit payments and withdrawals experienced a \$1.19 million (2.94%) decrease from June 30, 2014 to June 30, 2015; and a \$5.75 million (16.60%) increase from June 30, 2013 to June 30, 2014. The decrease in Fiscal Year 2015 was mostly due to a decrease in death benefits of 55.28% to \$4.13 million.

In 2015, administrative expenses showed an increase of 19.85% to \$3.03 million. The increase was due to higher personnel expenses allocated to the TDA program in 2015. Personnel expenses went up by 26.17% for the TDA program.

In 2014, administrative expenses showed an increase of 3.06% to \$2.53 million. The slight increase was due to higher personnel expenses allocated to the TDA program in 2014. This expense category went up by 3.20%. The TDA Program's incurred \$2.46 million of administrative expenses during Fiscal Year 2013.

#### **Investment Summary**

Investments held by BERS' QPP and TDA Programs (which includes the fixed return fund and the variable return fund programs), including collateral from securities lending transactions from both programs, are listed according to their investment classification in the following table:

Investment Summary (In thousands) Fair Value	June 30, 2015	June 30, 2014	Jı	ıne 30, 2013
Short Term Investments	\$ 215,612	\$ 157,989	\$	67,852
Debt Securities	861,891	791,282		858,808
U.S. Equity Securities	784,214	907,430		1,841,854
Alternative Investments	385,819	280,168		202,598
Collective Trust Funds	2,651,074	2,593,552		994,529
Promissory Notes	-	-		596
Security Lending Transactions	331,742	429,532		396,028
Total	\$ 5,230,352	\$ 5,159,953	\$	4,362,265

Because the QPP's liabilities are of a long-term nature, the assets of the QPP and the TDA Programs, are invested with a long-term investment horizon. Assets are invested in a diversified portfolio of capital market securities. Investments in these assets are expected to produce higher returns, but are also subject to greater volatility and may produce negative returns. The system's investments increased by 1.36% in Fiscal Year 2015, increased by 18.29% in Fiscal Year 2014, and increased by 18.98% in Fiscal Year 2013. In 2015, greater volatility in the market slowed down the return on investment. In 2014, as well as in 2013, strong market performance was the reason behind these increases.

### **CONTACT INFORMATION**

This financial report is designed to provide a general overview of The New York City Board of Education Retirement System's finances. Questions concerning any data provided in this report or requests for additional information should be directed to the Chief Accountant, New York City Board of Education Retirement System, 65 Court Street, 16<sup>th</sup> Floor, Brooklyn, New York 11201.

\* \* \* \* \* \*

### COMBINING STATEMENTS OF FIDUCIARY NET POSITION JUNE 30, 2015 (In thousands)

	QPP	TDA Program	Eliminations	TOTAL
ASSETS:				
Cash	\$ 17,933	\$ 122	\$ -	\$ 18,055
Receivables:				
Investment securities sold	50,839	4,165	-	55,004
Accrued interest and dividends	239	590	-	829
Member loans	44,675	36,509	-	81,184
Other	3			3
Total receivables	95,756	41,264		137,020
Investments—at fair value				
Fixed return funds:				
Short-term investments:				
Commercial paper	148,449	-	-	148,449
Short-term investment fund	35,597	-	-	35,597
Discount notes	25,996	-	-	25,996
Debt securities	851,577	-	-	851,577
Equity Securities	334,325	-	-	334,325
Alternative investments	385,819	-	-	385,819
Collective trust funds:	,			,
International equity	969,838	-	-	969,838
Domestic equity	1,432,065	-	-	1,432,065
Mortgage debt security	23,862	-	-	23,862
Treasury inflation protected securities	139,367	-	-	139,367
Fixed income	85,942	-	-	85,942
Collateral from securities lending	298,872	-	-	298,872
Variable return funds:	,			,
Short-term investments	553	5,017	-	5,570
Debt securities	1,024	9,290	-	10,314
Equities	44,666	405,223	-	449,889
Collateral from securities lending	3,263	29,607		32,870
Total investments	4,781,215	449,137		5,230,352
Due to the TDA Program from the System	_	1,152,729	(1,152,729)	_
Other assets	18,074	4,279	(1,132,727)	22,353
Total assets	4,912,978	1,647,531	(1,152,729)	5,407,780
LIABILITIES:				
Accounts payable	6,110	1,879		7,989
Payable for investment securities purchased	86,747	4,428	-	91,175
Accrued benefits payable	5,461	6,045	-	11,506
Due to the TDA Program from the System	1,152,729	0,045	(1,152,729)	11,500
Securities lending	302,135	29,607	-	331,742
Total liabilities	1,553,182	41,959	(1,152,729)	442,412
NET POSITION HELD IN TRUST FOR BENEFITS:				
Benefits to be provided by QPP	3,359,796	-	-	3,359,796
Benefits to be provided by TDA Program		1,605,572		1,605,572
TOTAL NET POSITION HELD IN TRUST FOR BENEFITS	\$3,359,796	\$1,605,572	\$ -	\$4,965,368

### COMBINING STATEMENTS OF FIDUCIARY NET POSITION JUNE 30, 2014 (In thousands)

	QPP	TDA Program	Elim inations	TOTAL
ASSETS:				
Cash	\$ 8,903	\$ 2,902	\$ -	\$ 11,805
Receivables:				
Investment securities sold	181,295	3,824	-	185,119
Accrued interest and dividends	61	516	-	577
Member loans	42,307	34,762	-	77,069
Other	4	-		4
Total receivables	223,667	39,102		262,769
Investments-at fair value				
Fixed return funds:				
Short-term investments:				
Commercial paper	39,502	-	-	39,502
Short-term investment fund	26,295	-	-	26,295
Discount notes	87,031	-	-	87,031
Debt securities	781,227	-	-	781,227
Equity Securities	472,007	-	-	472,007
Alternative investments	280,168	-	-	280,168
Collective trust funds:				
International equity	958,686	-	-	958,686
Domestic equity	1,389,836	-	-	1,389,836
Mortgage debt security	20,519	-	-	20,519
Treasury inflation protected securities	141,253	-	-	141,253
Fixed income	83,258	-	-	83,258
Collateral from securities lending	410,598	-	-	410,598
Variable return funds:				
Short-term investments	544	4,617	-	5,161
Debt securities	1,059	8,996	-	10,055
Equities	45,860	389,563	-	435,423
Collateral from securities lending	1,994	16,940		18,934
Total investments	4,739,837	420,116		5,159,953
Due to the TDA Program from the QPP	-	999,123	(999,123)	-
Other assets	14,150	3,619		17,769
Total assets	4,986,557	1,464,862	(999,123)	5,452,296
LIABILITIES:				
Accounts payable	14,783	42	-	14,825
Payable for investment securities purchased	273,978	3,668	-	277,646
Accrued benefits payable	6,816	6,750	-	13,566
Due to the TDA Program from the QPP	999,123	-	(999,123)	
Securities lending	412,592	16,940		429,532
Total liabilities	_1,707,292	27,400	(999,123)	735,569
NET DOUTION HELD IN TRUCT FOR DENTERTO				
NET POSITION HELD IN TRUST FOR BENEFITS:	2 270 265			2 270 265
Benefits to be provided by QPP	3,279,265	-	-	3,279,265
Benefits to be provided by TDA Program	<u> </u>	1,437,462	-	1,437,462
TOTAL NET POSITION HELD IN TRUST FOR BENEFITS	\$3,279,265	\$1,437,462	<u>\$</u> -	\$4,716,727

### COMBINING STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION YEAR ENDED JUNE 30, 2015 (In thousands)

	QPP	TDA Program	Total
ADDITIONS: Contributions Member contributions Employer contributions	\$ 39,564 258,099	\$    74,890 	\$ 114,454 258,099
Total contributions	297,663	74,890	372,553
Investment income Interest income Dividend income Net appreciation in fair value of investments	36,898 46,207 101,496	3,111 5,607 14,804	40,009 51,814 116,300
Total investment income	184,601	23,522	208,123
Less—investment expenses	(10,098)	(753)	(10,851)
Net investment income	174,503	22,769	197,272
Securities lending transactions Securities lending income (loss) Securities lending fees	2,849 (186)	201 (20)	3,050 (206)
Net securities lending income	2,663	181	2,844
Net investment income	177,166	22,950	200,116
Other—payments to other retirement systems & other revenues/expenses Transfer of investment income to the TDA Program from the System	(115,144) (44,954)	67,571 44,954	(47,573)
Total additions	314,731	210,365	525,096
DEDUCTIONS: Benefit payments and withdrawals Administrative expenses	223,244 10,956	39,222 3,033	262,466 13,989
Total deductions	234,200	42,255	276,455
NET INCREASE IN NET POSITION	80,531	168,110	248,641
NET POSITION HELD IN TRUST FOR BENEFITS: Beginning of year	3,279,265	1,437,462	4,716,727
End of year	\$3,359,796	\$1,605,572	\$4,965,368

### COMBINING STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION YEAR ENDED JUNE 30, 2014 (In thousands)

	QPP	TDA Program	Total
ADDITIONS:			
Contributions			• • • • • • • •
Member contributions	\$ 37,193	\$ 63,767	\$ 100,960
Employer contributions	214,590	-	214,590
Total contributions	251,783	63,767	315,550
Investment income			
Interest income	44,321	2,877	47,198
Dividend income	60,033	5,593	65,626
Net appreciation in fair value of investments	781,671	74,351	856,022
Total investment income	886,025	82,821	968,846
Less—investment expenses	(11,486)	(685)	(12,171)
Net investment income	874,539	82,136	956,675
Securities lending transactions			
Securities lending income (loss)	997	87	1,084
Securities lending fees	(83)		(83)
Net securities lending income	914	87	1,001
Net investment income	875,453	82,223	957,676
Other—payments to other retirement systems			
& other revenues/expenses	(70,916)	(110,273)	(181,189)
Transfer of Investment income to the	(, 0, , , 10)	(110,275)	(101,10))
TDA Program from the System	(206,615)	206,615	-
Total additions	849,705	242,332	1,092,037
DEDUCTIONS:			
	214 215	40.410	254 725
Benefit payments and withdrawals Administrative expenses	214,315 9,776	40,410 2,530	254,725 12,306
Administrative expenses	9,770	2,330	12,300
Total deductions	224,091	42,940	267,031
NET INCREASE IN NET POSITION	625,614	199,392	825,006
NET POSITION HELD IN TRUST FOR BENEFITS:			
Beginning of year	2,653,651	1,238,070	3,891,721
End of year	\$ 3 270 265	\$ 1 127 162	\$ 1 716 727
End of year	\$3,279,265	\$1,437,462	\$4,716,727

#### NOTES TO COMBINING FINANCIAL STATEMENTS YEARS ENDED JUNE 30, 2015 AND 2014

### 1. SYSTEM DESCRIPTION

The City of New York (the "City") maintains a number of pension systems providing benefits for employees of its various agencies (as defined within New York State ("State") statutes and City laws). The City's five major actuarially-funded pension systems are the New York City Board of Education Retirement System ("BERS" or the "System"), the New York City Employees' Retirement System ("NYCERS"), the Teachers' Retirement System of the City of New York ("TRS"), the New York City Police Pension Fund ("POLICE"), and the New York Fire Department Pension Fund ("FIRE"). Each pension system is a separate Public Employee Retirement System ("PERS") with a separate oversight body and is financially independent of the others.

BERS administers the BERS Qualified Pension Plan (the "QPP") and the BERS Tax-Deferred Annuity Program (the "TDA Program"). BERS is the fiduciary for the QPP and the TDA Program, which are included under BERS in the Pension and Other Employee Benefit Trust Funds section of the City's Comprehensive Annual Financial Report ("CAFR").

The QPP is a cost-sharing, multiple-employer PERS. The QPP provides pension benefits for non-pedagogical employees of the Department of Education and certain other specific schools and certain employees of the New York City School Construction Authority (collectively, the "Employer"). Substantially, all Department of Education non-pedagogical permanent employees, other than members of TRS, become members of the QPP on the first day of permanent employment. Employees classified as noncompetitive, exempt or provisional by Civil Service are eligible to enroll in the QPP voluntarily. Membership date is governed by the date of filing.

The QPP functions in accordance with existing State statutes and City laws, which establish and amend the benefit terms and the employer and member contribution requirements. It combines features of a defined benefit pension plan with those of a defined contribution pension plan but is considered a defined benefit pension plan for financial reporting purposes. Contributions are made by the employer and the members.

At June 30, 2013 and June 30, 2012, the dates of the QPP's most recent completed actuarial valuations, the QPP membership consisted of:

	2013	2012
Retirees and beneficiaries receiving benefits Terminated vested members not yet receiving benefits Other inactives* Active members receiving salary	15,455 182 4,127 25,848	14,874 184 3,305 27,840
Total	45,612	46,203

\* Represents members who are no longer on payroll but not otherwise classified.

BERS is a fiduciary component unit of the City, and is reported and is included in the City's Comprehensive Annual Financial Report as a Pension and Other Employee Benefit Trust fund.

The TDA Program was created and is administered pursuant to the Internal Revenue Code Section 403(b) and existing State statutes and City laws. Certain members of the QPP have the option to participate in the TDA Program, which provides a means of deferring income tax payments on their voluntary tax-deferred contributions until the period after retirement or upon withdrawal of contributions. Contributions to the TDA Program are made by the members only. The TDA Program is maintained as a separate plan.

At June 30, 2013 and June 30, 2012, the TDA Program participants consisted of:

	2013	2012
Contributing members	14,400	13,987
Retired members with TDA balances	4,197	4,895
% of QPP members contributing to TDA	27 %	36 %

#### **Summary of Benefits**

### **QPP** Benefits

The State Constitution provides that pension rights of public employees are contractual and shall not be diminished or impaired. In 1973, 1976, 1983, and 2012, significant amendments made to the State Retirement and Social Security Law ("RSSL") modified certain benefits for employees joining the QPP on or after the effective date of such amendments. As such, benefits under the QPP fall into various categories based on the year when an employee joined the QPP. A brief overview follows:

- Members who joined prior to July 1, 1973 ("Tier 1") are entitled to service retirement benefits of • 55% of "final salary" (as defined within State statutes and City laws) after 25 years of qualifying service and attainment of age 55, a portion of which is provided from member contributions. Additional benefits equal to a specified percentage per year of service of "final salary" are payable for years in excess of the 25 year minimum. These additional benefits are increased, where applicable, by an annuity attributable to accumulated member contributions in excess of the minimum required balance and by any benefits attributable to the Increased-Take-Home Pav ("ITHP") contributions accumulated after the 25th year of member qualifying service. ITHP represents amounts contributed by the City in lieu of members' own contributions. These amounts reduce the contributions that members would have to make to the QPP during their service and thereby increase their take-home pay. Members have the choice of waiving their ITHP reduction, which would reduce their take-home pay, but provide them with increased benefits upon retirement. Tier 1 members contribute on the basis of a normal rate of contribution which is assigned by the OPP at membership, and which is dependent upon age and actuarial tables in effect at the time of membership.
- In addition, these same members could elect a service retirement benefit with no minimum service requirement which provides an annual benefit for each year of service equal to a specified percentage (as described within State statutes and City laws) of "final salary", payable upon attainment of age 55. This benefit is increased, where applicable, by an annuity attributable to the member contributions and ITHP contributions.

- For all members who enrolled in the QPP prior to July 27, 1976, ITHP contributions made on their behalf as well as their own contributions are invested, at their election, in either the fixed return fund or the variable return fund, or 50% of such contributions in each. These investment elections can be changed every two years. The QPP guaranteed a 7.5% return on member contributions or ITHP contributions to the fixed return fund until June 30, 1982, increased the guaranteed return to 8% as of July 1, 1982, and to 8.25% as of July 1, 1988, for members who enrolled in the QPP prior to July 27, 1976 (5% on member contributions for members enrolled on or after July 27, 1976). The variable return fund includes only member contributions and ITHP contributions made on their behalf as described above and is expressed in terms of units, which are valued monthly, based on investment experience.
- Certain members of Tier 1 and Tier 2 have the right to make voluntary member contributions • ("Voluntary Contributions") in excess of their required member contributions ("Required Contributions"). The investment of the Voluntary Contributions and the Required Contributions is directed by each member. A member may invest: (1) in the QPP's fixed return fund, which is credited with interest at the Statutory Interest Rate (currently 8.25% (7.0% for UFT members)), and/or (2) in the OPP's variable return fund. At the time of retirement or refund of contributions, a member's aggregate balance of actual Required Contributions and Voluntary Contributions, including the actual accumulated earnings thereon, less the outstanding balance of any member loans ("Net Actual Contributions"), may exceed ("Excess of Contributions") or fall short of ("Deficiency of Contributions") the member's Expected Balance. The Expected Balance is the sum of the Required Contributions which a member should have made during his or her credited service, plus the earnings that would have accumulated thereon at the Statutory Interest rate. The amount of the member's retirement annuity or the refund of contributions that he or she is entitled to is increased by any Excess of Contributions or reduced by any Deficiency of Contributions. The total value of members' Excess of Contributions, net of all Deficiencies of Contributions, is \$4.17 million and \$6.13 million, for the years ended June 30, 2015 and 2014, respectively. Actuarial estimates of the impacts of Excesses and Deficiencies are incorporated into calculation of the QPP's net pension liability (see Note 5).
- Members who joined after July 1, 1973 and before July 27, 1976 ("Tier 2") have provisions similar to Tier 1, except that the eligibility requirements for retirement and the salary base for benefits are different and there was a limitation on their maximum benefit. This maximum benefit limitation was subsequently eliminated under Chapter 574 of the Laws of 2000 for all Tier 2 members who retired after December 8, 2000. Tier 2 members contribute on the basis of a normal rate of contribution which is assigned by the QPP at membership, and which is dependent upon age and actuarial tables in effect at the time of membership.
- Members who joined the QPP on or after July 27, 1976 and prior to September 1, 1983 ("Tier 3") were originally entitled to a retirement benefit upon the completion of ten years of service at age 62. The formula for this benefit was 1.67% of "Final Average Salary" ("FAS") per year of credited service for members with less than 20 years of service, or 2% of FAS per year of service for members with 20 to 30 years of service. Tier 3 benefits were reduced by one half of the primary Social Security benefit attributable to service with the employer, and provided an annual cost-of-living escalator in pension benefits of not more than 3%. Tier 3 required member contributions of 3% of salary for a period not to exceed 30 years. After September 1, 1983, all Tier 3 members were mandated into the Tier 4 plan. However, these members retain their Tier 3 rights. Effective October 1, 2000, Tier 4 members with Tier 3 rights, like other Tier 4 members, are not required to make contributions once the tenth anniversary of their membership date has passed, or upon completion of 10 years of credited service, whichever is earlier, and are eligible for a pension upon the completion of five years of credited service at age 62.

- Members who joined the QPP on or after September 1, 1983 and prior to April 1, 2012 ("Tier 4") are eligible for a pension upon the completion of five years of credited service at age 62. The annual benefit is 1.67% of FAS per year of service for members with less than 20 years of service, or 2% of FAS per year of service for members with 20 to 30 years of service, plus an addition of 1.5% of FAS per year of service in excess of 30 years of service. Tier 4 members were originally required to make contributions of 3% of salary until termination of service. As of October 1, 2000, these members are not required to make contributions after the tenth anniversary of their membership date or upon completion of ten years of credited service, whichever is earlier (Chapter 126 of Laws of 2000). Certain members retiring prior to the age of 62 experience an age-reduction factor in their retirement allowance.
- Effective June 28, 1995, active Tier 2 and Tier 4 members, excluding those who hold a position represented by the recognized teacher organization for collective bargaining purposes (currently, the United Federation of Teachers or "UFT"), were eligible to enroll in an early retirement program permitting them to retire at age 55 with 25 years of credited service ("55/25"), with no age reduction factor to their retirement allowance, or at age 50 with 25 years of credited service in a physically taxing position (Chapter 96 of the Laws of 1995). Additionally, Tier 4 members in non-UFT positions who joined BERS on or after June 28, 1995 and before April 1, 2012 were mandated into an early retirement program permitting them to retire at age 57 with 5 years of credited service ("57/5"), with no age reduction factor to their retirement allowance, or at age 50 with 25 years of credited service program of the tax of 1995). Additionally, Tier 4 members in non-UFT positions who joined BERS on or after June 28, 1995 and before April 1, 2012 were mandated into an early retirement program permitting them to retire at age 57 with 5 years of credited service ("57/5"), with no age reduction factor to their retirement allowance, or at age 50 with 25 years of credited service in a physically taxing position. Participants in the 55/25 and 57/5 early retirement programs are required to remit additional contributions of 1.85%, or 3.83% for physically taxing positions.
- Effective February 27, 2008, active Tier 4 members who hold a position represented by the recognized teacher organization for collective bargaining purposes (currently, UFT) were eligible to enroll in an early retirement program permitting them to retire at age 55 with 25 years of credited service ("55/25 UFT"), with no age reduction factor to their retirement allowance (Chapter 19 of the Laws of 2008). Those choosing the age 55 retirement option are required to make additional contributions of 1.85% of salary from February 28, 2008 until June 29, 2008, or until they have accumulated 25 years of credited service, whichever is later. UFT members in covered titles who joined after February 27, 2008 but before December 10, 2009, were automatically enrolled in a 55 retirement age minimum and 27 credited years of service retirement program ("55/27 UFT"). These members are required to make additional plan contributions of 1.85% of salary until they have accumulated 27 years of credited service.
- UFT members in covered titles who joined the QPP after December 10, 2009 and prior to April 1, 2012 are covered by 55/27 UFT, but are required to make contributions of 4.85% of salary until they have 27 years of credited service, and contributions of 1.85% of salary thereafter (Chapter 504 of the Laws of 2009). Additionally, QPP benefits for this population vest in 10 years, rather than 5 years, as for other Tier 4 members.
- Members who join the QPP on or after April 1, 2012 are subject to the provisions of Chapter 18 of the Laws of 2012 ("Chapter 18/12"), also known as "Tier 6". BERS members in Tier 6 are eligible for a pension upon the completion of ten years of credited service at age 63. The annual benefit is 1.67% of FAS for the first 20 years of credited service, plus an addition of 2% of FAS per year of service for service in excess of 20 years of service. Additionally, the FAS period is 5 years, rather than 3, and a cap is imposed on the maximum permissible FAS. Tier 6 members are required to make Basic Member Contributions ("BMC") until they separate from service or until they retire. The BMC rate is dependent on annual wages earned during a plan year and ranges from 3% for

salaries less than \$45,000 to 6% for salaries greater than \$100,000. Tier 6 members become vested after ten years of service.

- Under all service retirement categories, annuities attributable to member contributions are reduced on an actuarial basis for any loans with unpaid balances outstanding at the date of retirement.
- Subject to certain conditions, members become fully vested as to QPP benefits upon the completion of five years of credited service, or ten years of credited service for Tier 4 55/27 UFT members who joined after December 10, 2009 and for Tier 6 members.
- The QPP provides death benefits and retirement benefits on the occurrence of accidental or ordinary disability.
- During the spring 2000 session, the State Legislature approved and the State Governor ("Governor") signed laws that provide automatic Cost-of-Living Adjustments ("COLA") for certain retirees and beneficiaries (Chapter 125 of the Laws of 2000). It also provides additional service credits for certain Tier 1 and Tier 2 members and reduced member contributions for certain Tier 3 and Tier 4 members (Chapter 126 of the Laws of 2000).

### TDA Program Benefits

Contributions to the TDA Program are made by the participants only, and are voluntary. In order to contribute to the TDA Program, certain active members of the QPP are required to submit a salary reduction agreement and TDA enrollment request. A participant may elect to exclude an amount of his or her compensation from current taxable income (within the maximum allowed by the Internal Revenue Service) by contributing it to the TDA Program. The basic contribution limit, as of 2015, is \$18,000. Certain participants are permitted to make additional contributions, based on age or years of service. The additional contribution limit for 2015 is \$6,000. Additionally, participants can elect to invest their contributions in either the fixed return fund or the variable return fund.

Benefits provided under the TDA Program are derived from participants' accumulated contributions and earnings on those contributions. No contributions are provided by the employer.

A participant may withdraw all or part of the balance of his or her account at the time of retirement, termination of employment, or under certain hardship conditions. Beginning January 1, 1989, the tax laws restricted withdrawals of TDA contributions and accumulated earnings thereon for reasons other than retirement or termination.

Contributions made after December 31, 1988, and investment earnings credited after that date, may only be withdrawn by active participants upon attainment of age 59<sup>1</sup>/<sub>2</sub> or for reasons of hardship (as defined by Internal Revenue Service regulations). Hardship withdrawals are limited to contributions only.

Contributions made on or before December 31, 1989, and earnings credited on or before that date, may be withdrawn by active participants even before age 59<sup>1</sup>/<sub>2</sub>. A member who has received a withdrawal may not contribute to the TDA Program for the remainder of the current year.

If a member dies in active service, or after retirement while his or her TDA account is in deferral, the full value of his or her account at the date of death is paid to the member's beneficiary(ies) or estate.

When a member resigns before attaining vested rights under the QPP, he or she may withdraw the value of his or her TDA Program account, or leave the funds in the account for a period of up to five years

after the date of resignation. If a member resigns after attaining vested rights under the QPP, he or she may leave his or her funds in the TDA Program account, accruing earnings until reaching the age at which minimum distributions are required by IRS regulations. Once a member withdraws from the QPP, participation in the TDA Program will cease, and the member will receive a refund of the value of his or her account in the TDA Program.

When a TDA Program participant applies to retire from the QPP and has a positive TDA Program account balance, the participant has three options:

- a. The participant may withdraw the total balance, either by receiving it as a taxable distribution or by rolling it over into an Individual Retirement Account (IRA);
- b. The participant may defer distribution of the account; or
- c. The participant may elect to receive the balance of the account as a life annuity. The available benefit options depend on the member's Tier.

### 2. SUMMARY OF SIGNIFICANT ACCOUNTING POLICIES AND SYSTEM ASSET MATTERS

**Basis of Accounting**—The QPP as well as the TDA Program use the accrual basis of accounting where the measurement focus is on a flow of economic resources. Revenues are recognized in the accounting period in which they are earned and expenses are recognized in the period incurred. Contributions from members are recognized when respective employers make payroll deductions from the QPP's members and the TDA Program participants. Employer contributions to the QPP are recognized when due, and the employer has made a formal commitment to provide the contributions. Benefits and refunds are recognized when due and payable in accordance with the terms of governing the QPP and the TDA Program.

**Investment Valuation**—Investments are reported at fair value. Securities purchased pursuant to agreements to resell are carried at the contract price, exclusive of interest, at which the securities will be resold. Fair value is defined as the quoted market value on the last trading day of the period, except for the Short-Term Investment fund ("STIF") (a money market fund), International Investment funds ("IIF") and Alternative Investment funds ("ALTINVF"). The IIF are private funds of publicly traded securities which are managed by various investment managers on behalf of BERS. Fair value is determined by BERS management based on information provided by the various investment managers. The investment managers determine fair value using the last available quoted price for each security owned adjusted by any contributions to or withdrawals from the fund during the period. The ALTINVF are investments for which exchange quotations are not readily available and are valued at estimated fair value as determined in good faith by the General Partner ("GP"). These investments are initially valued at cost with subsequent adjustments that reflect third party transactions, financial operating results and other factors deemed relevant by the GP. Fair value is determined by BERS management based on information provided by the Various and other factors deemed relevant by the GP. Fair value is determined by BERS management based on information provided by BERS management based on information provided by the various determined fair value as determined in good faith by the GP. Fair value is determined by BERS management based on information provided by the various determined by BERS management based on information provided by the various GP's after review by an independent consultant and the custodian bank for the fund.

Purchases and sales of securities are reflected on the trade date. Dividend income is recorded on the ex-dividend date. Interest income is recorded as earned on an accrual basis.

No investment in any one security represents 5% or more of QPP's net position held in trust for benefits.

**Investment Programs**—The System's assets are invested in two investment programs. These are the fixed return fund, which is managed by BERS, and the variable return fund (consisting primarily of equity securities), which is managed by TRS.

Under the fixed return program, members' TDA Program accounts are credited with the statutory rate of interest, currently 7% for UFT members and 8.25% for all other members. TDA Program members and certain Tier 1 and 2 QPP members may transfer their balances between the fixed return fund and the variable investment fund on a quarterly basis.

The QPP's assets within the variable return fund are co-invested with those assets of the TDA Program that are earmarked for the variable return fund. These financial statements reflect the QPP investment activity in the fixed return fund; as well as the variable return fund.

**Income Taxes**—Income earned by the QPP and the TDA Program is not subject to federal income tax until it is normally distributed. Other taxes apply in case of premature distributions.

Accounts Payable—Accounts payable is principally comprised of amounts owed by BERS for overdrawn bank balances. BERS's practice is to fully invest cash balances in most bank accounts on a daily basis. Overdrawn balances result primarily from outstanding benefit checks that are presented to the banks for payment on a daily basis and these balances are routinely settled each day.

**Income Attributable to the TDA Program Fixed Return Fund**—The statutory interest credited on TDA Program member account balances invested in the fixed return fund is reported as part of the entry 'transfer of investment income to the TDA Program from the System.

Securities Lending Transactions—State statutes and Board policies permit the System to lend its investments to broker-dealers and other entities for collateral, for the same securities in the future with a simultaneous agreement to return the collateral in the form of cash, treasury and U.S. Government securities. The Systems' agent lends the following types of securities: short term securities, common stocks, long-term corporate bonds, U.S. Government and U.S. Government agency bonds, asset-backed securities, and international equities and bonds held in collective investment funds. In return, the System receives collateral in the form of cash, U.S. Treasury and U.S. Government agency securities at 100% to 105% of the principal plus accrued interest for reinvestment. At June 30, 2015 and 2014, management believes that the System had no credit risk exposure to borrowers because the amounts the System owed the borrowers equaled or exceeded the amounts the borrowers owed the System. The contracts with the System's Custodian require the Securities Lending Agent to Indemnify the System. In the situation when a borrower goes into default, the Agent will liquidate the collateral to purchase replacement securities. Any shortfall before the replacement securities cost and the collateral value is covered by the Agent. All Securities loans can be terminated on demand within a period specified in each agreement by either the System or the borrowers. Cash collateral is invested by the securities lending agent using approved Lender's Investment guidelines. The weighted average maturity is 46.37 days.

The securities lending program in which the System participates only allows pledging or selling securities in the case of borrower default.

GASB Statement No. 28, Accounting and Financial Reporting for Securities Lending Transactions, requires that securities loaned as assets and related liabilities be reported in the statements of plan net position. Cash received as collateral on securities lending transactions and investments made with that cash are reported as assets. Securities received as collateral are also reported as assets if the government entity has the ability to pledge or sell them without a borrower default. Accordingly, the System recorded the investments purchased with the cash collateral as collateral from securities lending with a

corresponding liability for securities lending. Securities on loan are carried at market value, the values reported by the QPP as of June 30, 2015 and 2014 are \$302.14 million and \$412.59 million, respectively. As of net position date, the maturities of the investments made with cash collateral on average exceed the maturities of the securities loans by approximately 30 days.

**New Accounting Standards Adopted**—In Fiscal Year 2015, BERS adopted Government Accounting Standards Board ("GASB") Statement No. 72, *Fair Value Measurement and Application*. GASB 72 requires the System to use valuation techniques which are appropriate under the circumstances and are either a market approach, a cost approach or income approach. GASB 72 establishes a hierarchy of inputs used to measure fair value consisting of three levels. Level 1 inputs are quoted prices in active markets for identical assets or liabilities. Level 2 inputs are inputs, other than quoted prices included within Level 1, that are observable for the asset or liability, either directly or indirectly. Level 3 inputs are unobservable inputs, and typically reflect management's estimates of assumptions that market participants would use in pricing the asset or liability. GASB 72 also contains note disclosure requirements regarding the hierarchy of valuation inputs and valuation techniques that was used for the fair value measurements. There was no material impact on the System's financial statements as a result of the implementation of GASB 72.

### 3. INVESTMENTS AND DEPOSITS

The Comptroller of the City of New York (the "Comptroller") acts as an investment advisor to BERS. In addition, BERS employs an independent investment consultant as an investment advisor. BERS utilizes several investment managers to manage the long-term debt and equity portfolios. The managers are regularly reviewed, with regard to both their investment performance and their adherence to investment guidelines.

The BERS investment policy statement was ratified by the Board of Trustees in January 2009 and amended in October 2011 and January 2013. It addresses investment objectives, investment philosophy and strategy, monitoring and evaluating performance, risk management, security lending protocol, and rebalancing investment mix. Assets may be invested in fixed income, equity and other vehicles as permitted by New York State RSSL § 176-178(a) and Banking Law § 235, the New York City Administrative Code, and the Legal Investments for New York Savings Banks list as published by the New York State Banking Department. However, investments up to 25% of total System assets may be made in instruments not expressly permitted by the RSSL.

The System does not possess an investment risk policy statement, nor does it actively manage its assets to specified risk targets. Rather, investment risk management is an inherent function of the System's asset allocation process. QPP and TDA Program assets are diversified over a broad range of asset classes and encompass multiple investment strategies aimed at limiting concentration risk.

Beginning October 2013, State Street Bank and Trust Company is the primary custodian for the fixed return fund. Prior to October 2013, the Bank of New York Mellon ("BNYM") was the primary custodian for substantially all of the securities of the fixed return fund. The variable return fund assets are held in custody at Chase Bank.

Cash deposits are insured by the Federal Deposit Insurance Corporation for up to \$250,000 per member of the System and are, therefore, fully insured.

**Concentration of Credit Risk**—The System does not have any investments in any one entity that represent 5% or more of the System's net position held in trust for benefits.

The legal requirements for the System's investments are as follows:

- a. Fixed income, equity and other investments may be made as permitted by New York State RSSL §§ 176-178(a) and Banking Law § 235, the New York City Administrative Code, and the Legal Investments for New York Savings Banks list as published by The New York State Banking Department, subject to Note 3(b).
- b. Investments up to 25% of total pension fund assets may be made in instruments not expressly permitted by the State RSSL.

The information reflected in the credit ratings and in the Years to Maturity is derived from the Custodian's Risk and Performance Analytics Reporting System. Such information is prepared as a result of the Custodian's Risk Management Analysis.

**Credit Risk**—Portfolios other than U.S. Government and related portfolios have credit rating limitations. Investment grade portfolios are limited to mostly ratings of BBB and above except that they are also permitted a 10% maximum exposure to BB & B rated securities. While non-investment grade managers are primarily invested in BB & B rated securities, they can also invest up to 7% of their portfolio in securities rated CCC. Non rated securities, excluding short-term securities, are considered to be non-investment grade. The quality ratings of investments of the fixed return fund, by percentage of the rated portfolio, as described by nationally recognized statistical rating organizations, at June 30, 2015 and 2014 are as follows:

	S&P Quality Ratings								
Investment Type* June 30, 2015	AAA	AA	Α	BBB	BB	в	CCC & Below	Not Rated	Total
U.S. Government Corporate bonds	- % 1.82	- % 2.23	- % 11.64	- % 20.17	- % 11.76	- % 14.41	- % 4.61	- % 3.53	- % 70.17
Short term: Commercial paper Pooled fund Discount notes and T-bills	-	-	-	-	-	-	-	22.03 3.94 3.86	22.03 3.94 3.86
Portfolio	1.82 %	2.23 %	11.64 %	20.17 %	11.76 %	14.41 %	4.61 %	<u>33.36</u> %	100.00 %
				S&F	Quality Rat	ings			
Investment Type* June 30, 2014	AAA	AA	Α	BBB	BB	В	CCC & Below	Not Rated	Total
U.S. Government Corporate bonds Short term:	- % 1.73	- % 2.84	- % 9.16	- % 21.48	- % 11.78	- % 16.38	- % 5.52	- % 6.62	- % 75.51
Commercial paper Pooled fund Discount notes and T-bills	-	-	-	-	-	-	-	6.70 3.04 14.75	6.70 3.04 14.75
Discourt notes und 1 onis								11.75	11.75

\* U.S. Treasury bonds, notes and treasury-inflation protected securities are obligations of the U.S. government or explicitly guaranteed by the U.S. government and therefore not considered to have credit risk and are not included above.

The quality ratings of investments of the variable return fund, by percentage of the rated portfolio, as described by nationally recognized statistical rating organizations, at June 30, 2015 and 2014, are as follows:

Investment Type				S&P	Quality Ratir	ngs			
Variable Funds			_			_	& 222	Not	
June 30, 2015	AAA	AA	Α	BBB	BB	В	Below	Rated	Total
Government	- %	- %	- %	- %	- %	- %	- %	- %	- %
Corporate bonds	1.83	1.95	10.93	12.57	5.69	2.66	0.32	15.67	51.62
Yankee bonds	-	0.45	-	0.06	-	-	-	-	0.51
Municipal bonds	-	0.03	0.20	-	-	-	-	-	0.23
U.S. Agencies	-	0.50	-	-	-	-	-	-	0.50
Short-term:									
Money Market Funds		-			-	-		47.14	47.14
Percent of rated									
portfolio	1.83 %	2.93 %	11.13 %	12.63 %	5.69 %	2.66 %	0.32 %	<u>62.81</u> %	100.00 %
Investment Type				S&P	Quality Ratir	ngs			
Variable Funds							& 333	Not	
June 30, 2014	AAA	AA	Α	BBB	BB	В	Below	Rated	Total
Government	0.11 %	1.28 %	- %	0.29 %	- %	- %	- %	- %	1.68 %
Corporate bonds	-	2.15	11.42	14.21	4.24	4.01	0.83	14.33	51.19
Yankee bonds	-	0.04	0.19	-	-	-	-	-	0.23
Short-term:									
Money Market Funds		-			-	-		46.90	46.90
Percent of rated portfolio	0.11 %	3.47 %	11.61 %	14.50 %	4.24 %	4.01 %	0.83 %	61.23 %	100.00 %
portiono	0.11 70	3.4/ 70	11.01 70	14.30 70	4.24 70	4.01 70	0.03 70	01.23 70	100.00 %

**Custodial Credit Risk**—Deposits are exposed to custodial credit risk if they are uninsured and uncollateralized. Custodial credit risk is the risk that, in the event of a failure of the counterparty, the System will not be able to recover the value of its investment or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are uninsured, are not registered in the name of the System, and are held by either the counterparty or the counterparty's trust department or agent but not in the System's name.

Consistent with the System's investment policy, the investments are held by the System's custodian and registered in the System's name.

All of the System's deposits are insured and are collateralized by securities held by a financial institution separate from the System's depository financial institution.

All of the System's securities are held by the System's custodial bank in the System's name.

**Interest Rate Risk**—Interest rate risk is the risk that the fair value of investments could be adversely affected by the change in interest rates. Duration limits are used to control the portfolios exposure to interest rate changes. In the investment grade core Fixed Income portfolios duration is limited to a range of one year shorter than the benchmark duration to 0.75 years longer than the duration of the benchmark indices. Duration range is a measure of the overall portfolio, while statements of the stated maturity reflect the specific maturities of the individual securities held. The System has no formal risk policy. The lengths of investment maturities for fixed return fund (in years), as shown by the percent of the rated portfolio, at June 30, 2015 and 2014 are as follows:

Years to Maturity		Investment M aturities									
Investment Type	Fair	Less Than	One to Five	Six to Ten	More Than						
June 30, 2015	Value	One Year	Years	Years	Ten Years						
U.S. Government	35.99 %	1.21 %	4.44 %	5.25 %	25.09 %						
Corporate bonds	44.91	1.62	11.25	18.72	13.32						
Short term:											
Commercial paper	14.10	14.10	-	-	-						
Pooled fund	2.52	2.52	-	-	-						
Discount notes and T-bills	2.48	2.48	-	-							
Percent of rated portfolio	100.00 %	21.93 %	15.69 %	23.97 %	38.41 %						
Years to Maturity		In	vestment Matu	rities							
Investment Type	Fair	Less Than	One to Five	Six to Ten	More Than						
June 30, 2014	Value	One Year	Years	Years	Ten Years						
U.S. Government	36.27 %	0.43 %	2.65 %	9.92 %	23.27 %						
Corporate bonds	48.12	2.39	12.41	19.04	14.28						
Short term:											
Commercial paper	4.27	4.27	-	-	-						
Pooled fund	1.94	1.94	-	-	-						
Discount notes and T-bills	9.40	9.40		-							
Percent of rated portfolio	100.00 %	18.43 %	15.06 %	28.96 %	37.55 %						

The lengths of investment maturities (in years) of the variable return fund, as shown by the percent of the rated portfolio, at June 30, 2015 and 2014 are as follows:

Years to Maturity	Investment Maturities									
Investment Type	Fair	Less Than	One to Five	Six to Ten	More Than					
June 30, 2015	Value	One Year	Years	Years	Ten Years					
U.S. Government	20.22 %	0.22 %	19.93 %	0.07 %	- %					
Corporate Bonds	41.12	2.49	25.56	7.07	6.00					
Yankee Bonds	0.41	-	0.26	0.15	-					
Municipal Bonds	0.18	-	0.18	-	-					
U.S. Agencies	0.51	0.13	0.38	-	-					
Short term:										
Money market	37.56	37.56								
Percent of rated portfolio	100.00 %	40.40 %	46.31 %	7.29 %	6.00 %					
Years to Maturity		Inve	stment Matu	rities						
Investment Type	Fair	Less Than	One to Five	Six to Ten	More Than					
June 30, 2014	Value	One Year	Years	Years	Ten Years					
U.S. Government	21.67 %	0.23 %	21.11 %	0.33 %	- %					
Corporate Bonds	40.85	5.19	22.28	6.20	7.18					
Yankee Bonds	0.18	-	0.15	0.03	-					
Municipal Bonds	-	-	-	-	-					
U.S. Agencies	-	-	-	-	-					
Short term:										
Money market	37.30	37.30		-						
Percent of rated portfolio	100.00 %	42.72 %	43.54 %	6.56 %	7.18 %					

**Foreign Currency Risk**—Foreign currency risk is the risk that changes in the exchange rates will adversely impact the fair value of an investment. Currency risk is present in underlying portfolios that invest in foreign stock and/or bonds. The currency markets have proven to be good diversifiers in a total portfolio context; therefore, the System has numerous managers that invest globally. In general, currency exposure is viewed as a benefit for its diversification reasons and not as an inherent risk within the portfolio. The System has no formal risk policy.

In addition, the System has investments in foreign stocks and/or bonds denominated in foreign currencies. The System's foreign currency exposures as of June 30, 2015 and 2014 in the fixed return fund are as follows (amounts in thousands of U.S. dollars):

Trade Currency	June 30, 2015	June 30, 2014
Australian Dollar	\$ 16,352	\$ 22,762
Brazilian Real	25,734	31,293
British Pnd Sterling	119,481	120,061
Canadian Dollar	14,451	17,493
Danish Krone	14,668	15,887
Egyptian Pound	646	560
Euro Currency	181,382	186,244
Hong Kong Dollar	92,496	68,735
Hungarian Forint	803	1,576
Indian Rupee	30,616	32,324
Indonesian Rupiah	5,742	4,223
Israeli Shekel	573	130
Japanese Yen	119,093	108,982
Malaysian Ringgit	6,683	7,147
Mexican Nuevo Peso	10,081	8,936
Moroccan Dirham	1	1
New Taiwan Dollar	31,208	31,816
New Zealand Dollar	1,673	45
Norwegian Krone	12,341	10,541
Pakistan Rupee	6	5
Philippines Peso	1,557	646
Polish Zloty	6,354	5,571
Renminbi Yuan	(2)	-
Qatari Rial	2,858	76
Singapore Dollar	16,994	19,766
South African Rand	21,136	24,693
South Korean Won	40,982	42,705
Swedish Krona	31,624	38,233
Swiss Franc	51,270	67,319
Thai Baht	12,165	11,458
Turkish Lira	8,022	1,492
UAE Dirham	50	
Total	\$877,040	\$880,720

The foreign currency exposures of the variable return funds as of June 30, 2015 and 2014 are as follows (amounts in thousands of U.S. dollars):

Trade Currency	June 30, 2015	June 30, 2014
Australian Dollar	\$ 1,031	\$ 1,086
Brazilian Real	-	47
British Pnd Sterling	7,399	6,994
Canadian Dollar	1,191	1,136
Danish Krone	245	210
Euro Currency	10,573	10,097
Hong Kong Dollar	1,412	1,250
Hungarian Forint	23	45
Israeli Shekel	241	162
Japanese Yen	6,625	6,415
Norwegian Krone	494	473
Singapore Dollar	923	901
South African Rand	260	299
Swedish Krona	643	541
Swiss Franc	3,583	3,350
Thai Baht	<u> </u>	23
Total	\$34,643	\$33,029

Investment Type and Fair Value—Fixed Return Fund Securities Lending Transactions		S&P Quality Ratings									
(In thousands) June 30, 2015	AAA	АА	А	BBB	BB	В	CCC & Below	Not Rated	Total		
U.S. Government	\$ -	\$-	\$ -	\$-	\$-	\$-	<b>\$-</b>	\$ -	\$-		
Corporate bonds	-	-	-	-	-	-	-	-	-		
Yankee bonds	-	-	-	-	-	-	-	-	-		
Short term:											
Commercial paper	-	-	-	-	-	-	-	-	-		
Mutual funds	-	-	-	-	-	-	-	-	-		
Money market	37,068	-	-	-	-	-	-	-	37,068		
Bank notes	-	-	-	-	-	-	-	24,465	24,465		
U.S. Agency	-	-	-	-	-	-	-	-	-		
Reverse repurchase agreements	-	-	-	-	-	-	-	208,353	208,353		
Repurchase agreements	-	-	-	-	-	-	-	-	-		
Certificates of deposit	-	-	-	-	-	-	-	-	-		
Certificates of deposit—floaters	-	-	-	-	-	-	-	-	-		
Time deposit	-	-	-	-	-	-	-	-	-		
Cash	-	-	-	-	-	-	-	28,986	28,986		
Other	-	-		-	-	-	-				
Total	\$ 37,068	<u></u> -	\$ -	\$-	\$-	\$-	\$-	\$261,804	\$298,872		
Percent of securities lending portfolio	12.40 %	ó <u>-</u>	% -	% %	% <u>-</u>	% -	% <u>-</u> %	87.60 %	100.00 %		

### Securities Lending Transactions: Credit Risk—The quality ratings of investments held as collateral for Securities Lending are as follows:

### Investment Type and Fair Value—Fixed Return Fund

Securities Lending Transactions	S&P Quality Ratings										
(In thousands) June 30, 2014	ААА	AA	Α	BBB	BB	В	CCC & Below	Not Rated	Total		
U.S. Government	\$ -	<b>\$-</b>	\$ -	\$-	\$-	\$-	\$-	\$-	\$ -		
Corporate bonds	-	-	-	-	-	-	-	-	-		
Yankee bonds	-	-	-	-	-	-	-	-	-		
Short term:											
Commercial paper	-	-	-	-	-	-	-	-	-		
Mutual funds	-	-	-	-	-	-	-	-	-		
Money market	157,688	-	-	-	-	-	-		157,668		
Bank notes	-	-	-	-	-	-	-	98,383	98,383		
U.S. Agency	-	-	-	-	-	-	-	-	-		
Reverse repurchase agreements	-	-	-	-	-	-	-	114,179	114,179		
Repurchase agreements	-	-	-	-	-	-	-	-	-		
Certificates of deposit	-	-	-	-	-	-	-	-	-		
Certificates of deposit—floaters	-	-	-	-	-	-	-	-	-		
Time deposit	-	-	-	-	-	-	-	-	-		
Cash	-	-	40,368	-	-	-	-	-	40,368		
Other		-	-	-	-	-	-	-	-		
Total	\$157,688	\$-	\$40,368	\$-	\$-	\$-	<u>\$-</u>	\$212,562	\$410,598		
Percent of securities lending portfolio	38.40 %		% 9.83 %	- 0	% - 9	%	% <u>-</u> %	51.77 %	100.00 %		

### Investment Type and Fair Value of QPP and TDA Program (Variable Return Fund)

Securities Lending Transactions	S&P Quality Ratings										
(In thousands) June 30, 2015	AAA	AA	А	BBB	BB	В	CCC & Below	Short Term	Not Rated	Total	
U.S. Government	\$ -	\$15,106	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$15,106	
Corporate bonds	-	-	-	-	-	-	-	-	-	-	
Yankee bonds	-	-	-	-	-	-	-	-	-	-	
Short term:											
Commercial paper	-	-	-	-	-	-	-	-	-	-	
Mutual funds	-	-	-	-	-	-	-	-	-	-	
Money market	-	-	-	-	-	-	-	-	-	-	
Bank notes	-	-	-	-	-	-	-	-	-	-	
U.S. Treasury	-	1,316	-	-	-	-	-	-	-	1,316	
U.S. Agency	-	-	-	-	-	-	-	-	-	-	
Reverse repurchase agreements	-	-	-	-	-	-	-	-	-	-	
Repurchase agreements	8,752	7,738	-	-	-	-	-	-	-	16,490	
Certificates of deposit	-	-	-	-	-	-	-	-	-	-	
Certificates of deposit—floaters	-	-	-	-	-	-	-	-	-	-	
Time deposit	-	-	-	-	-	-	-	-	-	-	
Cash	-	-	-	-	-	-	-	-	-	-	
Adjustment to custodial reports	(41)	(1)	-	-	-	-	-	-	-	(42)	
Other	-	-	-	-		-	-	-	-	-	
Total	\$ 8,711	\$24,159	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$32,870	
Percent of securities lending portfolio	26.50 %	73.50 %	- %	- 9	% <u>-</u>	% - %	<u> </u>	- %	<u> </u>	100.00 %	

## Investment Type and Fair Value of QPP and TDA Program (Variable Return Fund)

(Variable Return Fund)										
Securities Lending Transactions					S&P Qua	lity Ratings				
(In thousands)							& CCC	Short	Not	
June 30, 2014	AAA	AA	Α	BBB	BB	В	Below	Term	Rated	Total
U.S. Government	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Corporate bonds	-	-	-	-	-	-	-	-	-	-
Yankee bonds	-	-	-	-	-	-	-	-	-	-
Short term:										
Commercial paper	-	-	-	-	-	-	-	-	-	-
Mutual funds	-	-	-	-	-	-	-	-	-	-
Money market	-	-	-	-	-	-	-	-	-	-
Bank notes	-	-	-	-	-	-	-	-	20	20
U.S. Treasury	-	-	-	-	-	-	-	-	-	-
U.S. Agency	-	-	-	-	-	-	-	-	-	-
Reverse repurchase agreements	-	-	-	-	-	-	-	-	-	-
Repurchase agreements	13,522	-	-	-	-	-	-	-	960	14,482
Certificates of deposit	-	-	-	-	-	-	-	-	-	-
Certificates of deposit—floaters	-	-	-	-	-	-	-	-	-	-
Time deposit	3,455	-	-	-	-	-	-	-	-	3,455
Cash	-	-	-	-	-	-	-	-	-	-
Adjustment to custodial reports	-	-	-	-	-	-	-	-	-	-
Other	-	-				-		-		977
Total	\$16,977	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$1,957	\$18,934
Percent of securities lending portfolio	89.66 %	ó -	% -	% -	% -	% - %	/0 - %	- %	10.34 %	100.00 %

**Interest Rate Risk**—The lengths of investment maturities (in years) of the collateral for Securities Lending are as follows:

Years to Maturity Fixed Return Fund	Investment Maturities									
(In thousands) June 30, 2015	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years					
U.S. Government	\$ -	\$ -	\$-	\$-	\$-					
Corporate bonds	-	-	-	-	-					
Yankee bonds	-	-	-	-	-					
Short term:										
Commercial paper	-	-	-	-	-					
Mutual fund	-	-	-	-	-					
Money market	37,068	37,068								
Bank notes	24,465	24,465								
U.S. Treasury	-	-	-	-	-					
U.S. Agency	-	-	-	-	-					
Reverse repurchase agreements	208,353	208,353	-	-	-					
Repurchase agreements	-	-	-	-	-					
Certificates of deposit	-	-	-	-	-					
Certificates of deposit-floaters	-	-	-	-	-					
Time deposit	-	-	-	-	-					
Cash	28,986	28,986	-	-	-					
Adjustment to custodial reports	-	-	-	-	-					
Other										
Total	\$298,872	\$298,872	<u>\$-</u>	<u>\$-</u>	<u>\$-</u>					
Percent of securities lending portfolio	100.00 %	100.00 %	%	%	%					
Years to Maturity		Incom	tmont Maturiti							

Fixed Return Fund		Investment Maturities								
(In thousands) June 30, 2015	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years					
U.S. Government	\$ -	\$ -	\$-	\$-	\$-					
Corporate bonds	-	-	-	-	-					
Yankee bonds	-	-	-	-	-					
Short term:										
Commercial paper	-	-	-	-	-					
Mutual fund	-	-	-	-	-					
Money market	157,668	157,668	-	-	-					
Bank notes	98,383	98,383	-	-	-					
U.S. Agency	-	-	-	-	-					
Reverse repurchase agreements	114,179	114,179	-	-	-					
Repurchase agreements	-	-	-	-	-					
Certificates of deposit	-	-	-	-	-					
Certificates of deposit—floaters	-	-	-	-	-					
Time deposit	-	-	-	-	-					
Cash	40,368	40,368	-	-	-					
Adjustment to custodial reports	-	-	-	-	-					
Other										
Total	\$410,598	\$410,598	<u>\$-</u>	<u>\$-</u>	<u>\$-</u>					
Percent of securities lending portfolio	100.00 %	100.00 %	- %	- %	- %					

Years to Maturity QPP and TDA Program (Variable Return Fund) Investment Type		Inves	tment Maturi	ties	
(In thousands)	Fair	Less Than	One to Five	Six to Ten	More Than
June 30, 2015	Value	One Year	Years	Years	Ten Years
U.S. Government	\$15,106	\$ -	\$6,341	\$5,211	\$3,554
Corporate bonds	-	-	-	-	-
Yankee bonds	-	-	-	-	-
Short term:					
Commercial paper	-	-	-	-	-
Mutual fund	-	-	-	-	-
Money market	-	-	-	-	-
Bank notes	-	-	-	-	-
U.S. Treasury	1,316	1,316	-	-	-
U.S. Agency	-	-	-	-	-
Reverse repurchase agreements	-	-	-	-	-
Repurchase agreements	16,490	16,490	-	-	-
Certificates of deposit	-	-	-	-	-
Certificates of deposit—floaters Time deposit	-	-	-	-	-
Cash	-	-	-	-	-
Adjustment to custodial reports	(42)	(42)	-	-	-
Other	-	-	-	-	-
other			-		
Total	\$32,870	\$17,764	\$6,341	\$5,211	\$3,554
Percent of securities lending portfolio	100.00 %	54.04 %	19.29 %	15.86 %	10.81 %
Years to Maturity					
QPP and TDA Program (Variable Return Fund) Investment Type		Inves	tment Maturi	ties	
(In thousands)	Fair	Less Than	One to Five		More Than
June 30, 2014	Value	One Year	Years	Years	Ten Years
U.S. Government	s -	s -	<b>S</b> -	s -	<b>\$</b> -
Corporate bonds	-	-	-	· _	-
Yankee bonds	-	-	-	-	-
Short term:					
Commercial paper	-	-	-	-	-
Mutual fund	-	-	-	-	-
Money market	-	-	-	-	-
Bank notes	20	20	-	-	-
U.S. Agency	-	-	-	-	-
Reverse repurchase agreements	-	-	-	-	-
Repurchase agreements	14,482	14,482	-	-	-
Certificates of deposit	-	-	-	-	-
Certificates of deposit—floaters	-	-	-	-	-
Time deposit	3,455	3,455	-	-	-
Cash	874	874	-	-	-
Adjustment to custodial reports	-	-	-	-	-
Other	103	103			-

Percent of securities lending portfolio

Total

For the years ended June 30, 2015 and 2014, the annual money-weighted rate of return on the System's fixed return fund investments, net of investment expense on the System's fixed return fund, was 3.15% and 19.51%. The money-weighted rate of return expresses investment performance, net of investment expense adjusted for the changing amounts actually invested.

\$18,934

100.00 %

\$18,934

100.00 %

%

%

%

In Fiscal Year 2015, the System adopted GASB Statement No. 72 ("GASB 72"), *Fair Value Measurement and Application*. GASB 72 was issued to address accounting and financial reporting issues related to fair value measurements.

The System categorize its fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset. Level 1 inputs are quoted prices in active markets for identical assets; Level 2 inputs are significant other observable inputs; Level 3 inputs are significant unobservable inputs. The System has the following recurring fair value measurements as of June 30, 2015 and June 30, 2014:

Fixed Return Funds		2015				
GASB 72 Disclosure	Level	Level	Level			
(In thousands)	One	Тwo	Three	Total		
INVESTMENTS—At fair value						
Short-term investments:						
Commercial paper	\$ -	\$ 148,449	\$ -	\$ 148,449		
Short-term investment fund	· _	35,597	-	35,597		
Discount notes	-	25,996	-	25,996		
Debt securities	-	847,566	4,011	851,577		
Equity securities	334,078	247	-	334,325		
Alternative investments	-	-	385,819	385,819		
Collective trust funds:			,	,		
International equity	969,838	-	-	969,838		
Fixed income	-	-	85,942	85,942		
Domestic equity	1,432,065	-	,	1,432,065		
Mortgage debt security	-	23,862	-	23,862		
Treasury inflation protected securities	-	139,367	-	139,367		
Collateral from securities lending		298,872		298,872		
Total investments	\$ 2 735 081	\$ 1,519,956	\$475,772	\$ 1 731 700		
i otar myesuments	\$2,735,981	φ1,319,930	\$413,112	\$4,731,709		
Fixed Return Funds		2014				
GASB 72 Disclosure	Level	Level	Level			
(In thousands)	One	Two	Three	Total		

INVESTMENTS—At fair value				
Short-term investments:				
Commercial paper	\$ -	\$ 39,502	\$ -	\$ 39,502
Short-term investment fund	-	26,295	-	26,295
Discount notes	-	87,031	-	87,031
Debt securities		774,464	6,763	781,227
Equity securities	471,521	486	-	472,007
Alternative investments	-	-	280,168	280,168
Collective trust funds:				
International equity	958,686	-	-	958,686
Fixed income	-	-	83,258	83,258
Domestic equity	1,389,836	-	-	1,389,836
Mortgage debt security	-	20,519	-	20,519
Treasury inflation protected securities	-	141,253	-	141,253
Collateral from securities lending		410,598		410,598
Total investments	\$2,820,043	\$ 1,500,148	\$370,189	\$4,690,380

**Equity and Fixed Income Securities**—Equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets issued by pricing vendors for these securities. Debt and equity securities classified in Level 2 of the fair value hierarchy are valued using prices determined by the use of matrix pricing techniques maintained by the various pricing vendors for these securities. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Debt and equity securities classified in Level 3 are securities whose stated market price is unobservable by the market place, many of these securities are priced by the issuers or industry groups

for these securities. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by our custodian bank. Debt and equity securities held in Collective Trust Funds are held in those funds on behalf of the pension system and there is no restriction on the use and or liquidation of those assets for the exclusive benefit of the funds participants.

Alternative Investments—Alternative investments include private equity, real estate, opportunistic fixed income, and infrastructure investments. These are investments for which exchange quotations are not readily available and are valued at estimated fair value, as determined in good faith by the General Partner ("GP"). These investments are initially valued at cost with subsequent adjustments that reflect third party transactions, financial operating results and other factors deemed relevant by the GP. The assets in our alternative investment program are classified as Level 3 assets. A more detailed explanation of the Level 3 valuation methodologies follows:

Investments in non-public equity securities are valued by the GP using one or more valuation methodologies outlined in Accounting Standard Codification ("ASC") 820, depending upon the availability of data required by each methodology. In some cases, the GP may use multiple approaches to estimate a valuation range. For the immediate time period following a transaction, the determination of fair value for equity securities, in which no liquid trading market exists, can generally be approximated based on the transaction price (absent any significant developments). Thereafter, or in the interim, if significant developments relating to such portfolio company or industry occur which may suggest a material change in value, the GP should value each investment by applying generally accepted valuation methods including: (1) the market approach (such as market transaction and comparable public company multiples, which are based on a measurement of the company's historical and projected financial performance with typical metrics including enterprise value/latest 12 months EBITDA or projected fiscal year EBITDA) or (2) the income or discounted cash flow approach.

In the market approach, valuation multiples that are relevant to the industry and company in the investments held should be considered and relied upon. Valuation multiples should be assessed and may be adjusted on a go-forward basis based on the business risk associated with the subject company in which the investment is held. In addition, the implied entry multiples should be considered as benchmarks in valuing unlisted equity. In circumstances where no financial performance metrics are available, the GP should rely on other non-financial related metrics applicable to relevant progress from the original investment date to the valuation date. In the income or discounted cash flow approach, forecasted cash flows that may be generated by the subject company are discounted to present value at an appropriate discount rate. These methodologies can be utilized to determine an enterprise value ("Enterprise Valuation Methodologies") from which net debt is subtracted to estimate equity value.

The determination of fair value using these methodologies should take into consideration a range of factors, including but not limited to, the price at which the investment was acquired, the nature of the investment, local market conditions, trading values on public exchanges for comparable securities, current and projected operating performance and financing transactions subsequent to the acquisition of the investment. Because of the subjective nature of estimated fair value of the private investments, such value may differ significantly from the values that would have been used had a ready market existed for these investments. These financial instruments have been classified as Level 3 in the fair value hierarchy.

#### Variable-Return Funds GASB 72 Disclosure As of June 30, 2015 (In thousands)

(	Level 1	Level 2	Level 3	Total
Variable return funds:				
Short term investments	\$ -	\$ 5,570	\$ -	\$ 5,570
Debt securities	-	10,314	-	10,314
Equities	388,390	61,499	-	449,889
Collateral from securities lending	<u>-</u>	32,870		32,870
	\$388,390	\$110,253	<u>\$ -</u>	\$498,643

Variable-Return Funds GASB 72 Disclosure As of June 30, 2014

(In thousands)	Level 1	Level 2	Level 3	Total
Variable return funds:				
Short term investments	\$ -	\$ 5,161	\$ -	\$ 5,161
Debt securities	-	10,055	-	10,055
Equities	368,854	66,569	-	435,423
Collateral from securities lending		18,934		18,934
	\$368,854	\$100,719	<u>\$ -</u>	\$469,573

Debt and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities.

Equity Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices.

Equity securities classified in Level 3 of the fair value hierarchy are valued using discounted cash flow techniques.

### 4. CONTRIBUTIONS AND ACTUARIAL ASSUMPTIONS

The financial objective of the QPP is to fund members' retirement benefits during their active service and to establish employer contribution rates which, expressed as a percentage of annualized covered payroll, will remain approximately level from year to year. The Employer contributes amounts that, together with Member Contributions and investment income, would ultimately be sufficient to accumulate assets to pay benefits when due.

Contributions to the TDA program are made on a voluntarily basis by certain members of the QPP.

### **Member Contributions**

• Members who joined the QPP prior to July 1, 1973 ("Tier 1") contribute on the basis of a normal rate of contribution which is assigned by the QPP at membership, and which is dependent upon age and actuarial tables in effect at the time of membership. Tier 1 members can also make Increased Take Home Pay ("ITHP") contributions, for which they can receive an additional annuity after retirement.

- Members who joined after July 1, 1973 and before July 27, 1976 ("Tier 2") also contribute on the basis of a normal rate of contribution which is assigned by the QPP at membership, and which is dependent upon age and actuarial tables in effect at the time of membership. Note that the actuarial tables are different in Tier 2. Tier 2 members can also make ITHP contributions, for which they can receive an additional annuity after retirement.
- Members who joined after July 27, 1976 and before April 1, 2012 ("Tier 4") contribute 3% of salary until the earlier of the 10th anniversary of their membership date, or upon the completion of 10 years of credited service. Certain Tier 4 members are enrolled in special early retirement plans and must therefore also make Additional Member Contributions ("AMC"), depending on the specific plan.
- Members who joined on or after April 1, 2012 ("Tier 6") are required to make Basic Member Contributions ("BMC") until they separate from service or until they retire. The BMC rate is dependent on annual wages earned during a plan year and ranges from 3% for salaries less than \$45,000 to 6% for salaries greater than \$100,000. Certain Tier 6 members are enrolled in special early retirement plans and must therefore also make Additional Member Contributions ("AMC"), depending on the specific plan.

**Employer Contributions**—Statutorily-required contributions ("Statutory Contributions") to the QPP, determined by the System's Chief Actuary of the Office of the Actuary (the "Actuary") in accordance with State statutes and City laws, are generally funded by the employer within the appropriate fiscal year.

### 5. **QPP NET PENSION LIABILITY**

The components of the net pension liability of the Employers at June 30, 2015 and 2014 were as follows:

(In thousands)	2015	2014
Total pension liability Fiduciary net position *	\$4,460,233 3,359,796	\$4,185,839 3,279,265
Employers' net pension liability	\$1,100,437	\$ 906,574
Fiduciary net position as a percentage of the total pension liability	75.33 %	78.34 %

\* Such amounts represent the preliminary Systems' fiduciary net position and may differ from the final Systems' fiduciary net position.

Actuarial Methods and Assumptions—The total pension liability as of June 30, 2015 and 2014 were determined by actuarial valuations as of June 30, 2013 and June 30, 2012, respectively, that were rolled forward to develop the total pension liability to the respective fiscal year end. The following actuarial assumptions were applied to all periods included in the measurement:

Projected Salary Increases*	In general, merit and promotion increases plus assumed general wage increases of 3.0% per annum.
Investment Rate of Return*	7.0% per annum, net of investment expenses.
COLAs*	1.5% per annum for Auto COLA 2.5% per annum for escalation.

\* Developed assuming a long-term Consumer Price Inflation assumption of 2.5% per annum.

Mortality tables for Service and Disability pensioners were developed from an experience study of the QPP. The mortality tables for beneficiaries were also developed from an experience review.

Pursuant to Section 96 of the New York City Charter, studies of the actuarial assumptions used to value liabilities of the five actuarially-funded New York City Retirement Systems ("NYCRS") are conducted every two years.

The most recently completed study was published by Gabriel Roeder Smith & Company ("GRS") dated October 2015, and analyzed experience for Fiscal Years 2010 through 2013. GRS made recommendations with respect to the actuarial assumptions and methods based on their analysis and the Actuary is currently reviewing the results of this study.

The two previously completed studies were published by The Hay Group ("Hay") dated December 2011 and by The Segal Company ("Segal"), dated November 2006. Hay analyzed experience for Fiscal Years 2006 through 2009 and made recommendations with respect to the actuarial assumptions and methods based on their analysis. Segal analyzed experience for Fiscal Years 2002 through 2005 and made recommendations with respect to the actuarial assumptions and methods based on their analysis.

**Expected Rate of Return on Investments**—The long-term expected rate of return on QPP investments was determined using a building-block method in which best-estimate ranges of expected real rates of return (i.e., expected returns, net of QPP investment expenses and inflation) are developed for each major asset class. These ranges are combined to produce the long-term expected rate of return by weighting the expected real rates of return by the target asset allocation percentage and by adding expected inflation. The target asset allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

Asset Class	Target Asset Allocation	Long-Term Expected Real Rate of Return
U.S. public market equities	35.00 %	6.60 %
International public market equities	17.00	7.00
Emerging public market equities	5.00	7.90
Private market equities	6.00	9.90
Fixed income (Core, TIPS, Opportunistic)	30.00	2.70
Alternatives (Real assets, Hedge funds)	7.00	4.00
Total	<u>    100.00</u> %	

**Discount Rate**—The discount rate used to measure the total pension liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the rates applicable to the current Tier for each member and that Employer contributions will be made at rates as determined by the Actuary. Based on those assumptions, the QPP's fiduciary net position was projected to be available to make all projected future benefit payments of current active and non-active QPP members. Therefore, the long-term expected rate of return on QPP investments was applied to all periods of projected benefit payments to determine the total pension liability.

The following presents the net pension liability of the Employers, calculated using the discount rate of 7.0%, as well as what the Employers' net pension liability would be if it were calculated using a discount rate that is 1-percentage-point lower (6.0 percent) or 1-percentage-point higher (8.0 percent) than the current rate:

(In thousands)	1% Decrease -6.00%	Current Discount Rate (7.0%)	1% Increase -8.00%
Employers' net pension liability—June 30, 2015	\$1,596,304	\$1,100,437	\$666,212

#### 6. MEMBER LOANS

Members of the QPP are permitted to borrow up to 75% of their employee contribution account balances, including accumulated interest, subject to the limitations of Section 72 of the Internal Revenue Code. The balance of QPP member loans receivable at June 30, 2015 and 2014 is \$44.68 million and \$42.31 million, respectively. When a member withdraws from the QPP with an outstanding QPP loan balance, this outstanding QPP loan balance will be deducted from the refund of the member's contribution balance. When a member retires with an outstanding QPP loan balance, the member's retirement benefit will be reduced by the actuarial value of the amount of the outstanding QPP loan balance, unless this balance is paid off.

Members of the TDA Program are permitted to borrow up to 75% of their TDA Program account balances, including accumulated interest, subject to the limitations of Section 72 of the Internal Revenue Code. The balance of TDA Program member loans receivable at June 30, 2015 and 2014 is \$36.51 million and \$34.76 million, respectively.

#### 7. RELATED PARTIES

The Comptroller has been appointed by law as custodian for the assets of the QPP and the TDA Program. QPP fixed return fund securities are held by certain banks under custodial agreements with the Comptroller. The Comptroller also provides cash receipt and cash disbursement services to the System. Actuarial services are provided to the System by the New York City Office of the Actuary. The City's Corporation Counsel provides legal services to the System. Other administrative services are also provided by the City. Costs of \$1.45 million and \$1.08 million were incurred on behalf of the System by other City agencies, primarily the Comptroller's Office for 2015 and 2014, respectively. The fixed return fund assets of the QPP are co-invested with those of the TDA Program. The variable return fund assets of the QPP are co-invested with those of the TDA Program and TRS (see Note 2). TRS holds the assets of the variable return fund.

#### 8. ADMINISTRATIVE EXPENSES

In Fiscal Years 2015 and 2014, as per Chapter 307 of the New York State Laws of 2002, The Plan provided BERS with Corpus funding for administrative expenses in the amount of \$13.99 million and \$12.30 million, respectively.

### 9. CONTINGENT LIABILITIES AND OTHER MATTERS

**Contingent Liabilities**—The System has claims pending against it and has been named as a defendant in lawsuits and also has certain other contingent liabilities. Management of the System, on the advice of legal counsel, believes that such proceedings and contingencies will not have a material effect on the net position of the System or changes in the net position of the System. Under the existing State statutes and City laws that govern the functioning of the System, increases in the obligations of the System to members and beneficiaries ordinarily result in increases in the obligations of the New York City Board of Education to the System.

**Other Matters**—During Fiscal Years 2015 and 2014, certain events described below took place, which, in the opinion of the System's management, could have the effect of increasing the obligations of the System to the members and/or their beneficiaries. The effect of such events has not been fully quantified. However, it is the opinion of the System's management that such developments would not have a material effect on the net position held in trust by the System for retirement benefits, or cause changes in the net position held in trust by the System for retirement benefits.

**TDA Reporting-** A comprehensive analysis on the payment due to the TDA from the system is currently underway. The effects of this study on this year financials are not yet quantified. As stated above, BERS' management believe that the changes will not materially affect the net position held in trust for benefits.

Actuarial Audit—Pursuant to Section 96 of the New York City Charter, studies of the actuarial assumptions used to value liabilities of the five actuarially-funded New York City Retirement Systems ("NYCRS") are conducted every two years.

Refer to Note 5 for the results of the most recent actuarial audits for the QPP.

**Revised Actuarial Assumptions and Methods**—In accordance with the ACNY and with appropriate practice, the Boards of Trustees of the five actuarially-funded NYCRS are to periodically review and adopt actuarial assumptions as proposed by the Actuary for use in the determination of Employer Contributions.

Based, in part, upon a review of the Segal and Hay studies, the Actuary issued a February 10, 2012 Report entitled "Proposed Changes in Actuarial Assumptions and Methods for Determining Employer Contributions for Fiscal Years Beginning on and After July 1, 2011 for the New York City Board of Education Retirement System" ("February 2012 Report").

The results of the GRS study are under review by the Actuary.

The Board of Trustees of BERS adopted those changes to actuarial assumptions that require Board approval. The State Legislature and the Governor enacted Chapter 3/13 to provide for those changes to the actuarial assumptions and methods that require legislation, including the AIR assumption of 7.0% per annum, net of investment expenses.

**New York State Legislation (only significant laws included)**—Chapter 18 of the Laws of 2012 amended portions of the Retirement and Social Security Law and Administrative Code of the City of New York that affect the contributions and benefits of members who join a New York State public retirement system (including BERS) on or after April 1, 2012. These changes are sometimes referred to as Tier 6.

Chapter 3 of the Laws of 2013 ("Chapter 3/13") implemented changes in the actuarial procedures for determining Employer Contributions beginning Fiscal Year 2012. In particular, Chapter 3/13 continued the OYLM, employed the Entry Age Actuarial Cost Method ("EAACM"), established an Actuarial Interest Rate ("AIR") assumption of 7.0% per annum, net of investment expenses, continued it and other interest rates until June 20, 2016, and defined the amortization of Unfunded Actuarial Accrued Liabilities ("UAAL").

Chapter 489 of the Laws of 2013 ("Chapter 489/13") extended the WTC Disability Laws to vested members.

\* \* \* \* \* \*

### NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

### REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED) QUALIFIED PENSION PLAN SCHEDULE OF CHANGES IN THE EMPLOYERS' NET PENSION LIABILITY AND RELATED RATIOS (In thousands)

	2015	2014
Total pension liability: Service cost Interest Change of benefit terms	\$ 147,898 299,592 -	\$ 142,687 288,162
Differences between expected and actual experience Changes of assumptions Benefit payments and withdrawals	50,148 (223,244)	(214,315)
Net change in total pension liability	274,394	216,534
Total pension liability—beginning	4,185,839	3,969,305
Total pension liability—ending (a)	4,460,233	4,185,839
Plan fiduciary net position: Employer contributions Member contributions Net investment income Payment of interest on TDA program fixed return funds Benefit payments and withdrawals Administrative expenses Other	(44,954) (223,244)	214,590 37,193 875,453 (206,615) (214,315) (9,776) (70,916)
Net change in plan fiduciary net position	80,531	625,614
Plan fiduciary net position—beginning	3,279,265	2,653,651
Plan fiduciary net position—ending (b)	3,359,796	3,279,265
BERS' net pension liability—ending (a)-(b)	\$1,100,437	\$ 906,574
Plan fiduciary net position as a percentage of the total pension liability	75.33 %	78.34 %
Covered-employee payroll	\$1,016,822	\$ 989,168
City's net pension liability as percentage of covered-employee payroll	<u>108.22</u> %	91.65 %

### NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED) QUALIFIED PENSION PLAN SCHEDULE OF EMPLOYERS' CONTRIBUTIONS (In thousands)

2015 2014 2013 2012 2011 2010 2009 2008 2007 2006 2005 Actuarially determined contribution \$ 258,099 \$214,590 \$196,246 \$213,651 \$180,191 \$147,349 \$134,225 \$143,100 \$129,820 \$ 90,839 \$106,359 Contributions in relation to the actuarially determined contribution 258,099 214,590 196,246 213,651 180,191 147,349 134,225 143,100 129,820 90,839 96,648 Contribution deficiency \$ 9,711 (excess) \$ \$ -\$ \$ -\$ \$ -\$ \$ -\$ \$ -----Coveredemployee \$1,016,822 \$989,168 \$879,476 \$729,098 \$608,596 payroll \$886,186 \$880,656 \$826,782 \$755,516 \$696,422 \$624,866 Contributions a percentage of coveredemployee payroll 17.82 % 21.69 % 24.29 % 20.46 % 25.38 % 22.15 % 17.77 % 19.63 % 18.64 % 14.93 % 15.47 %

(Continued)

### NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

#### REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED) QUALIFIED PENSION PLAN NOTES TO SCHEDULE OF EMPLOYERS' CONTRIBUTIONS

The above actuarially determined contributions were developed using a One-Year Lag Methodology, under which the actuarial valuation determines the employer contribution for the second following fiscal year (e.g. Fiscal Year 2015 contributions were determined using an actuarial valuation as of June 30, 2013). The methods and assumptions used to determine the actuarially determined contributions are as follows:

Valuation Dates	June 30, 2013	June 30, 2012	June 30, 2011	June 30, 2010	June 30, 2009– June 30, 2004
Actuarial cost method	Entry Age	Entry Age	Entry Age	Entry Age	Frozen Initial Liability <sup>1</sup>
Amortization method for unfunded actuarial accrued liabili	ties				
Initial unfunded	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar	NA <sup>2</sup>
Post-2010 unfundeds	Level dollar	Level dollar	Level dollar	Level dollar	NA <sup>2</sup>
Remaining amortization period:					
Initial unfunded	19 years (closed)	20 years (closed)	21 years (closed)	22 years (closed)	$NA^2$
2010 ERI	3 years (closed)	4 years (closed)	5 years (closed)		
2011 Actuarial gain/loss	13 years (closed)	14 years (closed)	15 years (closed)	NA	$NA^2$
2012 Actuarial gain/loss	14 years (closed)	15 years (closed)	NA	NA	$NA^2$
2013 Actuarial gain/loss	15 years (closed)	NA	NA	NA	NA <sup>2</sup>
Actuarial Asset	Modified six-year moving				
Valuation (AAV)	average of market values with				
method	a "Market Value Restart"	"Market Value Restart"			
	as of June 30, 2011. The	as of June 30, 1999.			
	June 30, 2010 AAV is defined				
	to recognize Fiscal Year 2011				
	investment performance.	investment performance.	investment performance.	investment performance.	

(Continued)

### **SCHEDULE 2 (CONTINUED)**

Valuation Dates	June 30, 2013	June 30, 2012	June 30, 2011	June 30, 2010	June 30, 2009– June 30, 2004
Actuarial assumptions: Assumed rate of return <sup>3</sup>	7.0% per annum, net of investment expenses	8.0% per annum, gross of investment expenses			
Post-retirement mortality	Tables adopted by	Tables adopted by	Tables adopted by	Tables adopted by	Tables adopted by
	Board of Trustees during	Board of Trustees during			
	Fiscal Year 2012	Fiscal Year 2012	Fiscal Year 2012	Fiscal Year 2012	Fiscal Year 2006
Active service: withdrawal, death, disability, service retirement	Tables adopted by	Tables adopted by	Tables adopted by	Tables adopted by	Tables adopted by
	Board of Trustees during	Board of Trustees during			
	Fiscal Year 2012	Fiscal Year 2012	Fiscal Year 2012	Fiscal Year 2012	Fiscal Year 2006 <sup>4</sup>
Salary increases <sup>3</sup>	In general, merit and	In general, merit and			
	promotion increases plus	promotion increases plus	promotion increases plus	promotion increases plus	promotion increases plus
	assumed general increases	assumed general increases	assumed general increases	assumed general increases	assumed general increases
	of 3.0% per year.	of 3.0% per year.			
Cost-of-living adjustments <sup>3</sup>	1.5% per annum for Auto COLA. 2.5% per annum for escalation.	1.5% per annum for Auto COLA. 2.5% per annum for escalation.	1.5% per annum for Auto COLA. 2.5% per annum for escalation.	1.5% per annum for Auto COLA. 2.5% per annum for escalation.	1.3% per annum

<sup>1.</sup> Under this actuarial cost method, the Initial Liability was reestablished as of June 30, 1999, by the Entry Age Actuarial Cost Method but with the unfunded actuarial accrued liability (UAAL) not less than \$0.

The financial results using this Frozen Initial Liability Actuarial Cost Method are the same as those that would be produced using the Aggregate Actuarial Cost Method.

<sup>2.</sup> In conjunction with Chapter 85 of the Laws of 2000, there is an amortization method. However, the June 30, 1999 UAAL for the QPP equaled \$0 and no amortization period was required.

<sup>3.</sup> Developed using a long-term Consumer Price Inflation assumption of 2.5% per year.

<sup>4</sup> In the June 30, 2009 actuarial valuation, the tables adopted by the Board of Trustees during Fiscal Year 2006 were supplemented by additional assumptions adopted by the Board of Trustees during Fiscal Year 2011 for valuing benefits payable to Tier 3 active members.

(Concluded)

#### NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED) QUALIFIED PENSION PLAN SCHEDULE OF INVESTMENT RETURNS

The following table displays annual money-weighted rate of return, net of investment expense, for each of the past two fiscal years:

Fiscal Year Ended	Money- Weighted Rate of Return
June 30, 2015	3.15 %
June 30, 2014	19.51

Note: In accordance with GASB No. 67, paragraph 50. Such information was not readily available for periods pror to 2013.

### ADDITIONAL SUPPLEMENTARY INFORMATION SCHEDULE OF INVESTMENT EXPENSES FISCAL YEAR ENDED JUNE 30, 2015

INVESTMENT MANAGER	INVESTMENT TYPE	MGMT FE
Fixed Investment Expenses:		
Apollo Investment Fd VIII	Alternative Invt Equity	248,587
Ardian Capital	Alternative Invt Equity	37,500
Brookfield	Alternative Invt Equity	9,374
Carlyle Ptnrs VI	Alternative Invt Equity	182,039
Centerbridge	Alternative Invt Equity	3,15
Crestview Ptnrs II	Alternative Invt Equity	258,16
CVC Capital	Alternative Invt Equity	153,43
First Reserve EIF II	Alternative Invt Equity	218,47
Landmark	Alternative Invt Equity	(
Mesirow Partners Fund III	Alternative Invt Equity	88,45
Mesirow Partners Fund IV	Alternative Invt Equity	56,62
Mesirow Partners Fund V	Alternative Invt Equity	173,25
Mill City Capital II	Alternative Invt Equity	61,48
New Main Stream Capital II	Alternative Invt Equity	54,67
New York Fairview	Alternative Invt Equity	50,10
Platinum Eq Cap Ptnrs III	Alternative Invt Equity	194,53
The Raine Group LLC	Alternative Invt Equity	45,94
Siris Capital Group LLC	Alternative Invt Equity	6,38
Vista Equity Partners Fund V, L.P.	Alternative Invt Equity	456,36
Warburg Pincus XI	Alternative Invt Equity	248,43
Webster Capital Management LLC	Alternative Invt Equity	41,95
		2,588,95
Prudential Privest	Alternative Invt Fixed Income	7,05
Blackstone	Alternative Invt Real Estate	34,82
Blackstone Real Estate Ptnrs IV	Alternative Invt Real Estate	411,14
Brookfield Infr Fd II	Alternative Invt Real Estate	101,83
Brookfield Stra Re Ptnrs	Alternative Invt Real Estate	206,66
Emmes Asset Mgmt Co	Alternative Invt Real Estate	162,24
Franklin Templeton Fd	Alternative Invt Real Estate	513,82
H/2 Spec Opportunity Fd III	Alternative Invt Real Estate	133,84
Hudson Separate Account	Alternative Invt Real Estate	230,84
Lasalle US Property Fd	Alternative Invt Real Estate	188,11
RFM NYCRS Sandy LLC	Alternative Invt Real Estate	176,57
UBS Trumbull Property Fd	Alternative Invt Real Estate	543,67
		2,703,60

### ADDITIONAL SUPPLEMENTARY INFORMATION SCHEDULE OF INVESTMENT EXPENSES FISCAL YEAR ENDED JUNE 30, 2015

INVESTMENT MANAGER	INVESTMENT TYPE	MGMT FEE	
Daruma Accat Mamt Small Can	Fourity (	104 420	
Daruma Asset Mgmt Small Cap	Equity	184,428	
Wellington Mgmt MCC	Equity	660,228	
PIM Atlanta Life	Equity	-	
State Street GA S&P 400	Equity	3,144	
F.I.S. Fund Mgmt	Equity	577,777	
PIM Redwood	Equity	-	
FIS Piermont Sev	Equity	10	
Total Progress Trust	Equity	417,759	
	<u> </u>	1,843,346	
Blackrock Mortgage	Fixed Income	89,835	
Loomis Sayles	Fixed Income	374,672	
PIMCO Mortgage	Fixed Income	195	
Prudential Credit	Fixed Income	99,715	
Security Lending	Fixed Income	402,481	
Shenkman	Fixed Income	338,307	
State Street	Fixed Income	45,665	
Taplin Canada	Fixed Income	83,611	
	_	1,434,481	
Acadian EAFE Small Cap MTA	Intl Equity	2,141,827	
Ballie group Trust	Intl Equity	1,039,769	
Cony Grp Acadian	Intl Equity	84,413	
Sprucegrove	Intl Equity	889,459	
opracegrove	ind Equity	4,155,468	
Blackrock R 1000 Growth	Mutual Fund Equity	23,417	
Blackrock R 1000 Value	Mutual Fund Equity	30,285	
Blackrock R 2000 Growth	Mutual Fund Equity	1,755	
Blackrock R 2000 Value	Mutual Fund Equity	2,812	
		58,269	
Babson BL MTA	Mutual Fund Fixed Income	(3,677,478	
NCAR ETI LIFF PPAR	Mutual Fund Mortgage	-	
ETIII - ACS	Mutual Fund Mortgage	2	
ETI CCD PPAR	Mutual Fund Mortgage		
	Matual I and Mongage	-	

### ADDITIONAL SUPPLEMENTARY INFORMATION SCHEDULE OF INVESTMENT EXPENSES FISCAL YEAR ENDED JUNE 30, 2015

INVESTMENT MANAGER	INVESTMENT TYPE	MGMT FEE
AFL-CIO Housing Inv Trust	Mutual Fund Mortgage	52,074
Access RBC	Mutual Fund Mortgage	16,842
	-	68,919
PIMCO TIPS MTA	TIPS	52,540
State Street TIPS MTA	TIPS	3,250
	-	55,790
	Sub total	9,238,402
2 Legal Fees:		
Colon & Peguero		1,244
Corporation Svs Co		71
Cox, Castle & Nicholson		5,127
Foster Pepper		2,219
Morgan, Lewis & Bockius		2,761
Nixon Peabody		3,556
Pillsbury Winthorp Shaw Pittman		2,297
Reinhart Boerner VanDeuren		2,378
Seward & Kissel		879
	Sub total	20,532
3 Consultant Fees:		
Courtlandt Partners		9,882
Ernst & Young (SR Batliboi & Co)		973
Hamilton Lane		122,500
Stepstone - Infrastructure		7,829
Townsend Group		38,494
Britten Network Corporation		218,472
Buck Consultants LLC		170,000
Prudential		170,460
	Sub total	738,610
4 Variable Investment Expenses:		
Qualified Pension Plan		100,207
Tax - deferred Annuity		753,402
	Sub total	853,609
Total Invesment Expenses for FY 201	5	10,851,153

### ADDITIONAL SUPPLEMENTARY INFORMATION

### SCHEDULE OF DIRECT PAYMENT TO CONSULTANTS

FISCAL YEAR ENDED JUNE 30, 2015

INDIVIDUAL OR FIRM NAME	NATURE OF SERVICES	AMOUNT
Buck Consultants, LLC 485 Lexington Avenue New York, New York 10017	Investment Consultation	\$170,000
Britten Network Co. 536 Main Street Royersford, PA 19468	Investment Consultation	\$218,472
<b>Prudential Insurance Co.</b> 200 Wood Ave South Iselin, NJ 08830	Investment Consultation	\$170,460
KPMG 345 Park Avenue New York, NY 10154	CPMS Consultants *	\$280,643
Vitech Systems Group, Inc. 401 Park Avenue South, 12th Floor New York, NY 10016	CPMS Consultants	\$3,001,126
<b>Gary Tunnicliffe &amp; Jack Ziegler, LLC</b> 321 Union Street, #4A Brooklyn, NY 11231	CPMS Consultants	\$564,263
Total Consulting Fees for FY 2015		\$4,404,963

\* CPMS - Comprehensive Pension Management System

### ADDITIONAL SUPPLEMENTARY INFORMATION

### SCHEDULE OF ADMINISTRATIVE EXPENSES FISCAL YEAR ENDED JUNE 30, 2015

EXPENSE TYPE		AMOUNT
1 ADMINISTRATIVE EXPENSES (QPP):		
Salaries paid to Plan Personnel		6,423,976
Consumable Supplies and Materials		101,807
Furniture and Equipment		31,131
General Services		144,872
Contractual Services		4,253,893
	Sub-Total	10,955,679
2 ADMINISTRATIVE EXPENSES (TDA):		
Salaries paid to Program Personnel		2,211,515
Contractual Services		821,752
	Sub-Total	\$ 3,033,267
3 MISCELLANEOUS EXPENSES:		
Related Parties Administrative Expenses (Adm expenses made by the Comptroller on our behalf. Charged on investment)	Sub-Total	\$ 1,451,257
Total Administrative Expenses for FY 2015:		\$ 15,440,203



# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

A FIDUCIARY FUND OF THE CITY OF NEW YORK

# COMPREHENSIVE ANNUAL FINANCIAL REPORT OF THE QUALIFIED PENSION PLAN AND THE TAX DEFERRED ANNUITY PROGRAM

# INVESTMENT SECTION PART III

FOR THE YEARS ENDED JUNE 30, 2015 AND JUNE 30, 2014 This page is intentionally left blank



Donald R. Eibsen, CFA Principal

Buck Consultants, LLC 1200 17th Street, Suite 1200 Denver, CO 80202

donald.eibsen@xerox.com tel 720.359.7765 fax 720.359.7701

Date: November 20, 2015

To: New York City Board of Education Retirement System

- From: Donald Eibsen Buck Consultants
- Re: Report on Investment Activity

Dear Members of the New York City Board of Education Retirement System:

#### Fund Summary

The Board of Education Retirement System total fund increased in value for the fiscal year ending June 2015 with a return of 3.4%, compared to 3.5% for the Board of Education Policy Benchmark<sup>1</sup>, against which it is measured. Although performance was modest and in line with benchmark, we remind you that this follows two consecutive fiscal years of double digit gains. The Fund increased in value and ended the fiscal year at \$4.4 billion (compared to \$4.2 billion for FY2014). Performance versus peers was just slightly behind its median comparably sized peer and ranked at the 51<sup>st</sup> percentile. Over the longer-term 10-year time period, the Fund remains ahead of benchmark, 7.3% versus 7.1% and ranks favorably versus its peers.

#### Economic and Market Comment

The US economy continued to grow, and the labor market data indicated continued improvement. The Federal Reserve ended its quantitative easing program in October 2014 and dropped the word "patient" from its reports in subsequent meetings. This allowed for a path to more normal interest rates with an increase expected by the end of 2015. GDP was solid with the latest government estimates reporting 2.3% growth during the fiscal year. Inflation remained constrained and grew at 0.1%, well below the Federal Reserve's informal 2.0% target. The job market continued to show continued improvement and added an average 250,000 jobs a month, a significant increase over the prior year's average job creation. The unemployment rate continued to decline, falling from 6.1% to 5.3% over the course of the fiscal year, and edging closer to what is

<sup>&</sup>lt;sup>1</sup> The Board of Education Policy Benchmark is a custom index representing the weighted average return of the benchmarks for each major investment program in the Plan. The Policy Benchmark as of 6/30 consisted of: 42.26% Russell 3000, 17% MSCI EAFE, 5% MSCI Emerging Markets, 2.91% Russell 3000+300bps, 2.83% NFI ODCE Net + 100bps, 17% NYC Core+5 fixed income, 5% Barclays Capital US TIPS, 5.5% Citigroup BB&B Index, and 2.5% Credit Suisse Leveraged Loan Index.



considered full employment. These favorable indicators of economic health have had a proportionate effect on BERS investments.

The U.S. stock market, as measured by the Russell 3000 stock index, returned 7.3%, well below the 25.2% posted for the previous fiscal year. Equities began the fiscal year strong but came under pressure during the second half as renewed concern in Greece and signs of slowing growth in China were feared to present contagion risks to the rest of the global economy. International equity performance dipped into negative territory for the year, as the MSCI EAFE posted a loss of -3.9%. This is not surprising given their more direct vulnerability to fiscal concerns in Europe and the potential for economic instability in Asia. Fixed income returns were positive and benefited from flight-to-quality sentiment that emerged toward the latter half of the fiscal year. The Barclays Aggregate Index, which represents a proxy of investment-grade bonds, returned 1.9% for the fiscal year. The better performing sectors included Treasuries and US agency securities. Credit-sensitive sectors did less well with high yield ending slightly negative.

#### Fund Description

Asset allocation is a major contributor to the Board of Education Retirement System fund's historical returns. The Trustees establish a target asset mix after considering the long-term growth prospects for the diversified group of investments and the cost of the plan participants' benefits. This asset allocation does not change significantly from year to year, and the fund is rebalanced to the target mix as it pays out benefits and receives contributions. The fund's target asset mix is 70% stocks (including non-US stocks, private equity, and real estate) and 30% bonds. Over the long investment future of the pension fund, we expect stocks to outperform bonds by a substantial margin. Equity market performance was mixed this year and was pale in comparison to the outsized double-digit gains of the previous two years. The domestic public equity allocation of the fund returned 6.8%. International equity came under pressure due to global uncertainty and lost -4.1%. While emerging market equity as an asset class fared poorly, strong performance on the part of the Fund's active manager limited losses to -0.9% compared to an index loss of -5.1%. Fixed income produced a modest 1.3% return for the year.

The fixed income allocation of the Fund was restructured toward the latter half of the fiscal year, as managers within mortgage-backed securities and inflation-linked securities were replaced. Private equity and direct real estate continue to be funded with the goal of reaching their respective 6% and 7% allocation targets.

All returns are calculated using a time-weighted rate of return and fully accrued market values. Data is collected by the fund custodian and presented, to the degree possible, in conformance with industry presentation standards. The pension fund is a long-term investment fund structured to provide assets for the payouts needed for the benefits of the participants. The fund is measured over time periods consistent with those future requirements.

The Fund will revisit active management within its equity component, focusing on managers that demonstrate an ability to generate excess returns over longer periods of time compared to passively managed strategies. The fund will also continue to focus on investments in lower-correlated asset classes with favorable expected return characteristics, such as private equity and private real estate, and possibly explore other asset classes that possess such characteristics.



Risks to global growth have become a concern, be it from Europe or the emerging markets, and asset volatility has risen to elevated levels. We continue to follow the course of seeking investment diversification to mitigate the effects on the fund. We will continue to monitor market conditions and fund performance in order to accomplish the goal of providing the plan benefits as promised.

Sincerely,

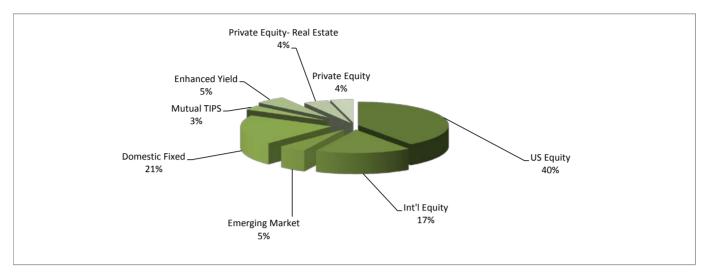
Double Eitre

Donald R. Eibsen, CFA Principal

DRE:AF

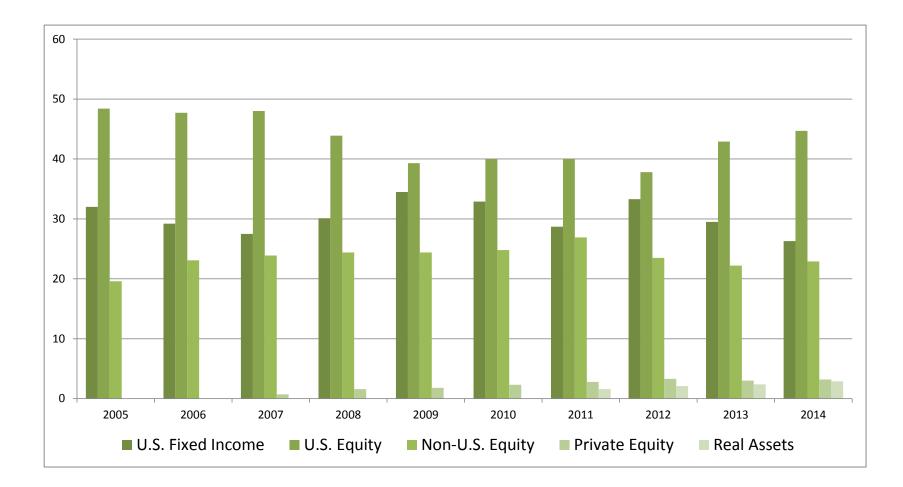
### **ASSETS ALLOCATION (FIXED)**

### FISCAL YEAR ENDED JUNE 30, 2015



Years	US Equity	Int'l Equity	Emerging Market	Domestic Fixed	Mutual TIPS	Enhanced Yield	Private Equity- Real Estate	Private Equity
6/30/2006	39.16	18.05	4.50	36.32	0.00	1.97	0.00	0.00
6/30/2007	47.90	19.30	4.50	20.40	2.80	4.40	0.00	0.70
6/30/2008	36.49	19.57	16.38	20.62	2.69	2.95	0.00	1.30
6/30/2009	34.28	20.48	11.00	26.06	2.73	3.94	0.00	1.51
6/30/2010	36.22	21.67	8.46	25.27	2.72	3.66	0.00	2.00
6/30/2011	39.97	21.51	5.37	22.63	2.62	3.43	1.66	2.81
6/30/2012	37.79	19.03	4.48	24.81	2.46	6.00	2.15	3.28
6/30/2013	42.90	17.59	4.56	20.01	3.91	5.60	2.39	3.04
6/30/2014	44.72	18.27	4.67	16.69	3.38	6.19	2.83	3.25
6/30/2015	40.15	17.06	4.94	20.67	3.16	5.48	4.47	4.07

### ASSETS ALLOCATION (FIXED) FISCAL YEARS ENDED JUNE 30, 2006 - JUNE 30, 2015



## INVESTMENT SUMMARY (FIXED AND VARIABLE) FISCAL YEAR ENDED JUNE 30, 2015 (In thousands)

Type of Investments		
	<u>Fair Value</u>	<b>Percentages</b>
Short Term Investments:	\$215,612	4.12 %
Debt Securities:	861,891	16.48
Promissory Notes:	-	-
Equity Securities:	784,214	14.99
Alternative Investments:	385,819	7.38
Collective Trust Funds:		
International Equity	969,838	18.54
Domestic Equity	1,432,065	27.38
Mortgage Debt Security	23,862	0.46
Treasury Inflation-Protected Securities	139,367	2.66
Fixed Income	85,942	1.64
<b>Total Collective Trust Funds:</b>	2,651,074	50.69
<b>Collateral From Securities Lending:</b>	331,742	6.34
Total Investments =	\$5,230,352	100.00 %

## SCHEDULE OF INVESTMENT RETURNS (FIXED) ANNUALIZED INVESTMENTS RESULTS (UNAUDITED) FISCAL YEAR ENDED JUNE 30, 2015

Assets \$K	Assets %		3 Mos Apr-15 Jun-15 %	6 Mos Jan-15 Jun-15 %	1 Yr Jul-14 Jun-15 %	3 Yrs Jul-12 Jun-15 %	5 Yrs Jul-10 Jun-15 %	10 Yrs Jul-05 Jun-15 %
2,152,209	45.48	U.S. Equities	0.14	2.43	6.85	35.96	17.51	8.23
		Russell 3000 Index	0.14	1.94	7.29	33.55	17.54	8.15
969,838	20.50	Total International Equities	0.69	4.38	-3.47	17.99	9.58	7.62
751,874	15.89	1 I						
		MSCI EAFE	0.62	5.52	-4.22	22.78	9.54	5.12
217,964	4.61	Int'l. Equities-Emerging Markets				• 60	• • • •	
		MSCI Emerging Markets Free	0.69	2.95	-5.12	-2.60	3.68	8.1
3,122,047	65.98	Total Equities - Public & Private						
1,100,748	23.26	U.S. Fixed Income		-0.21	2.04	-2.38	4.43	5.20
298,872	6.32	Securities lending						
210,042	4.44	Short-term Investments	0.09	0.26	0.44	0.29	0.42	2.08
4,731,709	100.00	Total Portfolio	0.28	2.81	3.41	18.78	11.64	7.3

Yield data were obtained from the NYCBERS Performance Overview as of June 30, 2015

These returns are calculated using a time weighted rate of return based on the market value of the portfolio, for time periods greater than one year the returns are annalized.

### LIST OF 50 LARGEST EQUITY HOLDINGS (FIXED) FISCAL YEAR ENDED JUNE 30, 2015

	NAME OF EQUITY HOLDINGS	COST	FAIR VALUE
1	ADVANCE AUTO PARTS INC COMMON STOCK USD.0001	\$ 1,504,741 \$	3,684,378
2	EQUIFAX INC COMMON STOCK USD1.25	1,628,238	3,442,811
3	GENPACT LTD W/D COMMON STOCK USD.01	2,602,157	3,382,597
4	ROBERT HALF INTL INC COMMON STOCK USD.001	1,491,129	3,123,596
5	VANTIV INC CL A COMMON STOCK USD.00001	1,845,026	3,092,473
6	MARKEL CORP COMMON STOCK NPV	1,894,178	3,019,364
7	MANPOWERGROUP INC COMMON STOCK USD.01	2,060,781	2,894,571
8	UNIVERSAL HEALTH SERVICES B COMMON STOCK USD.01	1,350,431	2,571,015
9	AKAMAI TECHNOLOGIES INC COMMON STOCK USD.01	1,840,018	2,549,826
10	M & T BANK CORP COMMON STOCK USD.5	1,723,560	2,537,953
11	LENNOX INTERNATIONAL INC COMMON STOCK USD.01	976,311	2,533,192
12	CARMAX INC COMMON STOCK USD.5	1,279,750	2,520,946
13	NVR INC COMMON STOCK USD.01	1,178,401	2,338,300
14	ALKERMES PLC COMMON STOCK USD.01	1,013,691	2,330,137
15	MONSTER BEVERAGE CORP COMMON STOCK	1,016,219	2,308,763
16	NATIONAL INSTRUMENTS CORP COMMON STOCK USD.01	1,901,821	2,055,601
17	WASTE CONNECTIONS INC COMMON STOCK USD.01	1,378,267	2,014,710
18	FACTSET RESEARCH SYSTEMS INC COMMON STOCK USD.01	1,197,589	2,003,261
19	WEX INC COMMON STOCK USD.01	1,165,686	1,845,744
20	ENVISION HEALTHCARE HOLDINGS COMMON STOCK USD.01	1,507,537	1,834,162
21	IMS HEALTH HOLDINGS INC COMMON STOCK USD.01	1,475,967	1,827,476
22	SIRONA DENTAL SYSTEMS INC COMMON STOCK USD.01	1,273,174	1,815,493
23	METTLER TOLEDO INTERNATIONAL COMMON STOCK USD.01	1,511,013	1,783,446
24	AMPHENOL CORP CL A COMMON STOCK USD.001	959,145	1,769,013
25	PATTERSON COS INC COMMON STOCK USD.01	1,333,340	1,743,957
26	GENESEE + WYOMING INC CL A COMMON STOCK USD.01	2,114,343	1,741,627
27	HARLEY DAVIDSON INC COMMON STOCK USD.01	991,176	1,733,044
28	WATERS CORP COMMON STOCK USD.01	1,180,700	1,721,447
29	ALLEGHANY CORP COMMON STOCK USD1.	1,153,985	1,696,911
30	UGI CORP COMMON STOCK NPV	938,497	1,694,630
31	HOMEAWAY INC COMMON STOCK USD.0001	1,663,486	1,691,652
32	FIRST REPUBLIC BANK/CA COMMON STOCK USD.01	866,111	1,666,513
33	HUNT (JB) TRANSPRT SVCS INC COMMON STOCK USD.01	1,346,746	1,655,509
34	TEAM HEALTH HOLDINGS INC COMMON STOCK USD.01	1,257,738	1,638,280
35	NORTHERN TRUST CORP COMMON STOCK USD1.667	1,472,854	1,625,769
36	SEI INVESTMENTS COMPANY COMMON STOCK USD.01	687,322	1,596,515
37	TRIMBLE NAVIGATION LTD COMMON STOCK NPV	1,809,701	1,571,116
38	ALLISON TRANSMISSION HOLDING COMMON STOCK USD.01	1,158,695	1,560,290
39	MEDNAX INC COMMON STOCK USD.01	1,269,139	1,560,090
40	IDEX CORP COMMON STOCK USD.01	720,567	1,521,309
41	TRIPADVISOR INC COMMON STOCK USD.001	880,587	1,518,502
42	F5 NETWORKS INC COMMON STOCK NPV	1,447,451	1,449,255
43	JAZZ PHARMACEUTICALS PLC COMMON STOCK USD 001	1,401,598	1,435,851
44	MSC INDUSTRIAL DIRECT CO A COMMON STOCK USD.001	1,384,165	1,408,447
45	HARMAN INTERNATIONAL COMMON STOCK USD.01	1,531,922	1,402,659
46	VERISIGN INC COMMON STOCK USD.001	874,252	1,364,321
47	TEXAS CAPITAL BANCSHARES INC COMMON STOCK USD.01	1,001,271	1,356,396
48	PACCAR INC COMMON STOCK USD1.	941,568	1,343,073
49 50	ELECTRONICS FOR IMAGING COMMON STOCK USD.01	1,181,234	1,327,621
50	NIMBLE STORAGE INC COMMON STOCK USD.001	1,206,552	1,322,692

### LIST OF 50 LARGEST BOND HOLDINGS (FIXED) FISCAL YEAR ENDED JUNE 30, 2015

	NAME OF BOND HOLDINGS	PAR VALUE	FAIR VALUE
1	GNMA II POOL MA2522 G2 01/45 FIXED 4	\$ 30,531,950 \$	30,188,931
2	GNMA II POOL MA2826 G2 05/45 FIXED 3.5	23,929,838	23,841,772
3	FNMA POOL 254903 FN 10/33 FIXED 5	20,535,958	20,529,682
4	FHLMC TBA 30 YR 3.5 GOLD SINGLE FAMILY	18,520,429	18,414,625
5	GNMA II TBA 30 YR 3.5 JUMBOS	17,192,834	17,202,364
6	FNMA POOL AD3808 FN 04/40 FIXED 4.5	13,109,000	13,034,573
7	FNMA TBA 30 YR 5 SINGLE FAMILY MORTGAGE	12,585,234	12,593,466
8	FNMA POOL AO2974 FN 05/42 FIXED 3.5	11,680,328	11,348,393
9	FNMA TBA 30 YR 3 SINGLE FAMILY MORTGAGE	10,526,131	10,560,462
10	FREDDIE MAC 0.7000%	10,000,000	10,004,700
11	FHLMC TBA 30 YR 4 GOLD SINGLE FAMILY	9,145,358	9,125,340
12	FHLMC TBA 30 YR 3 GOLD SINGLE FAMILY	9,014,644	8,946,180
13	GNMA II TBA 30 YR 3 JUMBOS	8,716,906	8,681,270
14	GNMA II TBA 30 YR 4.5 JUMBOS	7,671,328	7,655,788
15	FNMA POOL AT2720 FN 05/43 FIXED 3	7,773,515	7,584,849
16	FNMA TBA 30 YR 4 SINGLE FAMILY MORTGAGE	7,150,228	7,177,977
17	FNMA TBA 30 YR 3.5 SINGLE FAMILY MORTGAGE	7,102,336	7,110,795
18	FEDERAL HM LN BANK 0.375%	6,965,000	6,967,159
19	US TREASURY N/B 08/23 2.5	6,478,002	6,772,943
20	FNMA TBA 15 YR 3 SINGLE FAMILY MORTGAGE	6,398,594	6,409,932
21	FNMA POOL AR9195 FN 03/43 FIXED 3	6,245,949	6,096,244
22	US TREASURY N/B 05/44 3.375	5,962,461	6,050,246
23	FANNIE MAE 1.9200%	6,000,000	6,015,000
24	US TREASURY N/B 04/17 0.5	5,940,500	5,945,234
25	US TREASURY N/B 07/21 2.25	5,646,609	5,746,652
26	US TREASURY N/B 08/22 1.625	5,554,788	5,393,630
27	FNMA POOL AX2516 FN 10/29 FIXED 3.5	5,282,567	5,250,209
28	US TREASURY N/B 08/40 3.875	4,185,928	5,082,034
29	GNMA II POOL MA2754 G2 04/45 FIXED 3.5	4,920,245	4,874,640
30	FREDDIE MAC NOTES 05/20 1.375	4,573,780	4,534,634
31	FNMA TBA 15 YR 2.5 SINGLE FAMILY MORTGAGE	4,502,542	4,489,720
32	US TREASURY N/B 04/16 0.25	4,427,912	4,443,622
33	US TREASURY N/B 05/21 3.125	4,169,403	4,144,739
34	US TREASURY N/B 02/43 3.125	3,813,636	4,095,767
35	US TREASURY N/B 08/24 2.375	4,061,387	4,026,587
36	FEDERAL HM LN BANK 1.12500%	4,000,000	3,990,080
37	FANNIE MAE NOTES 09/24 2.625	3,819,804	3,856,503
38	FNMA POOL AL5611 FN 08/44 FIXED VAR	3,684,986	3,663,273
39	FNMA POOL 725423 FN 05/34 FIXED VAR	3,678,200	3,648,192
40	GNMA II POOL 004113 G2 04/38 FIXED 5	3,525,818	3,552,781
41	GNMA POOL 782386 GN 08/38 FIXED 5	3,163,707	3,169,529
42	US TREASURY N/B 02/22 2	3,056,020	3,029,515
43	FANNIE MAE 1.7100%	3,000,000	2,985,000
44	US TREASURY N/B 12/21 2.125	2,928,903	2,887,376
45	FNMA POOL AS2462 FN 05/29 FIXED 3	2,900,419	2,866,493
46	ALCATEL LUCENT USA INC SR UNSECURED 03/29 6.45	1,908,284	2,730,963
47	GNMA I TBA 30 YR 4.5 SINGLE FAMILY MORTGAGE	2,719,531	2,714,450
48	FHLMC TBA 15 YR 3 GOLD SINGLE FAMILY	2,575,781	2,588,125
49	CITIGROUP INC SR UNSECURED 05/18 6.125	2,334,285	2,538,695
50	US TREASURY N/B 05/41 4.375	2,384,074	2,471,880

### LIST OF 50 LARGEST INTERNATIONAL EQUITY HOLDINGS (FIXED) FISCAL YEAR ENDED JUNE 30, 2015

	NAME OF INT'L EQUITY HOLDINGS	COST	FAIR VALUE
1	INDITEX	\$ 10,734,634 \$	16,829,753
2	FIAT CHRYSLER AUTOMOBILES NV	7,059,600	15,595,440
3	SOFTBANK GROUP CORP	14,909,175	15,422,116
4	AIA GROUP LTD	9,639,626	14,934,062
5	RAKUTEN INC	6,203,778	12,952,883
6	BAIDU INC SPON ADR	5,520,221	12,757,307
7	ARM HOLDINGS PLC	8,120,507	11,983,991
8	ROLLS ROYCE HOLDINGS PLC	10,191,962	10,955,249
9	SAMSUNG ELECTRONICS CO LTD	9,433,915	10,737,749
10	PRUDENTIAL PLC	5,256,754	10,405,771
11	NOVARTIS AG REG	6,226,880	9,882,470
12	TENCENT HOLDINGS LTD	2,212,205	9,730,752
13	UNICREDIT SPA	7,009,492	9,439,671
14	BANCO POPULAR ESPANOL	9,600,350	8,831,658
15	ALIBABA GROUP HOLDING SP ADR	9,884,469	8,760,163
16	LOREAL	6,365,856	8,704,792
17	ATLAS COPCO AB A SHS	6,038,145	8,626,584
18	INVESTMENT AB KINNEVIK B SHS	10,075,969	8,482,845
19	HSBC HOLDINGS PLC	9,724,834	8,447,284
20	BANCO SANTANDER SA	9,457,360	8,304,251
20	CHINA CONSTRUCTION BANK H	6,896,500	8,008,481
22	SVENSKA HANDELSBANKEN A SHS	5,984,790	7,885,668
23	NOVO NORDISK A/S B	3,080,387	7,745,547
23 24	SYNGENTA AG REG	6,203,212	7,512,266
24	M3 INC	6,580,246	7,478,378
26	UNITED OVERSEAS BANK LTD	7,078,213	7,429,576
27	NESTLE SA REG	5,858,662	7,301,264
28	CHINA MOBILE LTD	5,712,270	7,200,094
20 29	ROYAL DUTCH SHELL PLC B SHS	8,136,375	7,187,117
30	TOTAL SA	7,100,745	7,098,549
31	TRAVIS PERKINS PLC	4,602,406	6,961,184
32	CARNIVAL PLC	4,523,415	6,598,320
33	TESCO PLC	9,460,151	6,560,982
34	HONDA MOTOR CO LTD	6,719,836	6,359,180
35	CRH PLC	4,704,637	6,274,248
36	SMC CORP	3,210,614	6,273,636
37	ASML HOLDING NV	4,667,504	6,158,975
38	BAYERISCHE MOTOREN WERKE AG	4,011,046	6,065,103
39	BOSKALIS WESTMINSTER	4,674,842	5,878,014
40	CIE FINANCIERE RICHEMON REG	3,588,106	5,683,378
40	HONG KONG EXCHANGES + CLEAR	3,188,223	5,675,988
42	JARDINE MATHESON HLDGS LTD	5,866,976	5,224,194
43	BANK OF CHINA LTD H		5,201,516
43	BANK OF CHINA LTD II BANCO SANTANDER SA	3,554,957	5,184,612
44	HONGKONG LAND HOLDINGS LTD	7,222,016 3,980,210	4,999,159
46	HOLCIM LTD REG		
40 47	AMERICA MOVIL SAB DE C SER L	4,868,128	4,895,901 4,881,806
47	KERING	4,758,808 4,252,110	4,881,806
48 49	FIRSTRAND LTD		4,865,266
49 50	HON HAI PRECISION INDUSTRY	3,386,335	4,760,417
50	HOW HALL RECISION INDUSTRI	3,625,329	4,741,681

### LIST OF 50 LARGEST EAFE INVESTMENTS (FIXED) FISCAL YEAR ENDED JUNE 30, 2015

	NAME OF EAFE INVESTMENTS		COST		FAIR VALUE
1	INDITEX	\$	10,734,634	\$	16,829,753
2	FIAT CHRYSLER AUTOMOBILES NV	Ŷ	7,059,600	Ψ	15,595,440
3	SOFTBANK GROUP CORP		14,909,175		15,422,116
4	AIA GROUP LTD		9,639,626		14,934,062
5	RAKUTEN INC		6,203,778		12,952,883
6	ARM HOLDINGS PLC		8,120,507		11,983,991
7	ROLLS ROYCE HOLDINGS PLC		10,191,962		10,955,249
8	PRUDENTIAL PLC		5,256,754		10,405,771
9	NOVARTIS AG REG		6,226,880		9,882,470
10	TENCENT HOLDINGS LTD		2,212,205		9,730,752
11	UNICREDIT SPA		7,009,492		9,439,671
12	BANCO POPULAR ESPANOL		9,600,350		8,831,658
13	LOREAL		6,365,856		8,704,792
14	ATLAS COPCO AB A SHS		6,038,145		8,626,584
15	INVESTMENT AB KINNEVIK B SHS		10,075,969		8,482,845
16	HSBC HOLDINGS PLC		9,724,834		8,447,284
17	BANCO SANTANDER SA		9,457,360		8,304,251
18	CHINA CONSTRUCTION BANK H		6,896,500		8,008,481
19	SVENSKA HANDELSBANKEN A SHS		5,984,790		7,885,668
20	NOVO NORDISK A/S B		3,080,387		7,745,547
21	SYNGENTA AG REG		6,203,212		7,512,266
22	M3 INC		6,580,246		7,478,378
23	UNITED OVERSEAS BANK LTD		7,078,213		7,429,576
24	NESTLE SA REG		5,858,662		7,301,264
25	CHINA MOBILE LTD		5,712,270		7,200,094
26	ROYAL DUTCH SHELL PLC B SHS		8,136,375		7,187,117
27	TOTAL SA		7,100,745		7,098,549
28	TRAVIS PERKINS PLC		4,602,406		6,961,184
29	CARNIVAL PLC		4,523,415		6,598,320
30	TESCO PLC		9,460,151		6,560,982
31	HONDA MOTOR CO LTD		6,719,836		6,359,180
32	CRH PLC		4,704,637		6,274,248
33	SMC CORP		3,210,614		6,273,636
34	ASML HOLDING NV		4,667,504		6,158,975
35	BAYERISCHE MOTOREN WERKE AG		4,011,046		6,065,103
36	BOSKALIS WESTMINSTER		4,674,842		5,878,014
37	CIE FINANCIERE RICHEMON REG		3,588,106		5,683,378
38	HONG KONG EXCHANGES + CLEAR		3,188,223		5,675,988
39	JARDINE MATHESON HLDGS LTD		5,866,976		5,224,194
40	BANK OF CHINA LTD H		3,554,957		5,201,516
41	BANCO SANTANDER SA		7,222,016		5,184,612
42	HONGKONG LAND HOLDINGS LTD		3,980,210		4,999,159
43	HOLCIM LTD REG		4,868,128		4,895,901
44	KERING		4,252,110		4,865,266
45	DENSO CORP		3,579,421		4,728,463
46	SWATCH GROUP AG/THE BR		4,629,211		4,315,049
47	HOYA CORP		2,011,583		4,238,442
48	AGGREKO PLC		5,323,284		4,223,459
49	ANGLO AMERICAN PLC		6,456,056		4,205,873
50	EXOR SPA		3,467,075		4,183,235

### LIST OF 50 LARGEST EMERGING MARKET INVESTMENTS (FIXED) FISCAL YEAR ENDED JUNE 30, 2015

	NAME OF EMERGING MARKET INVESTMENTS	COST	FAIR VALUE
1	SAMSUNG ELECTRONICS CO LTD	\$ 9,433,915	5 10,737,749
2	AMERICA MOVIL SAB DE C SER L	4,758,808	4,881,806
3	FIRSTRAND LTD	3,386,335	4,760,417
4	HON HAI PRECISION INDUSTRY	3,625,329	4,741,681
5	FUBON FINANCIAL HOLDING CO	1,941,399	4,157,151
6	PTT PCL/FOREIGN	3,697,771	3,894,064
7	TENAGA NASIONAL BHD	2,758,399	3,851,792
8	SASOL LTD	4,118,836	3,831,253
9	STATE BANK OF INDIA	2,667,565	3,707,846
10	SK HYNIX INC	3,920,795	3,694,713
11	GAIL INDIA LTD	3,400,098	3,369,625
12	PEGATRON CORP	1,958,391	3,353,456
13	CJ CORP	1,037,641	3,297,239
14	BRF SA	3,647,569	3,221,078
15	TATA MOTORS LTD	2,564,394	2,964,023
16	HCL TECHNOLOGIES LTD	1,475,893	2,894,155
17	NAVER CORP	1,425,494	2,825,527
18	JBS SA	1,851,083	2,628,796
19	TIGER BRANDS LTD	2,976,875	2,557,746
20	CELLTRION INC	1,281,829	2,525,966
21	POLSKI KONCERN NAFTOWY ORLEN	1,800,927	2,437,142
22	INNOLUX CORP	2,379,224	2,370,991
23	AUROBINDO PHARMA LTD	1,346,133	2,369,401
24	KIA MOTORS CORP	2,332,530	2,233,254
25	BANCO BRADESCO SA PREF	2,865,360	2,170,136
26	GRUMA S.A.B. B	740,724	2,162,869
27	FIBRIA CELULOSE SA	1,813,943	2,162,223
28	MRF LTD	1,012,001	2,091,427
29	LUPIN LTD	1,145,431	2,073,119
30	BANCO DO BRASIL S.A.	3,109,767	2,043,305
31	BARWA REAL ESTATE CO	1,846,849	2,002,809
32	HINDALCO INDUSTRIES LTD	2,131,383	1,935,934
33	TELEFONICA BRASIL S.A. PREF	3,331,948	1,842,966
34	CIA ENERGETICA MINAS GER PRF	3,289,022	1,778,244
35	STANDARD BANK GROUP LTD	1,588,751	1,775,638
36	POU CHEN	1,024,862	1,766,758
37	TURK HAVA YOLLARI AO	1,988,975	1,705,294
38	LG DISPLAY CO LTD	1,914,869	1,681,592
39	TURKIYE IS BANKASI C	2,254,621	1,647,278
40	SASOL LTD	2,302,955	1,624,628
41	KOREA ELECTRIC POWER CORP	1,515,067	1,613,856
42	SHANGHAI MECHANICAL AND EL B	727,192	1,588,719
43	SK TELECOM	1,189,288	1,522,975
44	BANK NEGARA INDONESIA PERSER	1,810,013	1,507,564
45	PGE SA	1,707,058	1,482,102
46	AU OPTRONICS CORP	1,277,792	1,469,153
47	TELEKOMUNIKASI INDONESIA PER	1,466,469	1,418,584
48	HOUSING DEVELOPMENT FINANCE	815,894	1,409,104
49	MARUTI SUZUKI INDIA LTD	1,175,327	1,375,833
50	UPL LTD	657,710	1,363,381

### LIST OF 50 LARGEST ECONOMICALLY TARGETED INVESTMENTS (FIXED) FISCAL YEAR ENDED JUNE 30, 2015

	NAME OF ECONOMICALLY TARGETED INVESTMENTS	PAR VALUE	FAIR VALUE
1	BOA BANK OF AMERICA PPAR 1% \$	532,612 \$	562,313
2	FNMA POOL AW0982	289,981	309,285
3	JPM CHASE- PPAR 1%	312,777	292,576
4	FNMA POOL AU7004	263,817	292,376 281,364
5	FNMA POOL AU1707	262,878	271,640
6	CCD CITIBANK NA PPAR 1%	269,137	252,052
7	FNMA POOL AV0680	235,704	251,366
8	NYC ETI ACS/RBC 2.5%	214,499	217,679
9	FNMA POOL 466026	199,615	211,075
10	FNMA POOL AW3604	195,928	208,963
11	FNMA POOL AU6719	188,760	200,905
12	FNMA POOL AV7745	186,750	199,222
12	FNMA POOL AW6468	170,618	199,222
14	FNMA POOL AB7800	178,544	178,839
15	NYC ETI ACS/RBC 2%	180,430	178,733
16	FNMA POOL AV7090	147,469	157,301
17	COMMUNITY PRESERVATION CORP.	177,428	155,157
18	JPM CHASE- PPAR 1%	170,400	154,562
19	FNMA POOL AV3535	127,865	136,354
20	FNMA POOL AW5048	117,296	125,110
21	FNMA POOL AV1504	116,931	124,714
22	JPM CHASE- PPAR 1%	130,857	124,456
23	CCD CITIBANK NA PPAR 1%	117,243	123,806
24	LIIF LOW INCOME INVESTMENT FU 1%	111,774	123,472
25	CCD CITIBANK NA PPAR 1%	117,696	122,130
26	CCD CITIBANK NA PPAR 1%	115,256	121,708
27	FHLMC MULTIFAMILY STRUCTURED P	108,027	118,963
28	CCD CITIBANK NA PPAR 1%	113,773	118,059
29	BOA BANK OF AMERICA PPAR 1%	128,351	117,415
30	GNMA POOL AF9426	106,993	114,661
31	JPM CHASE- PPAR 1%	121,739	108,287
32	FNMA POOL AK6714	104,735	108,245
33	FNMA POOL 469393	101,278	104,723
34	FNMA POOL AU8082	97,656	104,155
35	FNMA POOL AO3388	100,255	103,607
36	FNMA POOL AI3490	95,541	103,314
37	GNMA POOL 738395	93,001	101,348
38	FNMA POOL AB7476	97,524	97,685
39	FNMA POOL AW1221	92,129	97,647
40	BOA BANK OF AMERICA PPAR 1%	88,406	96,363
41	LIIF LOW INCOME INVESTMENT FU 1%	90,118	96,086
42	JPM CHASE- PPAR 1%	100,723	95,544
43	LIIF LOW INCOME INVESTMENT FU 1%	86,035	93,578
44	FNMA POOL AT2700	90,335	90,387
45	FNMA POOL AV6080	82,942	87,902
46	FNMA POOL AW5184	78,639	83,900
47	FNMA POOL AT7919	82,577	82,585
48	NYC ETI CCD 1%	68,025	78,420
49	COMMUNITY PRESERVATION CORP.	86,332	77,253
	LIIF LOW INCOME INVESTMENT FU 1%	86,950	75,520

NOTE: Full listing of holdings can be obtained at NYC Board of Education Retirement System

65 Court Street, Room 1603, Brooklyn, NY 11201

### LIST OF TIPS HOLDINGS FISCAL YEAR ENDED JUNE 30, 2015

	NAME OF TIPS HOLDINGS	PAR VALUE	FAIR VALUE
1	TIPS STATE STREET	\$ 140,138,035 \$	139,303,977
2	TIPS PIMCO	4,022,058	62,636

### LIST OF 50 LARGEST DOMESTIC EQUTIY HOLDINGS (VARIABLE "A" PROGRAM) FISCAL YEAR ENDED JUNE 30, 2015

	NAME OF DOMESTIC EQUITY HOLDINGS "VARIABLE A" PROGRA	AM	COST	FAIR VALU
1	AMALGAMATED BANK OF NY LONGVIEW 1500 TTL MKD INDEX	\$	4,681,291 \$	10,049,574
2	GMO- U.S. EQUITY ALLOCATION FUND IV		8,827,680	8,594,958
3	APPLE INC		1,228,065	7,715,171
4	GMO INTERNATIONAL EQUITY FUND OPEN-END FUND		7,186,785	7,490,311
5	GMO- ASSET ALLOCATION BOND FUND III		7,619,900	7,048,753
6	FPA CRESCENT FUND OPEN-END FUND		5,385,802	6,014,370
7	MICROSOFT CORP		3,281,434	4,530,188
8	EXXON MOBIL CORP		3,212,387	3,649,703
9	BIOGEN INC		2,159,932	3,423,950
10	JOHNSON & JOHNSON		2,336,056	3,257,496
11	ALLERGAN PLC		1,813,986	3,166,778
12	GENERAL ELECTRIC CO		3,706,130	3,036,740
13	JPMORGAN CHASE & CO		2,066,011	2,935,210
14	UNITEDHEALTH GROUP INC		1,548,645	2,882,753
15	PROCTER & GAMBLE CO		2,392,157	2,812,110
16	WELLS FARGO & CO		2,514,234	2,792,382
17	BERKSHIRE HATHAWAY INC		1,727,795	2,719,513
18	PFIZER INC		1,994,956	2,654,314
19	GMO CURRENCY HEDGED INTERNATIONAL BOND FUND		2,591,337	2,650,274
20	MERCK & CO INC		1,821,638	2,404,557
21	AMGEN INC		1,546,883	2,384,959
22	CITIGROUP INC		4,237,946	2,370,914
23	VERIZON COMMUNICATIONS INC		1,985,982	2,354,857
24	AT&T INC		2,215,594	2,349,737
25	WALT DISNEY CO		799,840	2,286,730
26	FACEBOOK INC		1,131,055	2,272,590
27	BANK OF AMERICA CORP		4,380,911	2,177,286
28	GOOGLE INC CLA		1,341,930	2,155,947
29	INTERNATIONAL BUSINESS MACHINES CORP		1,542,829	2,119,908
30	QUALCOMM INC		1,802,557	2,052,680
31	CHEVRON CORP		1,506,649	1,959,207
32	COMCAST CORP		1,011,215	1,942,219
33	GOOGLE INC-CL C		1,117,468	1,884,286
34	PEPSICO INC		1,349,666	1,873,972
35	GILEAD SCIENCES INC		353,126	1,852,703
36	CELGENE CORP		782,198	1,689,023
37	ORACLE CORP		987,806	1,680,002
38	MEDTRONIC PLC		1,073,086	1,666,764
39	INTEL CORP		1,196,562	1,660,342
40	COCA-COLA CO		1,084,898	1,659,423
41	CVS HEALTH CORP		583,653	1,658,101
42	VISA INC		666,219	1,653,546
43	AMAZON.COM INC		273,972	1,644,095
44	CISCO SYSTEMS INC		1,541,501	1,623,967
45	PHILIP MORRIS INTERNATIONAL INC		1,044,404	1,586,535
46	ZEBRA TECHNOLOGIES CORP		1,044,872	1,573,874
47	WAL-MART STORES INC		1,194,988	1,552,911
48	HOME DEPOT INC		558,344	1,532,216
49	AMERICAN INTERNATIONAL GROUP INC		2,422,752	1,527,215
50	COMCAST CORP SPECIAL		1,267,773	1,476,595

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID	COMMISSION PER SHARE (in \$)
ABEL NOSER CORPORATION	<u> </u>	141	0.02
ACADEMY SECURITIES INC	8,420 82,939		0.02
	,	1,869	
AGORA CORDE TITUL E VAL MOB	529,093	5,936	0.01
ALBERT FRIED & COMPANY LLC	28,100	843	0.03
ALLEN & COMPANY LLC	7,300	256	0.04
AMERICAN PORTFOLIOS FINANIAL	693	35	0.05
ANCORA SECIRITIES INC	1,154	46	0.04
AQUA SECURITIES LP	11,600	232	0.02
AVONDALE PARTNERS LLC	20,201	715	0.04
B.RILEY &CO., LLC	27,225	712	0.03
BAADER BANK AG	28,800	2,434	0.08
BANCO SANTANDER CENTRAL HISPANO	1,119,498	9,847	0.01
BANK J. VONTOBEL UND CO. AG	260	1,601	6.15
BANK OF NEW YORK	4,581	183	0.04
BARCLAYS BANK PLC	61,832	747	0.01
BARCLAYS CAPITAL	2,308,448	23,979	0.01
BARCLAYS CAPITAL INC./LE	472,035	3,453	0.01
BARCLAYS CAPITAL LE	240,922	8,193	0.03
BARRINGTON RESEARCH ASSOCIATES INC.	7,701	236	0.03
BB&T SECURITIES, LLC	99,954	3,664	0.04
BLAYLOCK ROBERT VAN LLC	66,904	1,418	0.02
BLOOMBERGTRADEBOOK LLC	208,260	4,761	0.02
BMO CAPITAL MARKETS	31,750	1,289	0.04
BNP PARIBAS PRIME BROKERAGE ACTING AGENT	715	25	0.04
BNP PARIBAS SECURITIES INDIA PRIVATE LIM	9,658	945	0.10
BNP PARIBAS SECURITIES SERVICE	68,742	1,301	0.02
BNP PARIBAS SECURITIES SERVICES	28,449	1,728	0.02
BNY CONVERGEX EXECUTION SOLUTIONS LLC	35,910,875	68,655	0.00
BNY CONVERGEX LIR	35,910,873	701	0.00
BREAN CAPITAL LLC	66,510		0.02
		2,401	0.04
BROADCORTCAPITAL (THRU ML)	330	11	
BTIG, LLC	132,900	4,558	0.03
BUCKINGHAM RESEARCH GROUP INC	10,482	419	0.04
BURKE ANDQUICK PARTNERS LLC	503	18	0.04
CABRERA CAPITAL MARKETS	435,211	10,964	0.03
CABRERA CAPITAL MARKETS LLC	3,207	30	0.01
CACEIS BANK DEUTSCHLAND GMBH	2,520	5,906	2.34
CANACCORDGENUITY INC.	80,065	2,843	0.04
CANADIAN IMPERIAL BANK OF COMMERCE	25,120	1,071	0.04
CANTOR CLEARING SERVICES	445	13	0.03
CANTOR FITZGERALD & CO / CASTLEOAK SEC	31,832	647	0.02
CANTOR FITZGERALD + CO.	106,120	2,706	0.03
CANTOR FITZGERALD/CANTOR CLEARING SERV	1,484,324	8,159	0.01
CAPITAL INSTITUTIONAL SVCS INC EQUITIES	10,056	496	0.05
CELFIN CAPITAL SA CORREDORES DE BOLSA	44,670	412	0.01
CHEEVERS & CO. INC.	322,658	9,187	0.03
CHINA FORTUNE SECURITIES.,LTD	206,819	331	0.00
CHINA INTERNATIONAL CAPITAL CO	54,754	614	0.01
CIBC WORLD MKTS INC	13,862	508	0.04
CITATION GROUP	11,403	570	0.05
	11,703	570	0.05

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID	COMMISSION PER SHARE (in \$)
CITIGROUPGLOBAL MARKETS INC	722,212	8,265	0.01
CITIGROUPGLOBAL MARKETS INC.	6,690,726	8,099	0.00
CITIGROUPGLOBAL MARKETS INDIA	312,900	12,532	0.04
CITIGROUPGLOBAL MARKETS LIMITED	2,188,504	19,857	0.01
CJS SECURITIES INC	1,309	52	0.04
CLSA AUSTRALIA PTY LTD	1,493,681	9,308	0.01
CLSA SINGAPORE PTE LTD.	3,990,069	10,614	0.00
COMPASS POINT RESEARCH + TRADING, LLC	49,633	1,785	0.04
CONVERGEXEXECUTION SOLUTIONS LLC	151,055	6,020	0.04
COWEN ANDCOMPANY, LLC	96,448	3,397	0.04
CRAIG - HALLUM	104,153	3,236	0.03
CREDIBOLSA SOCIEDAD AGENTE	440,074	2,195	0.00
CREDIT LYONNAIS SECURITIES (ASIA)	14,482,000	21,521	0.00
CREDIT LYONNAIS SECURITIES (USA) INC	32,446	1,710	0.05
CREDIT LYONNAIS SECURITIES INDIA	3,038,903	43,958	0.01
CREDIT LYONNAIS SECURITIES(ASIA)	17,198,620	10,014	0.00
CREDIT RESEARCH + TRADING LLC	5,890	192	0.03
CREDIT SUISSE SECS INDIA PRIVATE LTD	742,077	2,258	0.00
CREDIT SUISSE SECURITIES (EUROPE) LTD	969,062	9,306	0.01
CREDIT SUISSE SECURITIES (USA) LLC	25,347,534	37,941	0.00
CS FIRST BOSTON (HONG KONG) LIMITED	1,800	19	0.01
CSFB AUSTRALIA EQUITIES LTD	2,468	7	0.00
CSI US INSTITUTIONAL DESK	37,535	1,280	0.03
CUTTONE &CO.	290	10	0.04
CUTTONE +CO, INC	700	25	0.04
DAIWA SECURITIES (HK) LTD.	1,961,963	436	0.00
DAIWA SECURITIES AMERICA INC	2,094,805	9,732	0.00
DANSKE BANK A.S.	26,628	210	0.01
DAVIDSON D.A. + COMPANY INC.	30,668	951	0.03
DAVY STOCKBROKERS	9,318,827	3,184	0.00
DBS VICKERS SECURITIES (SINGAPORE)	711,937	5,190	0.01
DEUTSCHE BANK AG LONDON	520,694	11,454	0.02
DEUTSCHE BANK SECURITIES INC	6,130,844	24,424	0.00
DEUTSCHE SECURITIES ASIA LIMITED	475,906	3,858	0.01
DOUGHERTYCOMPANY	62,085	1,792	0.03
DREXEL HAMILTON LLC	72,701	2,212	0.03
DSP MERRILL LYNCH LTD	2,809,790	35,873	0.01
EVERCORE GROUP LLC	970	34	0.04
EXANE S.A.	7,869	732	0.09
FBN SECURITIES INC	1,583	63	0.04
FIDELITY CAPITAL MARKETS	6,604	186	0.03
FIDELITY CLEARING CANADA ULC	264,840	3,270	0.01
FIRST ANALYSIS SECURITIES CORP	10,478	299	0.03
FRIEDMAN BILLINGS + RAMSEY	38,266	1,302	0.03
G TRADE SERVICES LTD	11,157,296	12,377	0.00
GABELLI & COMPANY	4,184	130	0.03
GLOBAL HUNTER SECURITIES	11,951	336	0.03
GOLDMAN SACHS (INDIA)	439,456	14,797	0.03
GOLDMAN SACHS + CO	15,721,150	53,575	0.00
GOLDMAN SACHS + CO INTL.	11,266	130	0.01
	11,200	100	0.01

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID	COMMISSION PER SHARE (in \$)
GOLDMAN SACHS INTERNATIONAL	3,334,199	18,557	0.01
GOODBODY STOCKBROKERS	79,394	788	0.01
GREEN STREET ADVISORS	162,478	5,687	0.04
GUGGENHEIM CAPITAL MARKETS LLC	34,263	1,221	0.04
GUZMAN AND COMPANY	2,294	46	0.02
HANWHA SECURITIES SEOUL	7,141	67	0.01
HEIGHT SECURITIES, LLC	69,347	2,427	0.04
HIBERNIA SOUTHCOAST CAPITAL INC	6,026	241	0.04
HONGKONG AND SHAGHAI BANKING CORPO	2,240,069	1,961	0.00
HSBC BANKBRASIL SA BANCO MULTIPLO	590,432	7,150	0.01
HSBC BANKPLC	4,264,230	19,505	0.00
HSBC MEXICO S A INSTITUCION DE BANCA MLT	444,344	638	0.00
HSBC SECURITIES	390,526	321	0.00
HSBC SECURITIES (USA) INC.	299,545	1,269	0.00
HSBC SECURITIES INDIA HOLDINGS	335,284	6,899	0.02
ICAP DO BRASIL DTVM LTDA	3,291,111	16,010	0.00
ICBC FINCL SVCS, EQUITY CLEARANCE	940	19	0.02
ICICI BROKERAGE SERVICES	121,148	747	0.01
IMPERIAL CAPITAL LLC	6,110	206	0.03
INDUSTRIAL AND COMMERCIAL BANK	3,272	96	0.03
INSTINET	1,050,383	12,509	0.05
INSTINCT AUSTRALIA CLEARING SRVC PTY LTD	185,262	1,314	0.01
INSTINCT LLC	1,764,005	4,890	0.00
INSTINET PACIFIC LIMITED	26,674,650	6,493	0.00
INSTINET FACIFIC LIMITED	115,849	685	0.00
INSTINET U.K. LTD	2,150,763	35,411	0.01
INVESTEC BANK PLC	359,947	3,467	0.02
INVESTEC BANK FEC	31,041	72	0.01
INVESTICE SECONTIES ETD INVESTMENT TECHNOLOGY GROUP INC.	957,069	12,469	0.00
INVESTMENT TECHNOLOGY GROUP LTD	1,132,789	9,674	0.01
ISI GROUPINC		· · · · · · · · · · · · · · · · · · ·	0.01
ITG CANADA	97,296	2,713 232	0.03
ITG INC	48,000		0.00
	13,783	49	
ITG INC.	85,438	641	0.01
ITG SECURITIES (HK) LTD	19,390,414	6,176	0.00
IVY SECURITIES, INC.	22,698	749	0.03
J P MORGAN INDIA PRIVATE LTD	153,627	1,383	0.01
J P MORGAN SECURITIES INC	123,682	1,382	0.01
J.P. MORGAN CLEARING CORP.	1,319,215	15,806	0.01
J.P. MORGAN SECURITIES (TAIWAN) LTD	1,088,433	594	0.00
J.P. MORGAN SECURITIES INC.	326,247	9,960	0.03
J.P.MORGAN SECURITIES(FAR EAST)LTD SEOUL	46,885	997	0.02
JANNEY MONTGOMERY, SCOTT INC	33,795	1,013	0.03
JEFFERIES+ COMPANY INC	11,763,092	14,112	0.00
JEFFERIESINTERNATIONAL LTD	36,551,871	14,429	0.00
JM FINANCIAL INSTITUTIONAL SECURITIES PR	103,992	1,294	0.01
JMFINN CAPITAL MARKETS LIMITED	7,717	75	0.01
JMP SECURITIES	18,081	713	0.04
JNK SECURITIES INC	1,694	56	0.03
JOH BERENBERG GOSSLER AND CO	149,098	2,441	0.02

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID	COMMISSION PER SHARE (in \$)
JOHNSON RICE + CO	26,331	872	0.03
JONESTRADING INSTITUTIONAL SERVICES LLC	400,436	4,629	0.01
JP MORGANSECURITIES AUSTRALIA LTD	71,176	420	0.01
JP MORGANSECURITIES PLC	1,564,558	9,446	0.01
JP MORGANSECURITIES SINGAPORE	2,096,502	276	0.00
JPMORGAN CHASE BANK NA LONDON	1,956	3	0.00
JPMORGAN SECURITIES(ASIA PACIFIC)LTD	1,643,655	853	0.00
KB SECURITIES N V	15,758	361	0.02
KEEFE BRUYETTE + WOODS INC	55,559	1,697	0.03
KEPLER EQUITIES PARIS	2,809	165	0.06
KEYBANC CAPITAL MARKETS INC	135,969	4,764	0.04
KING, CL,& ASSOCIATES, INC	501,007	15,159	0.03
KINGSWAY FINANCIAL SVCS GROUP LTD	324,070	477	0.00
KNIGHT CLEARING SERVICES LLC	83,880	792	0.01
KNIGHT DIRECT LLC	3,220	16	0.01
KNIGHT EQUITY MARKETS L.P.	165,728	5,477	0.03
KOREA INVESTMENT AND SECURITIES CO., LTD	13,584	220	0.02
KOTAK SECURITIES LTD	134,045	3,489	0.03
LADENBURGTHALMAN + CO	7,878	182	0.02
LAZARD FRERES AND CO LLC	3,847	192	0.05
LEERINK SWANN AND COMPANY	35,743	1,301	0.04
LEK SECURITIES CORP	203	4	0.02
LIBERUM CAPITAL LIMITED	198,066	960	0.00
LIQUIDNETINC	776,194	15,137	0.02
LONGBOW SECURITIES LLC	7,559	250	0.03
LOOP CAPITAL MARKETS	3,196,096	53,660	0.02
LOOP CAPITAL MARKETS LLC	764,200	7,642	0.01
M RAMSEY KING SECURITIES INC	7,998	192	0.02
M RAMSEY KING SECURITIES, INC.	451,700	7,342	0.02
MACQUARIEBANK LIMITED	2,036,097	3,968	0.00
MACQUARIECAPITAL (EUROPE) LTD	9,460	1,372	0.15
MACQUARIECAPITAL (USA) INC	154,716	2,641	0.02
MACQUARIECAPITAL (USA) INC.	115,318	1,792	0.02
MACQUARIESECURITIES (USA) INC	44,213	1,544	0.03
MACQUARIESECURITIES LIMITED	11,142	65	0.01
MACQUARIESECURITIES LTD SEOUL	4,517	27	0.01
MAINFIRSTBANK DE	107,630	3,903	0.04
MAXIM GROUP	21,788	676	0.03
MERRILL LYNCH AND CO INC	4,008,446	11,419	0.00
MERRILL LYNCH INTERNATIONAL	9,761,725	47,274	0.00
MERRILL LYNCH PIERCE FENNER + SMITH INC	1,973,462	26,205	0.01
MERRILL LYNCH PIERCE FENNER AND S	145,039	798	0.01
MERRILL LYNCH PROFESSIONAL CLEARING CORP	10,340	450	0.04
MILLER TABAK + COMPANY, LLC	6,563	223	0.03
MISCHLER FINANCIAL GROUP, INC-EQUITIES	64,521	1,624	0.03
MIZUHO INTERNATIONAL PLC	3,722	26	0.01
MIZUHO SECURITIES USA INC	35,000	394	0.01
MIZUHO SECURITIES USA INC.	9,173	321	0.04
MKM PARTNERS LLC	22,329	808	0.04
MONTROSE SECURITIES EQUITIES	179,302	4,187	0.02

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID	COMMISSION PER SHARE (in \$)
MORGAN STANLEY AND CO INTERNATIONAL	192,474	15,930	0.08
MORGAN STANLEY AND CO INTL TAIPEI METRO	9,585,051	18,844	0.00
MORGAN STANLEY AND CO. INTERNATIONAL	9,232,034	7,077	0.00
MORGAN STANLEY ASIA LTD	28,143	116	0.00
MORGAN STANLEY CO INCORPORATED	18,288,707	41,558	0.00
MORGAN STANLEY INDIA COMPANY PVT LTD	143,563	448	0.00
MORGAN STANLEY SECURITIES LIMITED	29,900	359	0.01
NATIONAL FINANCIAL SERVICES CORP.	40,531	1,494	0.04
NEEDHAM +COMPANY	118,532	4,102	0.03
NOBLE INTERNATIONAL INVESTMENTS INC.	3,730	107	0.03
NOMURA FINANCIAL ADVISORY + SEC INDIA	1,947,717	6,533	0.00
NOMURA FINANCIAL AND INVESTMENT	974	2	0.00
NOMURA SECURITIES CO LTD	240,022	96	0.00
NORTH SOUTH CAPITAL LLC	7,334	240	0.03
NORTHLANDSECURITIES INC.	28,472	961	0.03
OPPENHEIMER + CO. INC.	70,561	2,478	0.04
PACIFIC CREST SECURITIES	64,995	2,490	0.04
PAREL	44,580	2,241	0.05
PATRIA FINANCE AS	52,649	673	0.01
PAVILION GLOBAL MARKETS LTD	403,800	4,573	0.01
PENSERRA SECURITIES	39,503	596	0.02
PERSHING LLC	121,418,410	27,290	0.00
PERSHING SECURITIES LIMITED	455,635	7,741	0.02
PIPER JAFFRAY	121,602	4,418	0.04
RAYMOND JAMES AND ASSOCIATES INC	224,470	8,203	0.04
RBC CAPITAL MARKETS	142,433	3,916	0.03
RBC DOMINION SECURITIES INC.	41,575	1,566	0.04
REDBURN PARTNERS LLP	1,264,488	9,530	0.01
RENAISSANCE MACRO SECURITIES, LLC	2,715	95	0.04
ROBERT W.BAIRD CO.INCORPORATE	283,621	9,594	0.03
ROSENBLATT SECURITIES LLC	17,597	639	0.04
ROTH CAPITAL PARTNERS LLC	18,135	544	0.03
ROYAL BANK OF CANADA EUROPE LTD	2,543,329	15,349	0.01
SAMSUNG SECURITIES CO LTD	926	772	0.83
SAMUEL A RAMIREZ & COMPANY INC	120,650	1,003	0.01
SANDLER ONEILL + PART LP	18,298	551	0.03
SANFORD C. BERNSTEIN AND CO. LLC	1,943,156	2,915	0.00
SANFORD C. BERNSTEIN LTD	555,890	12,430	0.02
SANFORD CBERNSTEIN CO LLC	156,863	3,400	0.02
SANTANDERCENTRAL HISPANO BOLSA	227,941	2,026	0.01
SCOTIA CAPITAL (USA) INC	20,831	741	0.04
SCOTIA CAPITAL USA INC	1,461,593	2,247	0.00
SEAPORT GROUP SECURITIES, LLC	31,474	700	0.02
SG AMERICAS SECURITIES LLC	731,098	6,587	0.01
SG ASIA SECURITIES (INOIA) PVT LTD	2,605,958	9,881	0.00
SG SECURITIES (LONDON) LTD.	2,521,000	763	0.00
SG SECURITIES HK	19,600,182	7,111	0.00
SHENYIN AND WANGUO SECURITIES CO. LTD	74,791	327	0.00
SIDOTI + COMPANY LLC	109,563	3,507	0.03
SIMMONS +COMPANY INTERNATIONAL	2,625	92	0.04
	2,023	12	0.04

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID	COMMISSION PER SHARE (in \$)
SMBC NIKKO SECURITIES (HONK KONG) LTD	28,300	449	0.02
SOCIETE GENERALE LONDON BRANCH	1,461,628	11,036	0.01
STATE STREET BANK AND TRUST CO	931	78	0.08
STATE STREET GLOBAL MARKETS, LLC	157,631	1,872	0.01
STEPHENS,INC.	145,439	5,320	0.04
STERNE AGEE & LEACH INC.	47,187	1,805	0.04
STIFEL NICOLAUS + CO INC	239,576	8,393	0.04
STRATEGASSECURITIES LLC	1,680	42	0.03
STURDIVANT AND CO., INC.	85,548	4,082	0.05
SUNTRUST CAPITAL MARKETS INC	60	3	0.05
SUNTRUST CAPITAL MARKETS, INC.	106,346	3,971	0.04
TELSEY ADVISORY GROUP LLC	537,917	19,020	0.04
TERA MENKUL DEGERLER A.S.	546,918	1,462	0.00
THE BENCHMARK COMPANY, LLC	4,730	128	0.03
THE HONGKONG AND SHANGHAI BANK	143,675	2,734	0.02
TOPEKA CAPITAL MARKETS INC	101,323	2,140	0.02
TOPEKA CAPITAL MARKETS INC.	9,363	254	0.03
UBS AG	1,875,458	17,783	0.01
UBS LIMITED	8,635,504	31,144	0.00
UBS SECURITIES ASIA LTD	4,565,559	5,015	0.00
UBS SECURITIES CANADA INC	268,461	1,823	0.01
UBS SECURITIES INDIA PRIVATE LTD	827,080	81,582	0.10
UBS SECURITIES LLC	408,589	12,062	0.03
UBS WARBURG AUSTRALIA EQUITIES	42,871	483	0.01
VANDHAM SECURITIES CORP	73,168	1,003	0.01
WEDBUSH MORGAN SECURITIES INC	79,242	1,987	0.03
WEEDEN + CO.	97,423	3,340	0.03
WELLS FARGO PRIME SERVICES, LLC	489,515	3,739	0.01
WELLS FARGO SECURITIES LLC	1,497	45	0.03
WELLS FARGO SECURITIES, LLC	168,476	5,466	0.03
WILLIAM BLAIR & COMPANY L.L.C	260,881	9,559	0.04
WILLIAMS CAPITAL GROUP LP (THE)	1,698,550	23,289	0.01
WOORI INVESTMENT SECURITIES	21,272	3,355	0.16
WUNDERLICH SECURITIES INC.	21,843	742	0.03
XP INVESTIMENTOS CCTVM SA	500,076	3,784	0.01



## NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

A FIDUCIARY FUND OF THE CITY OF NEW YORK

# COMPREHENSIVE ANNUAL FINANCIAL REPORT OF THE QUALIFIED PENSION PLAN AND THE TAX DEFERRED ANNUITY PROGRAM

# ACTUARIAL SECTION PART IV

FOR THE YEARS ENDED JUNE 30, 2015 AND JUNE 30, 2014 This page is intentionally left blank



## **OFFICE OF THE ACTUARY**

255 GREENWICH STREET • 9™ FLOOR NEW YORK, NY 10007 (212) 442-5775 • FAX: (212) 442-5777

> SHERRY S. CHAN CHIEF ACTUARY

> > December 15, 2015

Board of Trustees New York City Board of Education Retirement System 65 Court Street Brooklyn, NY 11201

Re: Actuarial Information for the Comprehensive Annual Financial Report (CAFR) for the Fiscal Year Ended June 30, 2015

Dear Members:

The financial objective of the New York City Board of Education Retirement System - Qualified Pension Plan (BERS or the Plan) is to fund members' retirement benefits during their active service and to establish employer normal contribution rates that, expressed as a percentage of active member annualized covered payroll, would remain approximately level over the future working lifetimes of those active members and, together with member contributions and investment income, are intended to ultimately be sufficient to accumulate assets to pay benefits when due.

An actuarial valuation of the Plan is performed annually as of the second June 30 preceding each fiscal year to determine the Employer Contributions to be paid for that fiscal year (i.e., June 30, 2013 (Lag) actuarial valuation to determine Fiscal Year 2015 Employer Contributions (the Actuarial Contributions)).

Employers are required to contribute statutorily-required contributions (Statutory Contributions) and these contributions are generally funded by Employers within the appropriate fiscal year.

For Fiscal Year 2015, the Actuarial Contributions to BERS, are equal to those recommended by the Actuary for the New York City Retirement Systems (the Actuary) and represent the Statutory Contributions.

During June 2012 the Governmental Accounting Standards Board (GASB) released two new accounting standards for public pension plans, Statement No. 67 (GASB67) and Statement No. 68 (GASB68), collectively GASB67/68.

GASB67, *Financial Reporting for Pension Plans*, amends GASB Statement No. 25 (GASB25) and is effective for financial statements for fiscal years beginning after June 15, 2013 (i.e., Fiscal Year 2014 for BERS).

GASB68, *Accounting and Financial Reporting for Pensions*, amends GASB Statement No. 27 (GASB27) and is effective for financial statements for fiscal years beginning after June 15, 2014 (i.e., Fiscal Year 2015 for the City of New York (the City)).

On October 2, 2015 the Actuary published the, "Second Annual GASB 67/68 Report for the City of New York and the New York City Retirement Systems For Fiscal Year Ended June 30, 2015" (Second GASB67/68 Report). Appendix C of the Second GASB67/68 Report contains information developed in accordance with GASB67 for BERS.

### Actuarial Assumptions and Methods

Provided in this Actuarial Section of the CAFR is a "Summary of Actuarial Assumptions and Methods in Effect for the June 30, 2013 (Lag) Actuarial Valuation." These actuarial assumptions and methods (2012 A&M) were first employed in the June 30, 2010 (Lag) actuarial valuation that was used to determine Fiscal Year 2012 Employer Contributions to the Plan.

These actuarial assumptions and methods are generally unchanged from those employed in the June 30, 2012 (Lag) actuarial valuation that was used to determine Fiscal Year 2014 Employer Contributions to the Plan.

Those 2012 A&M were developed after reviewing the results of independent actuarial studies dated December 2012 by The Hay Group (Hay) and November 2006 by The Segal Company (Segal) in accordance with Section 96 of the New York City Charter, after which the Actuary issued a February 10, 2012 Report entitled "Proposed Changes in Actuarial Assumptions and Methods for Determining Employer Contributions for Fiscal Years Beginning on and After July 1, 2011 for the New York City Board of Education Retirement System, (February 2012 Report).

The Board of Trustees of the Plan adopted those changes in actuarial assumptions that require Board approval. The State Legislature and the Governor enacted Chapter 3 of the Laws of 2013 (Chapter 3/13) to provide for those changes to the actuarial assumptions and methods that require legislation, including the Actuarial Interest Rate (AIR) assumption of 7.0% per annum, net of investment expenses.

### Benefits and Census Data

A summary of the benefits applicable to Plan members included in the June 30, 2013 (Lag) actuarial valuation is shown later in this Actuarial Section of the CAFR.

Included in the summary of benefits are benefit provisions that have been passed by the New York State Legislature and enacted as Chapter 504 of the Laws of 2009. These benefit provisions became applicable to certain members who join the Plan on and after December 10, 2009. Also included are the benefit provisions enacted as Chapter 18 of the Laws of 2012 (i.e., Tier 6). These benefit provisions became applicable to members who join the Plan on and after April 1, 2012.

Census data are submitted by the Plan's administrative staff and by the employers' payroll facilities and are reviewed by the Office of the Actuary (OA) for consistency and reasonability.

A summary of the census data used in the June 30, 2013 (Lag) actuarial valuation is included in this CAFR. A summary of the census data used in the June 30, 2012 (Lag) actuarial valuation of the Plan is available in the June 30, 2014 CAFR.

### Funded Status

The Funded Status of the Plan is usually expressed in various relationships of Assets to Liabilities.

With respect to the Funded Status of the Plan, included in the Financial Section of the CAFR is a Schedule of Funding Progress.

Included in the Actuarial Section of the CAFR is a Solvency Test (i.e., Comparative Summary of Actuarial Values and Percentages Covered by Actuarial Value of Assets) as prescribed by the Government Finance Officers Association (GFOA). This Solvency Test represents an alternative approach to describing progress toward funding objectives.

### Presentation Style and Sources of Information

The actuarial information herein is being presented in a manner believed to be consistent with the requirements of the GFOA and, where applicable, with GASB67.

The following schedules in the Actuarial Section of the CAFR were prepared by the OA:

- Summary of Actuarial Assumptions and Methods in Effect for the June 30, 2013 (Lag) Actuarial Valuation.
- Active Member Valuation Data.
- Funded Status Based on Entry Age Actuarial Cost Method.
- Comparative Summary of Actuarial Values and Percentages Covered by Actuarial Value of Assets Solvency Test.
- Retirants and Beneficiaries Added to and Removed from Rolls.
- Statutory vs. Actuarial Contributions.
- Summary of Plan Provisions.
- Schedule of Funding Progress.
- Schedule of Employer Contributions.
- Schedule of Actuarial Assumptions and Methods.

The following information and schedules in other sections of the CAFR were also prepared by the

• Summary of Plan Membership.

OA:

• Schedule of Participating Employers.

If you have any questions about any of the information in this Actuarial Section or any of the actuarial information elsewhere presented in this CAFR, please do not hesitate to contact Mr. John R. Gibney, Jr., Mr. Edward Hue or me.

#### Acknowledgment of Qualification

I, Sherry S. Chan, am the Chief Actuary for the New York City Retirement Systems. I am an Associate of the Society of Actuaries, a Fellow of the Conference of Consulting Actuaries and a Member of the American Academy of Actuaries. I meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. To the best of my knowledge, the results contained herein have been prepared in accordance with generally accepted actuarial principles and procedures and with the Actuarial Standards of Practice issued by the Actuarial Standards Board.

Respectfully submitted,

Greeky Chan

Sherry S. Chan, ASA, FCA, MAAA Chief Actuary

SSC/srh

Att.

cc: Mr. John Gibney – New York City Office of the Actuary Mr. Harvey Gordon – New York City Board of Education Mr. Edward Hue – New York City Office of the Actuary Mr. Sam Rumley – New York City Office of the Actuary Mr. Michael Samet – New York City Office of the Actuary

# SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION

(1) Pursuant to Section 96 of the New York City Charter, studies of the actuarial assumptions used to value liabilities of the five actuarially-funded New York City Retirement Systems (NYCRS) are conducted every two years.

The most recently completed study was published by Gabriel Roeder Smith & Company (GRS) dated October 2015 and analyzed experience for Fiscal Years 2010 through 2013. GRS made recommendations with respect to the actuarial assumptions and methods based on their analysis.

The result of the GRS study are under review by The Actuary.

The previously completed studies were published by The Hay Group (Hay), dated December 2011 and by The Segal Company (Segal), dated November 2006. Hay analyzed experience for Fiscal Years 2006 through 2009 and made recommendations with respect to the actuarial assumptions and methods based on their analysis. Segal analyzed experience for Fiscal Years 2002 through 2005 and made recommendations with respect to the actuarial assumptions and methods based on their analysis.

In accordance with the Administrative Code of the City of New York (ACNY) and with appropriate practice, the Boards of Trustees of the five actuarially-funded NYCRS are to periodically review and adopt actuarial assumptions as proposed by the Actuary for use in the determination of Employer Contributions.

Based, in part, upon a review of the Segal and Hay studies, the Actuary issued a February 10, 2012 Report entitled "Proposed Changes in Actuarial Assumptions and Methods for Determining Employer Contributions for Fiscal Years Beginning on and After July 1, 2011 for the New York City Board of Education Retirement System" (February 2012 Report).

The Board of Trustees of the Plan adopted those changes to actuarial assumptions that require Board approval. The State Legislature and the Governor have enacted Chapter 3 of the Laws of 2013 (Chapter 3/13) to provide for those changes to the actuarial assumptions and methods that require legislation, including the Actuarial Interest Rate (AIR) assumption of 7.0% per annum, net of investment expenses, the Entry Age Actuarial Cost Method and the amortization of Unfunded Actuarial Accrued Liabilities.

- (2) The investment rate of return assumption is 7.0% per annum, net of investment expenses (4.0% per annum for benefits payable under the Variable Annuity Program).
- (3) The mortality tables for service and disability pensioners were developed from an experience study of the Plan's pensioners. Sample probabilities are shown in Table 1A. Mortality tables for beneficiaries were developed from experience review. Sample probabilities are shown in Table 1B.

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

- (4) Active Service tables are used to estimate various withdrawals from Active Service. Sample probabilities are shown in Table 2A for members withdrawing from Active Service due to Death or Disability who did not elect an improved retirement program and Table 2B for members electing an improved retirement program, in Table 3 for members withdrawing for Other Than Death or Disability or Retirement, and in Table 4 for members withdrawing from Active Service after eligibility for Service Retirement.
- (5) A Salary Scale is used to estimate salaries at termination, retirement or death. Sample percentage increases are shown in Table 5. The Salary Scale includes a General Wage Increase (GWI) assumption of 3.0% per annum.
- (6) The economic assumptions (i.e., the assumed investment return rate, GWI rate and Cost-of-Living Adjustments (COLA)) were developed assuming a long-term Consumer Price Inflation (CPI) assumption of 2.5% per annum. The COLA assumption is 1.5% per annum.
- (7) The valuation assumes a closed group of members. Salaries of members on the valuation date are assumed to increase in accordance with the Salary Scale.
- (8) Beginning with the June 30, 2010 (Lag) actuarial valuation, the Entry Age Actuarial Cost Method (EAACM) of funding is utilized by the Plan's Actuary to calculate the contribution required of the Employer.

Under this method, the Actuarial Present Value (APV) of Benefits (APVB) of each individual included in the actuarial valuation is allocated on a level basis over the earnings (or service) of the individual between entry age and assumed exit age(s). The employer portion of this APV allocated to a valuation year is the Employer Normal Cost. The portion of this APV not provided for at a valuation date by the APV of Future Employer Normal Costs or future member contributions is the Actuarial Accrued Liability (AAL).

The excess, if any, of the AAL over the Actuarial Asset Value (AAV) is the Unfunded Actuarial Accrued Liability (UAAL).

Under this method, actuarial gains (losses), as they occur, reduce (increase) the UAAL and are explicitly identified and amortized.

Increased (decreases) in obligations due to benefit changes, actuarial assumption changes and/or actuarial method changes are also explicitly identified and amortized.

Chapter 105 of the Laws of 2010 established, as of June 30, 2011, an Early Retirement Incentive (ERI) for certain BERS members. The UAAL attributable to the ERI is amortized on a level basis over a period of five years (4 payments under the One-Year Lag Methodology).

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

(9) One-Year Lag Methodology (Lag or OYLM) uses a June 30, 2013 valuation date to determine Fiscal Year 2015 Employer Contributions.

This methodology requires technical adjustments to certain components used to determine Fiscal Year 2015 Employer Contributions as follows:

• Present Value of Future Salary (PVFS).

The PVFS at June 30, 2013 is reduced by the value of salary projected to be paid during Fiscal Year 2014.

• Salary for Determining Employer Contributions.

Salary used to determine the employer normal contribution is the salary projected to be paid during Fiscal Year 2015 to members on payroll at June 30, 2013.

• UAAL Payments.

For determining the UAAL payments for Fiscal Year 2015, and to be consistent with OYLM, the UAAL as of June 30, 2013 is adjusted by the discounted value of employer normal contributions paid during Fiscal Year 2014 and the discounted value of the administrative expenses reimbursed during Fiscal Years 2014 and 2015.

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

(10) Beginning with the June 30, 2004 (Lag) actuarial valuation, the Actuarial Asset Valuation Method (AAVM) was changed to a method that reset the Actuarial Asset Value (AAV) to Market Value (i.e., Market Value Restart) as of June 30, 1999. As of each June 30 thereafter, the AAVM recognizes investment returns greater or less than expected over a period of six years.

Under this revised AAVM, any Unexpected Investment Returns (UIR) for Fiscal Years 2000 and later are phased into the AAV beginning the following June 30 at a rate of 15%, 15%, 15%, 15%, 20% and 20% per year (or cumulative rates of 15%, 30%, 45%, 60%, 80% and 100% over a period of six years).

These revised averaging factors were applied against the UIR computed under the prior five-year AAVM used for Fiscal Years 2000 to 2004.

The revised AAVM was utilized for the first time in the June 30, 2004 (Lag) actuarial valuation to determine the Fiscal Year 2006 Employer Contributions in conjunction with the One-Year Lag Methodology and the revised economic and noneconomic assumptions.

The AAVM in effect for the June 30, 2009 (Lag) actuarial valuation was unchanged from the AAVM used in the June 30, 2008 (Lag) actuarial valuation.

The concept in use for the AAVM for actuarial valuations on and after June 30, 2012 is the same as that in use for the June 30, 2009 (Lag) actuarial valuation.

In accordance with this AAVM, actual Unexpected Investment Returns (UIR) for Fiscal Years 2012, 2013, etc. are phased into the Actuarial Asset Value (AAV) beginning June 30, 2012, 2013, etc. at rates of 15%, 15%, 15%, 15%, 20% and 20% per year (i.e., cumulative rates of 15%, 30%, 45%, 60%, 80% and 100% over a period of six years).

The Actuary reset the Actuarial Asset Value to the Market Value of Assets (MVA) as of June 30, 2011 (i.e., Market Value Restart).

For the June 30, 2010 (Lag) actuarial valuation, the AAV is defined to recognize Fiscal Year 2011 investment performance. The June 30, 2010 AAV is derived as equal to the June 30, 2011 MVA, discounted by the AIR assumption (adjusted for cash flow) to June 30, 2010.

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

- (11) The Actuarial Present Value of Future Benefits (APVB) as of June 30, 2013, used to determine Fiscal Year 2015 Employer Contributions, includes estimates of liabilities for:
  - World Trade Center Disability Benefits.
  - World Trade Center Death Benefits.
- (12) As discussed herein, the actuarial assumptions and methods are generally unchanged from those used in the June 30, 2012 (Lag) actuarial valuation.

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

### Table 1A

### **Deaths among Service and Disability Pensioners**

### Percentage of Pensioners Dying within the Next Year

	Service 1	Service Pensioners		ensioners
Age	Males	Females	Males	<u>Females</u>
40	0.1021%	0.0493%	1.3736%	1.3502%
45	0.2982	0.0845	1.4166	1.3932
50	0.4534	0.1538	1.4646	1.4412
55	0.6227	0.2919	1.5176	1.4942
60	0.7906	0.5143	1.8782	1.6692
65	1.1438	0.7339	2.3097	2.0464
70	1.6956	1.1757	2.7412	2.5358
75	2.3912	1.7747	3.5479	2.9979
80	4.4180	2.9858	5.1537	4.0595
85	7.5225	5.0839	7.5395	6.7921
90	12.1869	9.2180	12.2049	12.0106
95	22.1828	16.7157	22.2018	20.5966
100	33.6045	23.1601	33.6045	24.5034
105	39.7886	29.3116	39.7886	29.3116
110	100.0000	100.0000	100.0000	100.0000

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

### Table 1B

### **Deaths among Beneficiaries**

### Percentage of Pensioners Dying within the Next Year

<u>Age</u>	Males	<u>Females</u>
40	0.10219	<b>6</b> 0.0591%
45	0.2684	0.1014
50	0.3401	0.1846
55	0.5880	0.3893
60	0.8400	0.7716
65	1.3072	1.1533
70	1.8086	1.5676
75	2.7100	2.2479
80	5.3016	3.7819
85	8.4627	6.3549
90	15.2335	11.5224
95	24.6664	19.5152
100	33.6045	23.1881
105	39.7886	29.3116
110	100.0000	100.0000

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

### Table 2A

## <u>Withdrawals from Active Service (Due to Death or Disability)</u> <u>Members Who Do Not Elect an Improved Retirement Program</u>

	Accident	tal Disability	<b>Ordina</b>	ry Disability	De	eath
<u>Age</u>	Males	<u>Females</u>	<u>Males</u>	<u>Females</u>	Males	<u>Females</u>
20	0.04%	0.02%	0.20%	0.20%	0.040%	0.030%
25	0.04	0.02	0.20	0.20	0.040	0.030
30	0.04	0.02	0.20	0.20	0.060	0.040
35	0.04	0.02	0.30	0.20	0.080	0.050
40	0.04	0.02	0.40	0.25	0.100	0.060
45	0.04	0.02	0.50	0.30	0.150	0.100
50	0.04	0.02	0.60	0.50	0.200	0.150
55	0.04	0.02	0.70	0.70	0.300	0.200
60	0.04	0.02	0.70	0.70	0.400	0.250
65	0.04	0.02	0.70	0.70	0.500	0.300
70	NA	NA	NA	NA	NA	NA

### Percentage of Active Members Separating within the Next Year

#### Table 2B

## <u>Withdrawals from Active Service (Due to Death or Disability)</u> Members Who Elected an Improved Retirement Program

Percentage of Active Members Separating within the Next Year

	Accident	tal Disability	<u>Ordina</u>	<u>ry Disability</u>	De	<u>eath</u>
Age	Males	Females	Males	Females	Males	<u>Females</u>
20	0.04%	0.02%	0.20%	0.20%	0.040%	0.030%
25	0.04	0.02	0.20	0.20	0.040	0.030
30	0.04	0.02	0.20	0.20	0.060	0.040
35	0.04	0.02	0.30	0.20	0.080	0.050
40	0.04	0.02	0.40	0.25	0.100	0.060
45	0.04	0.02	0.50	0.30	0.150	0.100
50	0.04	0.02	0.60	0.50	0.200	0.150
55	0.04	0.02	0.70	0.70	0.300	0.200
60	0.04	0.02	0.70	0.70	0.400	0.250
65	0.04	0.02	0.70	0.70	0.500	0.300
70	NA	NA	NA	NA	NA	NA

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

### Table 3

### Withdrawals for Other Than Death or Disability or Retirement

Percentage of Active Members Withdrawing within the Next Year

Years of <u>Service</u>	Males	Females
0	6.00%	4.00%
5	4.00	3.00
10	2.50	2.00
15	1.50	1.50
20	1.00	1.00
25	1.00	1.00

## <u>Probability of Withdrawal</u>

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

### Table 4

### Withdrawals from Active Service (After Eligibility for Service Retirement)

### Percentage of Eligible Active Members Retiring Within the Next Year

.....

		_	With Unreduced Benefit <sup>(1)</sup>				-
		Members not Electing Optional Retirement Program			<u>Optiona</u>	embers Electin l Retirement P	rogram
	With <sup>(2)</sup>	<u>Years of S</u>	Service Since F	<u>irst Elig.</u>	Years of	Service Since F	<u>irst Elig.</u>
Age	Reduced <u>Benefits</u>	<u>0-1</u>	<u>1-2</u>	<u>2+</u>	<u>0-1</u>	<u>1-2</u>	<u>2+</u>
50	0.00%	20.00%	15.00%	10.00%	40.00%	20.00%	15.00%
55	2.00	20.00	15.00	10.00	40.00	20.00	15.00
60	4.00	20.00	15.00	10.00	40.00	20.00	15.00
65	0.00	30.00	25.00	20.00	60.00	25.00	25.00
70	NA	100.00	100.00	100.00	100.00	100.00	100.00

<sup>(1)</sup> Separate probabilities of Service Retirement are applicable to those active members who elected an Optional Retirement Program such as Chapter 96 of the Laws of 1995 or Chapter 19 of the Laws of 2008.

<sup>(2)</sup> Applicable to members whose benefits will be reduced upon retiring prior to the date eligible for unreduced Service Retirement.

### SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2013 (LAG) ACTUARIAL VALUATION (Cont'd)

### Table 5

### Salary Scale

Years of <u>Service</u>	Assumed Annual Percentage Increases <u>Within the Next Year*</u>
0	9.00%
5	5.00
10	4.50
15	4.50
20	4.25
25	4.00
30	4.00
35	4.00
40	4.00

\* Salary Scale includes a General Wage Increase assumption of 3.0% per annum.

### ACTIVE MEMBER VALUATION DATA

Valuation <u>Date</u>	<u>Number</u>	Annual <u>Payroll</u>	Annual Average <u>Salary</u>	Percentage Increase (Decrease) in <u>Average Salary</u>
6/30/99	22,933	\$592,168,563	\$25,822	3.9%
6/30/00	24,720	666,033,084	26,943	4.3
6/30/01	24,651	694,178,952	28,160	4.5
6/30/02	25,253	736,741,106	29,174	3.6
6/30/03	21,678	651,032,658	30,032	2.9
6/30/04 <sup>(1)</sup>	20,899	624,883,613	29,900	(0.4)
6/30/05 (Lag)	23,005	715,077,619	31,084	4.0
6/30/06 (Lag)	23,095	749,962,525	32,473	4.5
6/30/07 (Lag)	21,947	777,626,307	35,432	9.1
6/30/08 (Lag)	22,729	852,105,791	37,490	5.8
6/30/09 (Lag)	23,303	910,609,483	39,077	4.2
6/30/10 (Lag) <sup>(2)</sup>	23,324	912,290,136	39,114	0.1
6/30/11 (Lag)	23,131	920,369,154	39,789	1.7
6/30/12 (Lag)	27,840	1,018,895,365	36,598	(8.0)
6/30/13 (Lag)	25,848	1,051,571,168	40,683	11.2
6/30/14 (Lag) <sup>(3)</sup>	25,182	1,042,011,431	41,379	1.7

<sup>(1)</sup> Same amounts apply for the June 30, 2004 (Lag) Actuarial Valuation.

<sup>(2)</sup> Beginning with the June 30, 2010 (Lag) actuarial valuation, the annualized covered payroll is based on revised actuarial assumptions.

<sup>(3)</sup> Preliminary.

#### FUNDED STATUS BASED ON ENTRY AGE ACTUARIAL COST METHOD

(Dollar Amounts in Thousands)

This Schedule is being provided by the Actuary for the Plan to improve the transparency and decision usefulness of this financial report.

Prior to the June 30, 2010 (Lag) Actuarial Valuation, the Actuarial Cost Method (ACM) used to develop the funding requirements for the Plan was the Frozen Initial Liability (FIL) ACM. Under this ACM, following establishment of any Initial Unfunded Actuarial Accrued Liabilities (UAAL), actuarial gains and losses are financed over the working lifetimes of active participants and are not identified as separate UAAL.

The funding status and funding progress information provided in this Schedule has been prepared using the Entry Age ACM where the Actuarial Present Value (APV) of any obligations of the Plan not provided by the APV of Future Contributions (Employer and Employee), as determined under the Entry Age ACM, equals the Actuarial Accrued Liability (AAL). Under the Entry Age ACM, the UAAL equals the AAL minus the Actuarial Value of Assets.

Valuation Date	Actuarial Value of <u>Assets</u> (a)	Actuarial Accrued Liability (AAL) – <u>Entry Age</u> (b)	Unfunded AAL (UAAL) – <u>Entry Age</u> (b-a)	Funded <u>Ratio</u> (a/b)	Covered <u>Pavroll</u> <u>(c)</u>	UAAL as a Percentage of Covered <u>Pavroll</u> ((b-a)/c)
June 30, 2014 (Lag) <sup>1,2</sup>	\$2,357,477	\$4,160,757	\$1,803,280	56.7%	\$1,042,011	173.1%
June 30, 2013 (Lag) <sup>1</sup>	2,277,791	4,015,080	1,737,289	56.7	1,051,571	165.2
June 30, 2012 (Lag) <sup>1</sup>	2,371,613	3,763,130	1,391,517	63.0	1,018,895	136.6
June 30, 2011 (Lag) <sup>1</sup>	2,323,629	3,681,694	1,358,065	63.1	920,369	147.6
June 30, 2010 (Lag) <sup>1</sup>	2,056,452	3,558,251	1,501,799	57.8	912,290	164.6
June 30, 2009 (Lag)	1,963,719	2,858,115	894.396	68.7	910,609	98.2
June 30, 2008 (Lag)	2,084,116	2,721,629	637,513	76.6	852,106	74.8

Note: This schedule is based on actuarial assumptions used for determining Employer Contributions.

<sup>1</sup> Reflects revised actuarial assumptions and methods based on experience review, including an AIR assumptions of 7.0% per annum, net of expenses.

<sup>2</sup> Preliminary.

### COMPARATIVE SUMMARY OF ACTUARIAL VALUES AND PERCENTAGES COVERED BY ACTUARIAL VALUE OF ASSETS SOLVENCY TEST

### (Dollar Amounts in Thousands)

#### Aggregate Accrued Liabilities For

As of <u>June 30</u>	Accumulated Member <u>Contributions</u> (A)	Current Retirants and <u>Beneficiaries</u> (B)	Active Members' Employer <u>Financed Portion</u> (C)	Actuarial <u>Value of Assets</u> (D)		age of Ac es Covere <u>I Vaiue o</u> (B)	ed by
1999	\$201,855	\$707,681	\$493,231*	\$1,705,424	100%	100%	100%
2000	225,604	825,066	585,044*	1,749,405	100	100	100
2001	238,052	860,142	618,938*	1,781,702	100	100	100
2002	320,182	897,094	689,951*	1,835,770	100	100	90
2003	291,168	1,024,724	675,042	1,833,798	100	100	77
2004	289,999	1,086,068	667,724	1,822,740	100	100	67
2004 (Lag)	289,999	1,092,068	674,381	1,843,786	100	100	68
2005 (Lag)	301,021	1,131,335	742,368	1,841,041	100	100	55
2006 (Lag)	317,544	1,181,666	809,206	1,830,338	100	100	41
2007 (Lag)	319,153	1,233,708	839,993	1,983,714	100	100	51
2008 (Lag)	337,821	1,262,046	904,890	2,084,116	100	100	54
2009 (Lag)	359,122	1,303,453	965,681	1,963,719	100	100	31
2010 (Lag)	388,082	1,627,094	1,306,868	2,056,452	100	100	3
2011 (Lag)	409,625	1,714,099	1,319,938	2,323,629	100	100	15
2012 (Lag)	434,215	1,804,626	1,283,582	2,371,613	100	100	10
2013 (Lag)	469,312	1,918,824	1,372,542	2,277,791	100	94	0

\* Amounts shown were revised in the Fiscal Year 2004 CAFR from amounts published earlier to include annuitization of Variable Funds. Also, see following "SOLVENCY TEST – NOTES."

### COMPARATIVE SUMMARY OF ACTUARIAL VALUES AND PERCENTAGES COVERED BY ACTUARIAL VALUE OF ASSETS

### SOLVENCY TEST - NOTES

The ultimate test of financial soundness in a retirement system is its ability to pay all of its promised benefits when due. The retirement system's progress in accumulating assets to pay all promised benefits can be measured by comparing the Actuarial Value of Assets of the retirement system with the Aggregate Accrued Liabilities for:

- (A) Accumulated Member Contributions;
- (B) Current Retirants and Beneficiaries; and
- (C) Active Members' Employer Financed Portion.

The Aggregate Accrued Liabilities are the APV of projected benefits produced by the projected benefit attribution approach prorated on service. The Aggregate Accrued Liabilities were calculated in accordance with Governmental Accounting Standards Board Statement No. 5 (GASB 5).

This comparative summary allocated assets as if they were priority groups, somewhat similar to (but not identical to) the priority categories of Section 4044 of the Employee Retirement Income Security Act of 1974 (ERISA).

The values in the table are dependent upon census data, benefit levels (which have changed on occasion over the past years), and the actuarial assumptions and methods employed at each valuation date. The two most recent changes in assumptions and methods occurred in the June 30, 2004 (Lag) valuation use to compute Employer Contributions for Fiscal Year 2006 and in the June 30, 2010 (Lag) valuation used to compute Employer Contributions for Fiscal Year 2012. These underlying bases can be found within the Comprehensive Annual Financial Report for each respective year.

To fully evaluate trends in financial soundness, changes in assumptions need to be evaluated. For the valuation dates appearing in the table, the Actuarial Interest Rate and General Wage Increase assumptions were all equal to 8.0% per annum, gross of expenses, and 3.0% per annum, respectively, through the June 30, 2009 (Lag) actuarial valuation. Beginning with the June 30, 2010 (Lag) actuarial valuations, the Actuarial Interest Rate assumption equals 7.0% per annum, net of investment expenses, and the General Wage Increase assumption equals 3.0% per annum.

	Ado	ded to Rolls	Removed from Rolls Rolls End of Y		nd of Year			
Year Ended	Number	Annual Allowances <sup>(2)</sup>	Number	Annual Allowances	Number	Annual Allowances <sup>(1)</sup>	% Increase In Annual Allowances	Average Annual Allowances
6/30/99	536	\$6,876,212	272	\$2,262,330	9,058	\$87,724,653	5.6%	\$9,685
6/30/00	673	7,000,476	324	2,652,306	9,407	92,072,823	5.0	9,788
6/30/01	711	13,847,963	280	2,815,207	9,838	103,105,579	12.0	10,480
6/30/02	693	7,712,942	256	3,039,034	10,275	107,779,487	4.5	10,489
6/30/03	1,068	16,795,369	360	3,581,174	10,983	120,993,682	12.3	11,016
6/30/04	995	11,412,512	353	3,527,249	11,625	128,878,945	6.5	11,086
6/30/05	779	8,763,397	431	3,995,277	11,973	133,647,065	3.7	11,164
6/30/06	1,066	12,053,392	466	3,414,306	12,573	142,286,151	6.5	11,317
6/30/07	958	10,886,720	540	3,850,151	12,991	149,322,720	4.9	11,494
6/30/08	667	8,148,653	462	4,350,475	13,196	153,120,898	2.5	11,604
6/30/09	936	10,879,798	491	4,135,086	13,641	159,865,610	4.4	11,719
6/30/10	850	10,705,737	522	4,700,094	13,969	165,871,253	3.8	11,874
6/30/11	901	14,977,636	471	4,325,573	14,399	176,523,316	6.4	12,259
6/30/12	1,053	16,201,746	578	6,211,198	14,874	186,513,864	5.7	12,540
6/30/13	1,110	16,977,455	529	4,957,022	15,455	198,534,297	6.4	12,846

### RETIRANTS AND BENEFICIARIES ADDED TO AND REMOVED FROM ROLLS

(1) Allowances shown in table are those used in the actuarial valuation as of the Year Ended date and are not adjusted for anticipated changes due to finalization of benefit calculation or contract settlements.

<sup>(2)</sup> Balancing Item – Amounts shown include changes due to benefit finalization, changes in benefit type (e.g., Service to Accident Disability), COLA increases and other changes.

### STATUTORY VS. ACTUARIAL CONTRIBUTIONS

Fiscal Year <u>Ended</u>	Statutory <u>Contribution<sup>(1)</sup></u>	Actuarial <u>Contribution</u>	Employer Rate of <u>Contribution<sup>(2)</sup></u>
6/30/00	\$9,514,029	\$9,514,029	1.607%
6/30/01	39,202,604	52,070,363	5.886
6/30/02	56,547,710	66,660,509	8.146
6/30/03	70,215,171	87,924,410	9.531
6/30/04	84,054,254	95,004,623	12.911
6/30/05	96,648,286	106,358,977	15.467
6/30/06	90,838,671	90,838,671	14.926
6/30/07	129,820,109	129,820,109	18.641
6/30/08	143,100,327	143,100,327	19.627
6/30/09	134,224,615	134,224,615	17.766
6/30/10	147,348,563	147,348,563	17.822
6/30/11	180,191,397	180,191,397	20.461
6/30/12	213,650,880	213,650,880	24.293
6/30/13	196,245,777	196,245,777	22.145
6/30/14	214,589,565	214,589,565	21.694
6/30/15	258,099,327	258,099,327	25.383

<sup>(1)</sup> Represents total employer contributions accrued for fiscal year.

The Statutory Contributions for Fiscal Years 2001 and 2002 were computed in accordance with Chapter 125/00 which provided for a five-year phase-in of the additional actuarial liabilities attributable to Chapter 125/00.

The Statutory Contributions for Fiscal Years 2003 through 2005 were computed in accordance with Chapter 278/02 which extended from five to ten years the phase-in period for the funding of the additional actuarial liabilities attributable to Chapter 125/00.

Beginning Fiscal Year 2006, the Statutory Contributions were computed using a One-Year Lag Methodology in accordance with Chapter 152/06 which also eliminated the use of ten-year phase-in of Chapter 278/02 for funding the additional actuarial liabilities attributed to Chapter 125/00.

Beginning Fiscal Year 2012, the Statutory Contributions were computed in accordance with Chapter 3/13.

<sup>(2)</sup> The Employer Rate of Contribution equals the Statutory Contribution as a percentage of the salaries of members who were on payroll or projected to be on payroll (under One-Year Lag Methodology) as of the preceding June 30 and adjusted, where applicable, to be consistent with collective bargaining agreements estimated to be achieved.

### SUMMARY OF PLAN PROVISIONS

This Summary of Plan Provisions is applicable to Plan members included in the June 30, 2013 (Lag) actuarial valuation.

### A. MEMBERSHIP

Membership in the New York City Board of Education Retirement System – Qualified Pension Plan is available to all non-temporary employees in education service, regardless of part-time or full-time status, other than persons eligible to participate in the New York City Teachers' Retirement System – Qualified Pension Plan.

All such persons holding permanent civil service positions are required to become members of the New York City Board of Education Retirement System – Qualified Pension Plan.

### B. BRIEF HISTORY

The Board of Education Retirement System was established as of September 1, 1921 and originally provided for its members a fractional retirement plan (i.e., age  $60-1/140^{\text{th}}$ ). Subsequently, additional fractional plans were made available (i.e., the age  $55-1/120^{\text{th}}$  and the age  $55-1/100^{\text{th}}$ ). These plans are known as the Old Service Fraction Plans.

Amendments in 1968 to the Rules and Regulations of the Board of Education Retirement System substantially revised the benefit structure by establishing two new retirement plans effective July 1, 1968. Members who joined the System on or after the effective date were required to choose either one of the two plans, namely (1) the Career Pension Plan (Plan A), or (2) the 55-Year Increased-Service-Fraction Plan (Plan B). A member who joined the System prior to the effective date could continue under his/her existing plan, or could elect one of these new plans, providing such election was made prior to July 1, 1970. Members who elected one of these new plans are referred to as Tier I members.

Chapter 1046 of the Laws of 1973 imposed certain limitations on the benefits available to members joining the System after June 30, 1973. For members who joined the System between July 1, 1973 and June 30, 1976 (Tier II members), two plans were available: the Modified Career Pension Plan (Plan C); and the Modified 55-Year-Increased-Service-Fraction Plan (Plan D).

Chapter 890 of the Laws of 1976 established a new statewide pension plan, the Coordinated Escalator (CO-ESC) Retirement Plan, covering all employees joining on or after July 1, 1976 (Tier III members). However, the New York Court of Appeals on May 31, 1988 held, in Civil Service Employees' Association vs. Regan, that persons who became members between July 1, 1976 and July 26, 1976 are considered Tier II (i.e., Plans C and D) members.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

Chapter 414 of the Laws of 1983 established the Coordinated Retirement Plan, effective September 1, 1983, superseding the CO-ESC plan for most employees joining the System on or after July 27, 1976 (Tier IV members). This plan set a normal retirement age of 62, and mandated a 3% contribution by the member for all years of membership. Members who joined July 27, 1976 through August 31, 1983, however, are entitled to receive a benefit from either the CO-ESC or Coordinated Plan, whichever provides a greater benefit.

Chapter 749 of the Laws of 1992 set forth pension rights, including retroactive rights, to part-time employees.

Chapter 96 of the Laws of 1995 (Chapter 96/95) established an Optional Retirement Program effective during Fiscal Year 1996. This Program increased early retirement benefits and required additional member contributions. This Program is optional for those hired prior to the effective date of the legislation and mandatory for those hired after.

Chapter 442 of the Laws of 1997 reduced from 4.35% to 2.85% the Additional Member Contributions for Tier II and Tier IV members participating in the Chapter 96/95 Optional Retirement Program.

Chapter 266 of the Laws of 1998 improved benefits for Tier IV members who had at least 20 years of service but less than 25 years of service and permitted certain Tier III retirees to elect to receive Tier IV benefits.

Chapter 388 of the Laws of 1998 provided a pre-retirement death benefit for certain vested members of the Plan.

Chapter 389 of the Laws of 1998 allowed certain members of the Plan to become vested after five years of service.

Chapter 390 of the Laws of 1998 (Chapter 390/98) provided additional benefits for cost-of-living increases for certain retirees of the Plan. An initial increase for members who retired on or before Calendar Year 1992 is effective as of September 1998 as enacted by the City Council on August 27, 1998. A subsequent increase for members who retired on or before Calendar Year 1993 is effective as of September 1999 as enacted by the City Council on August 27, 1998.

Chapter 644 of the Laws of 1998 provided that any active member with ten or more years of service and within three years of retirement may purchase up to three years of member service credit for U.S. Military Service during a period of war.

Chapter 646 of the Laws of 1999 provided active and future members the right to reinstate earlier membership by repaying prior member contributions with 5% interest.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

Chapter 659 of the Laws of 1999 reduced to five years the amount of service credit needed for Tier III/IV vested members to receive benefits at age 55.

Chapter 110 of the Laws of 2000 amended the language of the legislation that later became Chapter 126 of the Laws of 2000 which provides for benefit enhancements for certain members.

Chapter 125 of the Laws of 2000 (Chapter 125/00) provided eligible retirees with annual automatic Cost-of-Living Adjustments. It also provided for a five-year phase-in for the funding of the additional actuarial liabilities.

Chapter 126 of the Laws of 2000 provided for benefit enhancements (i.e., elimination of employee basic contributions for Tier III/IV members with more than 10 years of membership, additional service credit for Tier I/II members of up to a maximum of 24 months, and allows Tier III/IV members to retire at age 55 with reduced benefits under the same formula as used for Tier II members) for certain members of the New York City Retirement Systems.

Chapter 553 of the Laws of 2000 permitted Tier IV members to retire early with a reduced benefit beginning at age 55 provided they have at least 5 years of credited service and are not members of the 25 Year Early Retirement Program or the Age 57 Retirement Program.

Chapter 554 of the Laws of 2000 provided that Tiers II, III and IV members who joined prior to January 1, 2001 and who elected Death Benefit One will receive the greater of Death Benefit One or Death Benefit Two coverage. New members on and after January 1, 2001 will only receive coverage under Death Benefit Two.

Chapter 509 of the Laws of 2001 reduced from 2.85% to 1.85% the Additional Member Contribution rate for Tier II and Tier IV members participating in the Chapter 96/95 Optional Retirement Programs.

Chapter 69 of the Laws of 2002 provided an Early Retirement Incentive (ERI) program for certain members.

Chapter 278 of the Laws of 2002 (Chapter 278/02) revised the phase-in schedule of Chapter 125/00 for Fiscal Year 2003 and later by extending from five to ten years the phase-in period for the funding of the additional actuarial liabilities attributable to Chapter 125/00.

Chapter 307 of the Laws of 2002 provided Corpus Funding of administrative expenses for the Plan commencing July 1, 2002 and allows for the appointment of an Executive Director for the Plan.

Chapter 623 of the Laws of 2004 provided for an Excess Benefit Plan to be established which would provide benefits to those pensioners whose annual retirement benefits are limited because those benefits exceed the limitations set by IRC Section 415 (b). The law is retroactive to July 1, 2000.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

Chapter 104 of the Laws of 2005, as amended by Chapter 93 of the Laws of 2005, created a presumptive eligibility for accidental disability in connection with the World Trade Center attack on September 11, 2001.

Chapter 105 of the Laws of 2005 states that a member killed in the U.S. Armed Forces on and after June 14, 2005 is deemed a Line-of-Duty death while on active payroll.

Chapter 133 of the Laws of 2005 continued the valuation and other interest rates for one year to June 30, 2006 from June 30, 2005.

Chapter 152 of the Laws of 2006 (Chapter 152/06) provided for the changes in actuarial assumptions and methods that require legislation, including the continuation of the AIR assumption of 8.0% per annum and continuation of the current Frozen Initial Liability (FIL) Actuarial Cost Method and the existing Unfunded Actuarial Accrued Liability (UAAL). In addition, Chapter 152/06 provided for the elimination of the use of the ten-year phase-in of Chapter 278/02 for funding the additional actuarial liabilities created by the benefits provided by Chapter 125/00.

Chapter 445 of the Laws of 2006 (Chapter 445/06) created a presumptive eligibility of accidental death benefits in conjunction with the World Trade Center attack on September 11, 2001.

Chapter 5 of the Laws of 2007 amended Chapter 445/06 to clarify the World Trade Center accidental disability benefits payable to retirees who die in the first 25 years of retirement. It also amended Chapter 445/06 to include World Trade Center deaths as presumptive accidental deaths in the Line of Duty.

Chapter 260 of the Laws of 2007 is a reopener of the Chapter 96/95 Optional Retirement Program for Tier II and Tier IV members in the Loader and Handler job titles.

Chapter 19 of the Laws of 2008 established retirement programs to permit certain Tier II and Tier IV members to elect to retire between ages 55 and 62 without reduction provided they have 25 years of service, by paying an additional contribution of 1.85% of future pay. New members after February 27, 2008 are mandated into this plan and are required to be age 55 and have 27 years of service to retire without reduction.

Chapter 489 of the Laws of 2008 expanded and redefined the eligibility provisions of the accidental disability and accidental death benefits that arise in connection with the World Trade Center attack on September 11, 2001.

Chapter 211 of the Laws of 2009 continued the valuation and other interest rates for one year to June 30, 2010 from June 30, 2009.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

Chapter 504 of the Laws of 2009 (Chapter 504/09) provides that individuals joining the Plan after December 10, 2009, who are represented by the United Federation of Teachers (UFT) and who participate in the 55/27 retirement program, will be required to make pension contributions of 4.85% of salary until they have 27 years of credited service and contributions of 1.85% of salary thereafter. These members will become vested after ten years of credited service.

Also, under Chapter 504/09, all members of the Plan represented by the UFT who participate in the Tax Deferred Annuity Program (TDA), will receive an interest rate of 7.0% per annum credited to their TDA Fixed Funds accounts beginning December 10, 2009.

Chapter 105 of the Laws of 2010 (Chapter 105/10) provided an Early Retirement Incentive (ERI) program for certain members.

Chapter 157 of the Laws of 2011 provided that members who were laid off from the School Construction Authority (SCA) on or after December 1, 2002 and who returned to work prior to January 8, 2008, can buy back their layoff time for retirement purposes.

Chapter 265 of the Laws of 2011 continued the valuation and other interest rates for one year to June 30, 2011 from June 30, 2010.

Chapter 180 of the Laws of 2011 continued the valuation and other interest rates for one year to June 30, 2012 from June 30, 2011.

Chapter 18 of the Laws of 2012 (Chapter 18/12) placed certain limitations on the Tier III and Tier IV benefits available to participants hired on and after April 1, 2012 in most New York State PERS, including BERS. These changes are sometimes referred to as Tier VI.

Chapter 3 of the Laws of 2013 (Chapter 3/13) implemented changes in the actuarial procedures for determining Employer Contributions beginning Fiscal Year 2012. In particular, Chapter 3/13 continued the OYLM, employed the Entry Age Actuarial Cost Method (EAACM), an Actuarial Interest Rate (AIR) assumption of 7.0% per annum, net of investment expenses and defined the amortization of Unfunded Actuarial Accrued Liabilities (UAAL).

Chapter 489 of the Laws of 2013 (Chapter 489/13) extended the WTC Disability Law benefits to vested members.

Following is a description of the principal benefit provisions of the System, preceded by simplified definitions of the technical terms used therein.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

### C. COORDINATED RETIREMENT PLAN

### ARTICLE 15 OF THE RETIREMENT AND SOCIAL SECURITY LAW ("RSSL")

### I. <u>DEFINITIONS</u>

Final Average Salary (FAS) - The average salary earned during any three consecutive years (five years for Tier 6) which provides the highest average salary. If the salary earned during any year included in the three-year period, however, exceed that of the average of the previous two years by more than 10%, the amount in excess of 10% will be excluded from the computation of FAS.

Salary - The regular compensation earned by and paid to a member.

### II. <u>BENEFITS UNDER THE COORDINATED RETIREMENT PLAN</u>

A member whose date of membership is July 27, 1976 or later, belongs to the Coordinated Retirement Plan.

### a. SERVICE RETIREMENT

- 1. Normal Service Retirement
  - (a) Payability Date depends on Plan as follows:
    - (1) Age 62 and 5 years of service;
    - (2) Age 57 and 5 years of service;
    - (3) Age 55 and 25 years of service;
    - (4) Age 55 and 27 years of service; or
    - (5) Age 63 and 10 years of service.
  - (b) (1) Pension payable for members with fewer than 20 years of service (25 for members in Optional Retirement Plans): 1/60 times FAS times years of service.
    - (2) Pension payable for members with at least 20 years of service (Tier 6) (25 for members in Optional Retirement Plans), but fewer than 30 years of service (Tier 4): 1/50 times FAS times years of service (Tier 4) or 35% plus 2% times FAS times years of service in excess of 20 (Tier 6).
    - (3) Pension payable for members with 30 or more years of service: 1/50 times FAS for each of the first thirty years of service, plus 3/200 times FAS for each additional year (Tier 4).

### SUMMARY OF PLAN PROVISIONS (Cont'd)

2. Early Service Retirement:

Commencing as early as age 55, requires completion of five years of credited service (ten years for Tier 6). Benefit is equal to the Service Retirement benefit reduced depending on the number of months prior to age 62 (age 63 for Tier 6).

3. Deferred Vested Benefit

A member who has five or more years of service upon termination of employment (ten years if hired after December 10, 2009) is entitled to a deferred vested benefit payable starting at age 62 (age 63 for Tier 6). The benefit formulas are the same as those set forth under Normal Service Retirement.

### b. DISABILITY RETIREMENT

1. Requirements

A member is eligible for ordinary disability retirement if:

- (a) he/she has completed ten or more years of service and,
- (b) he/she is incapacitated from performance of gainful employment.

If the disability is judged to be the result of an accident in the performance of duty, the service requirement is waived.

2. Benefit Payable

The benefit is the greatest of:

- (a)  $\frac{1}{3}$  of FAS,
- (b) 1/60 times FAS times years of credited service, or
- (c) the service retirement allowance but only if member has met the eligibility requirements for Service Retirement.

### c. ORDINARY DEATH BENEFIT

Upon the death of a member in active service, a benefit is payable to his/her designated beneficiary. Under legislation effective July 26, 1986, the death benefits are the same as those applicable to members who joined the System between July 1, 1973 and July 26, 1976 (described in Section D.II.e of this Summary Of Plan Provisions).

### SUMMARY OF PLAN PROVISIONS (Cont'd)

### d. ACCIDENTAL DEATH BENEFIT

### 1. Requirements

A beneficiary is entitled to the benefit if the member died before the effective date of retirement as a natural and proximate result of an accident sustained in the performance of duty, and the accident was not caused by the member's own willful negligence.

2. Pension Payable

The beneficiary receives a pension equal to 50% of wages earned during the last year of actual service (must be applied for within two years of death) and within 60 days if member joined after August 31, 1983.

- 3. Other Provisions
  - (a) If the eligible beneficiary becomes ineligible to continue to receive the benefit, it shall be continued to the next eligible class of beneficiaries, and if none, to each successive class.
  - (b) If the benefits paid do not exceed the amount of the ordinary lump sum benefit because of the absence of eligible beneficiaries, the difference is to be paid to the last eligible beneficiary, or if none, to the member's estate.

### e. DESIGNATION OF BENEFICIARY

Beneficiaries are dealt with differently for ordinary death and accidental death benefits. For the ordinary death benefit, the latest named beneficiary, duly designated on a System form filed with the System will receive the death benefit. If none is designated, the benefit is paid to the member's estate.

For the accidental death benefit, beneficiaries are prescribed in the following order:

- 1. a surviving spouse who has not renounced survivorship rights in a separation agreement until remarriage;
- 2. surviving children, until age 25;
- 3. dependent parents whose eligibility shall be determined in accordance with regulations promulgated by the Board of Trustees; and,
- 4. any other person who qualified as a dependent on the final federal income tax return of the member filed in the year immediately preceding the year of death, until such person reaches 21 years of age.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

### D. PLANS FOR MEMBERS JOINING PRIOR TO JULY 27, 1976

### I. <u>DEFINITIONS</u>

ACCUMULATED DEDUCTIONS - The total contributions made by a member to his annuity savings account, with regular and special interest, or increment thereon.

FINAL SALARY - (1) For a member who joined prior to July 1, 1973, salary earnable by the member in the year ending on the date of retirement or alternatively, the average annual compensation during any three calendar years designated by the member. (2) For a member who joined after June 30, 1973, the average salary earned during any three consecutive years which provides the highest average salary. However, if the salary earned during any year included in this three year period exceeds the average of the previous two years by more than 20%, the amount in excess of 20% is excluded from the computation.

MINIMUM ACCUMULATION - The amount of normal contributions accumulated with interest to the date on which a member either completed or could have completed 25 years of career pension plan service, less the amount of the reserve for Increased-Take-Home-Pay on such date.

PAYABILITY DATE - For members who elected the career pension plan, the date on which the service retirement allowance begins, which is the latest of (1) the date on which the member retires, (2) the date on which he/she attains the age 55 (age 50 for members in physically taxing positions for at least 25 years of service), or (3) the date on which he/she could have completed 25 years of service had he/she remained in Educational City Service. For a member who last joined the System prior to July 1, 1959, the payability date is the date of retirement, regardless of age, provided such member has completed 35 years of service. For all other members, the retirement allowance begins on the date of retirement.

PHYSICALLY TAXING POSITION - Any career pension plan position which has been included as physically taxing by the List Administrator.

RESERVE-FOR-INCREASED-TAKE-HOME-PAY - A reserve of 2 percent, 2.5 percent, 4 percent or 5 percent of the member's salary, pursuant to the provisions of Section 28 of the Rules and Regulations, accumulated with regular and additional interest, or increment thereon.

## SUMMARY OF PLAN PROVISIONS (Cont'd)

### II. <u>BENEFITS</u>

### a. SERVICE RETIREMENT

<u>Career Pension Plan</u> - (i) A member who joined prior to July 1, 1973 who elected the career pension plan (Plan A) is eligible to retire after having completed 20 years of career pension plan qualifying service, with benefits to begin on the payability date. Regardless of the number of years of service, however, a member who has elected the career pension plan and who is at least 55 years of age may retire with benefits payable immediately by canceling his election of the career pension plan, thereby becoming eligible for the benefits under the 55 year-increased-service-fraction plan which is described in paragraph (2) below. (ii) In order for a member who joined after June 30, 1973 (Plan C) to be eligible for retirement, he must (a) have attained age 55 and (b) have rendered five years of credited service, in addition to the aforementioned requirements.

The service retirement allowance is the sum of (a) 2.2% of final salary, multiplied by the number of years of career pension plan service not in excess of 25, reduced by an annuity which is the actuarial equivalent of the Minimum Accumulation, (b) an annuity which is the actuarial equivalent of the accumulated deductions, and (c) for all years of service other than the first 25 years of career pension plan service, (i) a pension for increased-take-home-pay made in each year and (ii) 1.2% of final salary for each such year prior to July 1, 1968 and 1.7% of final salary for each year beginning on or after that date.

 <u>55-Year-Increased-Service-Fraction Plan</u> - (i) A member who joined prior to July 1, 1973 (Plan B) and who elected the 55-year-increased-service-fraction plan may retire after having attained age 55 with benefits payable immediately upon retirement. (ii) In order for a member who joined after June 30 1973, (Plan D) to be eligible for retirement, he must have rendered five years of credited service, in addition to the aforementioned requirement.

The service retirement allowance consists of a pension for service, a pension for increased-take-home-pay and an annuity. The pension for service is equal to 1.2% of final salary multiplied by each year of service prior to July 1, 1968, plus 1.53% of final salary multiplied by each year of service after June 30, 1968; the pension for increased-take-home-pay is the actuarial equivalent of the reserve for increased-take-home-pay; and the annuity is the actuarial equivalent of the member's accumulated deductions.

Any Plan C or D member who did not join the Optional Retirement Programs and who retires prior to age 62 will have his pension for service reduced by 0.5% for each of the first 24 months that the payability date precedes age 62, and by 0.25% for each such additional month.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

### b. ORDINARY DISABILITY RETIREMENT

Regardless of the plan elected, a member, who has completed 10 or more years of city service immediately preceding the occurrence of disability from causes other than accident in the actual performance of duty, is entitled to an ordinary disability retirement allowance.

If upon becoming disabled, the member could have retired for service with benefits payable immediately, the ordinary disability allowance is the same as the service retirement allowance. For all other members, the ordinary disability allowance is computed in the same manner as though the member had been eligible for service retirement under the 55-year-increased-service-fraction plan with benefits payable immediately regardless of age and without reduction for age.

### c. ACCIDENT DISABILITY RETIREMENT

Upon the occurrence of disability caused by an accident in the actual performance of duty, a member is entitled to an accident disability retirement allowance consisting of a pension equal to three-fourths of final compensation, a pension for increased-take-home-pay which is the actuarial equivalent of the reserve for increased-take-home-pay, and an annuity purchased with the member's accumulated deductions. The pension is subject to reduction because of Worker's Compensation benefits granted on account of the accident.

### d. CHANGING RETIREMENT PLAN

- 1. A member in Plan A (Plan C) may change to Plan B (Plan D) at any time after his first year of coverage under Plan A (Plan C).
- 2. A member who elected Plan B (Plan D) can change to Plan A (Plan C) at any time.
- 3. A member in an Old Service Fraction Plan can change to Plan A, B, C or D.
- 4. A Plan A (Plan C) member who intends to leave city service who has at least 5 years but less than 20 years of service credit, and who wishes to vest his rights must elect Plan B (Plan D) by filing with the Retirement System an affidavit withdrawing from Plan A (Plan C), prior to resignation.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

### e. ORDINARY DEATH BENEFIT

Upon the death of a member from causes other than an accident in the actual performance of duty, a benefit is paid to the member's estate or to such person as the member shall have nominated.

With respect to a member who joined before July 1, 1973, and total number of years of allowable service less than ten, the benefit is equal to the compensation earnable by the member in the six months immediately preceding death and, if the total number of years of allowable service is greater than ten, but less than twenty, the benefit is equal to the compensation earnable during the twelve months immediately preceding death. If the total number of years of allowable service is greater than twenty, the benefit is equal to twice the compensation earnable during the twelve months immediately preceding death.

In addition, the member's accumulated deductions and the reserve for increased-take-homepay are paid to the member's estate or to the member's designated beneficiary. The benefit payable on account of such a member who at the time of death would have been eligible for service retirement is either the benefit described above or an amount equal to the reserve on the retirement allowance which would have been payable had the member retired on the day before death, whichever is larger.

A member who joins after June 30, 1973 must choose between the following two death benefits which cannot be changed; upon death, a benefit is paid pursuant to such election.

Death Benefit 1: One month's salary for each year of service up to a maximum of three years' salary. In addition, the member's accumulated deductions are payable. If the member would have been eligible to receive an unreduced retirement allowance at the time of death, the benefit is the reserve on the retirement allowance which would have been payable had the member retired on the day before his death, if greater.

Death Benefit 2: In addition to a refund of the member's accumulated deductions, one year's salary for each year of service up to a maximum of three years' salary. The maximum benefit declines after age 60 at the rate of 5% per year, to a minimum of 50% of the benefit in effect at age 60.

A benefit is also payable upon death after retirement, which benefit is expressed as a percent of the benefit in force immediately before retirement as follows: If death occurs in the first year after retirement, 50% of such benefit; if death occurs in the second year following retirement, 25%; upon death occurring subsequently, 10%. If retirement occurred after age 60, the minimum death benefit payable after retirement is 10% of the death benefit in force at age 60.

## SUMMARY OF PLAN PROVISIONS (Cont'd)

The Rules and Regulations adopted by the Board of Trustees in accordance with Chapter 581 of the Laws of 1970 provide that the first \$50,000 of each benefit on account of death in active service is payable from the group term life insurance plan. Only the amount in excess of \$50,000, if any, is payable by the retirement system.

### f. ACCIDENTAL DEATH

The benefit is payable upon the death of a member which occurs as a result of an accident sustained in the performance of duty.

The accidental death benefit is a lump sum equal to the reserve for increased-take-home-pay and a pension equal to one-half of final average salary, payable to the surviving spouse until remarriage or death, or if there is no surviving spouse, to a child or children until the attainment of age 18 of the youngest child, or if there is no surviving spouse or child to the dependent parents. In addition, the member's accumulated deductions are paid to his/her estate or to the designated beneficiary. The pension is subject to reduction because of Worker's Compensation benefits granted on account of the accidental death.

### g. TERMINATION OF EMPLOYMENT

A member who either resigns or is dismissed with fault receives a benefit equal to his accumulated deductions. At resignation with at least 5 years of service the member may elect, in lieu of a return of his accumulated deductions, to receive an allowance computed in the same manner as the retirement allowance for retirement under the 55-year-increased-service-fraction plan, except that the allowance is deferred to age 55. Should a member with less than 10 years of service who elected to receive a deferred retirement allowance die before the attainment of age 55, the benefit consists of the accumulated deductions. If a member who at resignation had at least 10 years of service and elected to receive a deferred retirement allowance dies before the attainment of age 55, the benefit consists of the accumulated deductions. If a member who at resignation had at least 10 years of service and elected to receive a deferred retirement allowance dies before the attainment of age 55, the benefit is one-half of the ordinary death benefit.

A member not eligible for service retirement and who is removed from service without fault or delinquency and has not less than one-half year of service in the year immediately preceding the date of termination or who is so removed from a position in the competitive or labor class, regardless of service, is entitled to the return of his accumulated deductions in a lump sum payment or to a pension whose present value is equal to the pension he would have received at his earliest payability date, based on his service to date of termination. If the member has attained age 50 and has completed at least 20 years of service, an additional pension is payable equal to one-half the difference between the pension so computed and the pension payable at his earliest age for service retirement. In addition, he receives a pension which is the actuarial equivalent of his reserve for increased-take-home-pay and an annuity of such amount as his accumulated deductions will purchase.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

### h. AUTOMATIC ANNUAL COST-OF-LIVING ADJUSTMENTS ("COLA")

COLA are payable to members who are either (1) at least age 62 and have been retired for at least 5 years or (2) at least age 55 and have been retired for at least 10 years. Additionally, COLA are payable to members who retired for disability after being retired for 5 or more years and beneficiaries receiving accidental death benefits who have been receiving them for at least 5 years.

Starting with benefits for September 2001, COLA are 50% of the increase in the CPI-U based on the year ending March 31, rounding to the next higher .1%, not less than 1% nor greater than 3% of the first \$18,000 of the sum of the maximum retirement allowance and prior COLA.

COLA are payable during the life of the retired member. One half of the amount is also payable after the member's death and during the life of the spouse beneficiary if such retired member had elected one of the options under the Administrative Code which provides that benefits are to be continued for the life of such spouse after the death of the retired member, and where the death of such retired member occurred or occurs more than thirty days after the effective date of the retirement of such member.

### E. OPTIONS ON RETIREMENT OR DEATH

### No Option (Maximum Retirement Allowance)

A member upon retirement may receive the basic maximum retirement allowance payable in monthly installments throughout life with all payments ending at death.

Alternatively, a member may elect to receive an actuarial equivalent benefit in any one of the following optional forms.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

With respect to plans other than the Coordinated Retirement Plan (Article 15):

### Option 1 (Cash Refund)

With respect to members who joined prior to July 1, 1973, a cash refund allowance under which reduced payments will be made during life with a <u>provision</u> that in case of death before such payments have equaled the present value of the retirement allowance at date of retirement, the balance shall be paid to the designated beneficiary or estate. With respect to members who joined after June 30, 1973, this option is only available with respect to the benefits derived from employee contributions (annuity).

<u>Option 2</u> (Joint and 100% Survivor Allowance)

Option 3 (Joint and 50% Survivor Allowance)

A joint and survivor allowance under which reduced payments will be made during life with a provision that at the death of the member the same payments (Option 2) or one half of such payments (Option 3) shall be continued throughout the life of such other person as the member shall have designated.

### Option 4

Such other form of benefit which is the actuarial equivalent as may be certified by the Actuary and approved by the Board of Trustees. By resolution, the Board of Trustees has approved an option under which reduced payments will be made during life with a provision that upon his/her death, a sum specified by the member at the time of retirement shall be paid to the designated beneficiary or estate.

# SUMMARY OF PLAN PROVISIONS (Cont'd)

### Option 4-2 and 4-3

Option 4-2 and Option 4-3 are known as the "Pop-Up" options. These are called "Pop-Ups" because they are variations of Options 2 and 3 that provide if a joint and survivor option is elected and the beneficiary predeceases the retiree, then the retirement allowance will increase (pop-up) to the level of the maximum retirement allowance.

### Ten-Year (or Five-Year) Certain and Life

Ten-year (or five-year) certain and life allowance under which reduced payments will be made during the lifetime of the member with a provision that in case of death within ten (five) years of retirement, the remaining benefit that would have been payable had the member survived for ten (five) years shall be paid to the designated beneficiary or estate for the balance of the ten (five) years.

With respect to Article 15, the options are as follows:

- a. A five-year or ten-year certain and life option, the same as described above.
- b. A joint and survivor option under which reduced payments will be made during life with a provision that at the death of the member, 100%, 75%, 50% or 25% of such payments shall be continued throughout the life of such other person as the member shall have designated.
- c. A pop-up option as described above.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

### F. <u>CONTRIBUTIONS</u>

The benefits of the system are financed by employee and employer contributions and from investment earnings of the System.

#### I. <u>EMPLOYEE CONTRIBUTIONS</u>

A member of Article 15 who joins BERS on or after April 1, 2012 (Tier 6) and is not a member of the Automotive or Special Officers Programs is required to contribute between 3.0% and 6.0% of salary, depending on salary level, for all years of service. Tier 6 members in the Automotive or Special Officers Programs contribute 3.0% of salary plus Additional Member Contributions (AMC).

A Tier 4 member of Article 15 (Coordinated Retirement Plan) who joined BERS on or before March 31, 2012 is mandated to contribute 3% of salary during all years of coverage. Effective October 1, 2000, these members are not required to make contributions after the 10<sup>th</sup> anniversary of their membership date or completion of ten years of credited service, whichever is earlier. For those who elected or were mandated into the Optional Retirement Plans, AMC are required.

A member who joined prior to July 27, 1976 contributes by salary deductions on the basis of a normal rate of contribution which is assigned by the System at the time he/she elects his/her plan. The normal rate, which is dependent upon the member's age and plan, as well as the tables in effect for that purpose at the time he/she became a member, is determined so as to provide approximately one-third of the benefit on account of the first 25 years of service.

In the plans which permit retirement for service at age 55, the normal contribution rate is calculated so as to provide an annuity equal to 1% of final salary for each year of service at the earliest age for service retirement. For such plans, the contribution rate for members who enter at age 55 or over is the rate applicable to a member entering at age 54.

Member contributions are accumulated with interest on individually maintained ledger accounts. Except under Article 15, upon retirement, the amount to his/her credit (i.e., accumulated deductions) is used to purchase an annuity on the basis of the tables adopted by the Board of Trustees. Upon death in service, the accumulated deductions are paid to the beneficiary.

## SUMMARY OF PLAN PROVISIONS (Cont'd)

Beginning July 1, 1960, on a year to year basis, the normal rates of contribution of members who joined before July 27, 1976 were reduced by an increased-take-home-pay rate equal to two and one-half percentage points and equal to five percentage points beginning July 1, 1961. Between July 1, 1968 and December 31, 1975, an increased-take-home-pay rate of four percentage points was effective for all members. On January 1, 1976, an increased-take-home-pay rate of two percentage points became effective for all members. Following is a table showing the effective periods and increased-take-home-pay rate.

Period	Increased-Take-Home-Pay Rate
07-01-1960 - 06-30-1961	2.5%
07-01-1961 - 06-30-1968	5%
07-01-1968 - 12-31-1975	4%
01-01-1976 and after	2% for non-Article 14 & 15 Members 0% for Article 14 & 15 Members

At present the reduction is two percentage points for members other than members in the Coordinated Retirement Plan. In general, the retirement and death benefits payable to or on account of members are supplemented by the reserve for increased-take-home-pay, accumulated from City contributions equal to the increased-take-home-pay rate times salary so that in general, the total benefit is equal to the benefit which would have been paid if the members' rates of contribution had not been reduced. However, the reserve for increased-take-home-pay is not payable upon death of a member who joins after June 30, 1973.

### II. <u>PURCHASE OF PRIOR SERVICE</u>

A member is eligible to purchase credit for city service rendered prior to membership date by an additional contribution based on salary and periods of service being purchased.

In the case of any member in BERS prior to July 1, 1968, who has purchased service, the amount of purchased service can be used toward the twenty-five years needed for retirement eligibility under Plan A, provided such service was continuous and immediately preceded membership.

# SUMMARY OF PLAN PROVISIONS (Cont'd)

### III. LOANS

- a. After three years of membership in the Retirement System, a member may borrow up to 75% of accumulated deductions.
- b. A member may take three loans during any twelve month period.
- c. Loans are repaid through payroll deduction of not less than 5% of gross salary.

Beginning 90 days after the inception of the loan, the unpaid portion is insured without limitation. Should the borrower retire before the loan is repaid, the actuarial equivalent of the amount outstanding is deducted from his/her retirement allowance.

### IV. EMPLOYER CONTRIBUTIONS

The Entry Age Actuarial Cost Method is utilized by the Plan's Actuary to calculate the contribution from the employers.

Employer contributions are accrued by the Plan and are funded by the employers on a current basis.

### G. VARIABLE ANNUITY PROGRAM

Beginning July 1, 1970, members were given the option to participate in a Variable Annuity Program, thereby providing a means which can reasonably be expected to protect a portion of their retirement income against the effect of increases in the cost of living. The monthly variable annuity payment is a fixed number of units, the value of which varies each month to reflect the financial experience of the investments which are almost entirely in common stocks. A member may elect to place part or all of his/her contributions and the City's contributions for increased-take-home-pay in the variable annuity program. The remaining portion of the retirement allowance which is provided by the City must be paid in fixed dollar amounts. Subject to certain prescribed limitations, a member may periodically elect either to participate in the variable annuity program or to revoke a previous election.

### SUMMARY OF PLAN PROVISIONS (Cont'd)

An individual account of the member's own contributions is maintained in the Variable Annuity Savings Fund. Another individual account based on the City's contribution for increased-take-home-pay is maintained in the Variable Pension Accumulation Fund. Deposits in these accounts are credited in terms of units, the value of which is determined at the beginning of each month and remains unchanged during that month. On July 1, 1970, the effective date of the program, a unit was assigned an arbitrary value of \$10. Each month, thereafter, the unit value changed reflecting the investment experience of the common stock fund during the preceding month.

### H. TAX-DEFERRED ANNUITY PROGRAM

Beginning January 1, 1970, members were given the option to participate in a tax-deferred annuity program, thereby providing a means of deferring income tax payments on their tax deferred contributions until the period after retirement. Each calendar year, a member may elect to contribute to the Tax-Deferred Annuity Program any amount not in excess of the maximum permissible amount under Section 403 (b) of the Internal Revenue Code. The City makes no contributions to the Tax-Deferred Annuity Program, but if elected by members, will guarantee the benefit payments to retired members. A member has the option either to have his/her contributions accumulate at regular and special interest per annum, or to have his/her contributions invested in variable funds.

The Tax-Deferred Annuity Program is maintained as a separate account within the Board of Education Retirement System. An individual account of the member's fixed dollar contributions is maintained in the Tax-Deferred-Annuity Savings Fund if he/she elected to have his/her benefit paid in fixed dollars; otherwise, in the Tax-Deferred Variable Annuity Savings Fund.



## NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

A FIDUCIARY FUND OF THE CITY OF NEW YORK

## COMPREHENSIVE ANNUAL FINANCIAL REPORT OF THE QUALIFIED PENSION PLAN AND THE TAX DEFERRED ANNUITY PROGRAM

# STATISTICAL SECTION PART V

FOR THE YEARS ENDED JUNE 30, 2015 AND JUNE 30, 2014

STATISTICAL | Section V | 1

This page is intentionally left blank

## NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

### STATISTICAL SECTION

### Introduction:

The Statistical section presents three sets of data. The first group of data is comprised of six (6) schedules and accompanying graphs that provide a comparative horizontal base of the financials over a ten year spread for the QPP and four year spread for the TDA. The second group of data offers an analysis of the BERS benefit payments based on demographic information. The third and final group gives a comparative analysis of the contributors based on their salary and their provenance.

The schedules and graphs of the first group are:

- a) Revenue by source for the QPP
- b) Expenses by type for the QPP

c) Refunds by type for the QPP

d) Schedule of changes in QPP net position

e) Schedule of changes in TDA net position

f) Benefit expenses by type for the QPP

The second group of data is comprised of the following:QPP

a) Age and service retirement

b) Ordinary disability retirement

- c) Accidental disability retirement
- d) Accidental death retirement

e) Other beneficiaries

g) All pensioneers and beneficiaries

The third group of data is comprised of the following:QPP

a) Summary of activities by Age and Service

- b) Average annual benefit payments
- c) Participating Employers

### **REVENUE BY SOURCE**

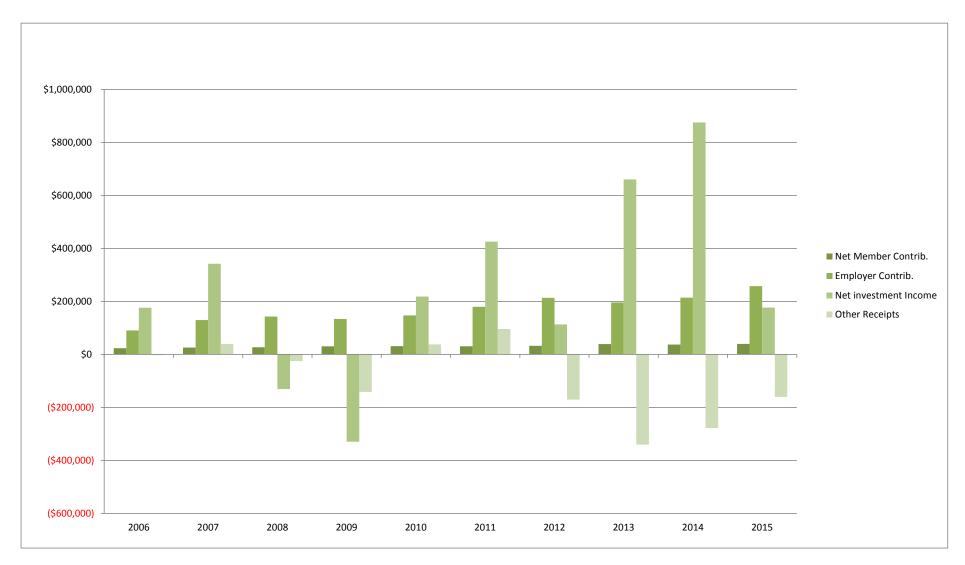
(In thousands)

Fiscal Year Ended June 30	Net Member Contributions	Employer Contributions	Net Investment Income	Other Receipts	Total	Employer Contributions as % of Payroll
2006	\$23,810	\$90,839	\$176,320	(\$2,378)	\$288,591	15.0
2007	\$26,148	\$129,820	\$342,656	\$39,148	\$537,772	18.2
2008	\$27,109	\$143,100	(\$130,569)	(\$24,831)	\$14,809	19.1
2009	\$30,971	\$134,225	(\$329,365)	(\$141,090)	(\$305,259)	17.3
2010	\$31,361	\$147,349	\$218,872	\$38,232	\$435,814	17.3
2011	\$31,008	\$180,191	\$425,690	\$95,958	\$732,847	19.8
2012	\$32,866	\$213,651	\$113,738	(\$170,091)	\$190,164	23.4
2013	\$39,056	\$196,246	\$660,827	(\$340,057)	\$556,072	21.3
2014	\$37,193	\$214,590	\$875,453	(\$277,531)	\$849,705	21.1
2015	\$39,564	\$258,099	\$177,166	(\$160,098)	\$314,731	24.5

The table offers a horizontal comparison base for the revenue sources of the Plan for the past 10 years. It particularly stresses the importance of employer contributions that have steadily increased over the years.

### **REVENUE BY SOURCE**

(in thousands)



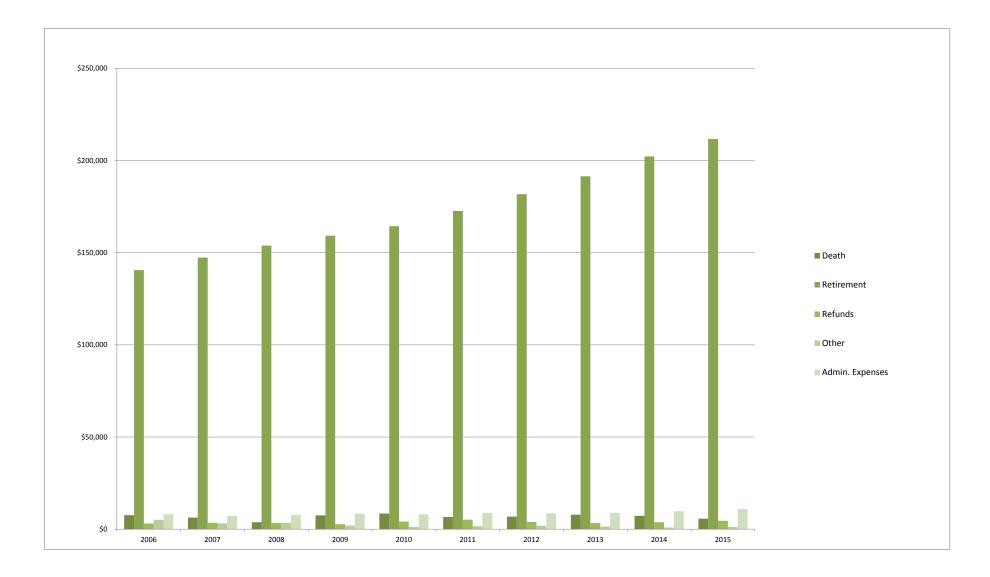
### **EXPENSES BY TYPE**

(In thousands)

Fiscal Year Ended		Bei Payı	Administrative	Total		
June 30	Death	Retirement	Refunds	Other	Expenses	
2006	\$7,656	\$140,626	\$3,145	\$5,083	\$8,195	\$164,705
2007	\$6,326	\$147,399	\$3,534	\$3,191	\$7,281	\$167,731
2008	\$3,827	\$153,886	\$3,395	\$3,448	\$7,854	\$172,410
2009	\$7,544	\$159,262	\$2,768	\$2,018	\$8,413	\$180,006
2010	\$8,548	\$164,362	\$4,207	\$1,296	\$8,047	\$186,460
2011	\$6,686	\$172,680	\$5,237	\$1,662	\$8,892	\$195,158
2012	\$6,827	\$181,735	\$4,009	\$1,936	\$8,687	\$203,194
2013	\$7,858	\$191,463	\$3,360	\$1,412	\$8,927	\$213,020
2014	\$7,274	\$202,233	\$3,827	\$981	\$9,776	\$224,091
2015	\$5,765	\$211,693	\$4,614	\$1,172	\$10,956	\$234,200

The table offers a horizontal comparison base for the expense groups of the Plan for the past 10 years.

### EXPENSES BY TYPE (In thousands)



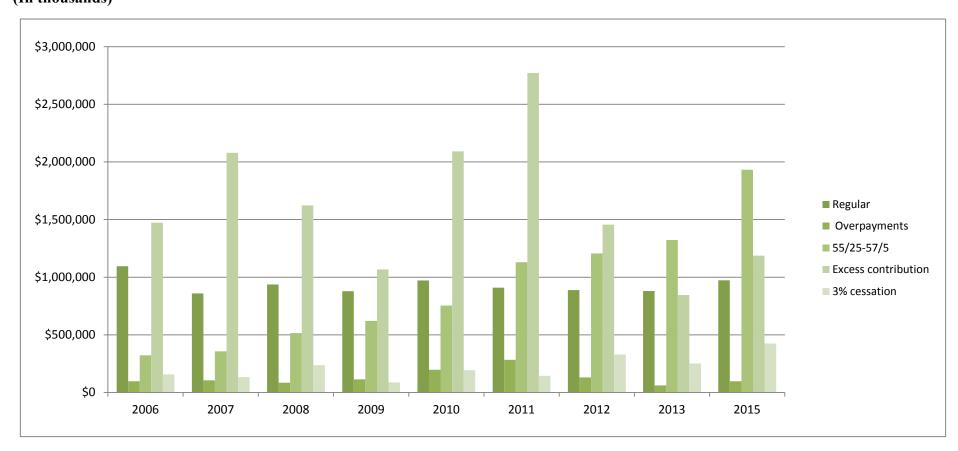
### **REFUNDS BY TYPE**

(In thousands)

Fiscal		Refunds										
Year Ended June 30	Regular Resignation	Add Pension 55/25-57/5	Excess Contribution	3% Cessation	Other Overpayments	Total						
2006	\$1,095	\$323	\$1,473	\$157	\$98	\$3,145						
2007	\$859	\$356	\$2,079	\$133	\$106	\$3,534						
2008	\$937	\$514	\$1,622	\$236	\$85	\$3,395						
2009	\$879	\$620	\$1,067	\$88	\$113	\$2,768						
2010	\$971	\$754	\$2,092	\$193	\$197	\$4,207						
2011	\$909	\$1,129	\$2,772	\$144	\$283	\$5,237						
2012	\$888	\$1,206	\$1,456	\$328	\$130	\$4,009						
2013	\$880	\$1,322	\$846	\$251	\$61	\$3,360						
2014	\$1,047	\$1,899	\$484	\$281	\$116	\$3,827						
2015	\$973	\$1,933	\$1,186	\$425	\$97	\$4,614						

The table offers a horizontal comparison base for the refund segment of the expense groups of the Plan for the past 10 years. The refund segment is broken down by type. It shows that excess contribution based refunds are more significant than resignation from the system.

### **REFUNDS BY TYPE** (In thousands)



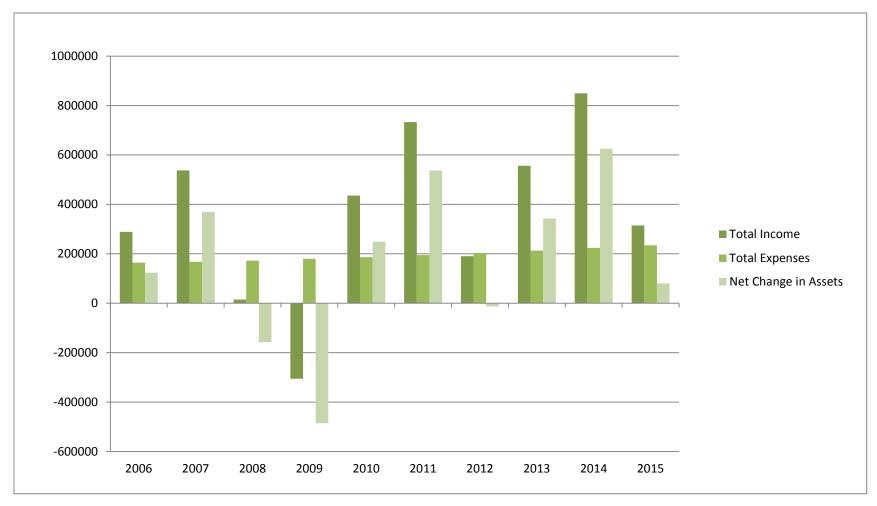
### SCHEDULE OF CHANGES IN NET POSITION

(In thousands)

Year Ended	Member Contributions	Employer Contributions	Net Investment Income	Other Receipts	Total Income	Benefit Payments				Administrative Expenses	Total Expenses	Net Change in Assets
						Death	Refund	Retirement	Other			
2006	\$23,810	\$90,839	\$176,320	(\$2,378)	\$288,591	\$7,656	\$3,145	\$140,626	\$5,083	\$8,195	\$164,705	\$123,886
2007	\$26,148	\$129,820	\$342,656	\$39,148	\$537,772	\$6,326	\$3,534	\$147,399	\$3,191	\$7,281	\$167,731	\$370,041
2008	\$27,109	\$143,100	(\$130,569)	(\$24,831)	\$14,809	\$3,827	\$3,395	\$153,886	\$3,448	\$7,854	\$172,410	(\$157,601)
2009	\$30,971	\$134,225	(\$329,365)	(\$141,090)	(\$305,259)	\$7,544	\$2,768	\$159,262	\$2,018	\$8,413	\$180,006	(\$485,265)
2010	\$31,361	\$147,349	\$218,872	\$38,232	\$435,814	\$8,548	\$4,207	\$164,362	\$1,296	\$8,047	\$186,460	\$249,354
2011	\$31,008	\$180,191	\$425,690	\$95,958	\$732,847	\$6,686	\$5,237	\$172,680	\$1,662	\$8,892	\$195,158	\$537,689
2012	\$32,866	\$213,651	\$113,738	(\$170,091)	\$190,164	\$6,827	\$4,009	\$181,735	\$1,936	\$8,687	\$203,194	(\$13,030)
2013	\$39,056	\$196,246	\$660,827	(\$340,057)	\$556,072	\$7,858	\$3,360	\$191,463	\$1,412	\$8,927	\$213,020	\$343,052
2014	\$37,193	\$214,590	\$875,453	(\$277,531)	\$849,705	\$7,274	\$3,827	\$202,233	\$981	\$9,776	\$224,091	\$625,614
2015	\$39,564	\$258,099	\$177,166	(\$160,098)	\$314,731	\$5,765	\$4,614	\$211,693	\$1,172	\$10,956	\$234,200	\$80,531

The table offers a 10 year horizontal comparison base for the operations of the BERS. It shows that over the years, revenues had more impact on the changes of net assets than the expenses.

# SCHEDULE OF CHANGES IN NET POSITION (In thousands)



# NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM TAX DEFERRED ANNUITY PROGRAM

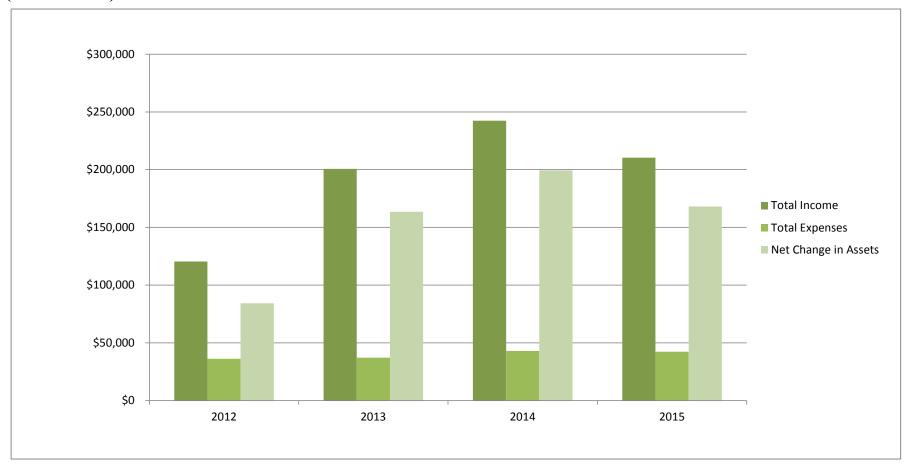
# SCHEDULE OF CHANGES IN NET POSITION (In thousands)

Year Ended	Participant Contributions	Net Investment Income	Other Receipts	Transfer of Invt. Income	Total Income	Benefit Payments			Administrative Expenses	Total Expenses	Net Change in Assets	
						Death	Refund	Retirement	Other			
2012	\$59,024	\$6,468	\$26,593	\$28,396	\$120,481	\$8,272	\$25,146	\$325	\$68	\$2,445	\$36,256	\$84,225
2013	\$61,550	\$62,134	(\$86,810)	\$163,756	\$200,630	\$6,523	\$27,802	\$301	\$31	\$2,455	\$37,112	\$163,518
2014	\$63,767	\$82,223	(\$110,273)	\$206,615	\$242,332	\$9,242	\$30,755	\$354	\$59	\$2,531	\$42,941	\$199,391
2015	\$74,890	\$22,950	\$67,571	\$44,954	\$210,365	\$4,133	\$34,707	\$370	\$12	\$3,033	\$42,255	\$168,110

The table offers a 4 year horizontal comparison base for the operations of the BERS TDA Program

## NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM TAX DEFERRED ANNUITY PROGRAM

# **SCHEDULE OF CHANGES IN NET POSITION** (In thousands)



#### **BENEFIT EXPENSES BY TYPE**

(In thousands)

	AGE AND	DISA	BILITY	LU	UMP SUM PAYN	MENTS	
FISCAL YEAR ENDED JUNE 30	SERVICE RETIREMENT	BEN	REMENT NEFITS	SURVIVORS	DEATH IN	DEATH AFTER	TOTAL
	BENEFITS	DUTY	NON-DUTY		SERVICE	RETIREMENT	
2006	\$122,753	\$1,592	\$3,343	\$9,288	\$6,172	\$1,064	\$144,212
2007	\$147,399	\$1,712	\$3,595	\$1,167	\$4,678	\$481	\$159,032
2008	\$148,179	\$1,841	\$3,866	\$1,226	\$2,318	\$284	\$157,715
2009	\$153,124	\$1,980	\$4,158	\$1,288	\$6,188	\$68	\$166,806
2010	\$157,760	\$2,130	\$4,472	\$1,624	\$6,887	\$37	\$172,910
2011	\$165,580	\$2,291	\$4,810	\$1,280	\$5,328	\$77	\$179,366
2012	\$174,099	\$2,464	\$5,173	\$1,782	\$5,035	\$10	\$188,562
2013	\$183,250	\$2,649	\$5,564	\$1,963	\$5,890	\$5	\$199,321
2014	\$193,400	\$2,849	\$5,984	\$2,469	\$4,768	\$37	\$209,507
2015	\$202,193	\$3,065	\$6,435	\$1,532	\$3,642	\$592	\$217,459

The table offers a horizontal comparison base for the benefit segment of the expense groups of the Plan across the past 10 years.

The benefit segment is broken down by type.

#### **RETIRED MEMBERS BY TYPE OF BENEFIT**

		MEN	W	/OMEN
AGE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	1	\$29,037	1	\$24,609
50 - 54	11	42,556	2	44,246
55 - 59	84	31,578	290	13,722
60 - 64	362	32,788	1,220	11,332
65 - 69	513	28,554	2,322	10,684
70 - 74	504	28,288	2,205	9,314
75 - 79	441	25,762	1,718	8,185
80 - 84	352	25,263	1,506	7,963
85 - 89	218	24,506	1,154	7,668
90 & OVER	106	20,740	652	7,874
TOTALS	<u>2,592</u>	<u>\$27,669</u>	<u>11,070</u>	<u>\$9,331</u>

### AGE AND SERVICE RETIREMENT

### **ORDINARY DISABILITY (NON-DUTY) RETIREMENT**

		MEN	W	VOMEN
AGE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	8	\$17,288	17	\$12,841
50 - 54	24	19,098	41	12,655
55 - 59	40	18,139	85	11,097
60 - 64	49	17,414	139	9,682
65 - 69	34	16,352	157	9,486
70 - 74	21	12,223	107	8,958
75 - 79	13	15,120	25	9,016
80 - 84	5	22,105	19	6,753
85 - 89	6	12,396	2	6,979
90 & OVER	2	7,059	1	12,232
TOTALS	<u>202</u>	<u>\$16,751</u>	<u>593</u>	<u>\$9,872</u>

NOTE: This schedule is based on 2013 data (LAG)

**RETIRED MEMBERS BY TYPE OF BENEFIT** (CONT'D)

		MEN	V	VOMEN
AGE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	0	\$0	4	\$9,316
50 - 54	8	16,052	9	10,155
55 - 59	7	17,147	14	10,787
60 - 64	9	14,067	17	10,199
65 - 69	7	19,434	19	7,040
70 - 74	8	18,975	12	7,229
75 - 79	8	29,251	14	6,812
80 - 84	2	33,082	4	5,863
85 - 89	5	28,577	4	8,205
90 & OVER	1	26,834	1	1,724
TOTALS	<u>55</u>	<u>\$20,596</u>	<u>98</u>	<u>\$8,438</u>

### ACCIDENTAL DISABILITY (DUTY) RETIREMENT

### **ACCIDENTAL DEATH (DUTY) RETIREMENT**

		MEN	W	VOMEN
AGE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	0	\$0	0	\$0
50 - 54	1	5,928	0	0
55 - 59	0	0	0	0
60 - 64	0	0	0	0
65 - 69	0	0	0	0
70 - 74	0	0	0	0
75 - 79	1	8,899	0	0
80 - 84	0	0	0	0
85 - 89	0	0	0	0
90 & OVER	0	0	0	0
TOTALS	<u>2</u>	<u>\$7,414</u>	<u>0</u>	<u>\$0</u>

NOTE: This schedule is based on 2013 data (LAG)

#### **RETIRED MEMBERS BY TYPE OF BENEFIT**

(CONT'D)

### **OTHER BENEFICIARIES**

AGE OF	ľ	MEN	V	VOMEN
<b>RETIRANTS</b>	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	26	\$8,112	48	\$5,666
50 - 54	10	3,848	23	9,421
55 - 59	10	4,235	29	10,497
60 - 64	18	7,206	41	13,717
65 - 69	23	6,375	62	17,627
70 - 74	19	7,193	81	19,705
75 - 79	23	5,994	110	21,413
80 - 84	21	8,775	98	18,502
85 - 89	10	8,830	106	18,021
90 & OVER	9	6,517	76	13,250
TOTALS	<u>169</u>	<u>\$6,946</u>	<u>674</u>	<u>\$16,514</u>

#### **ALL PENSIONERS AND BENEFICIARIES**

AGE OF	]	MEN	W	/OMEN
RETIRANTS	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	35	\$10,808	70	\$7,888
50 - 54	54	20,357	75	12,206
55 - 59	141	25,110	418	12,866
60 - 64	438	29,632	1,417	11,226
65 - 69	577	26,840	2,560	10,751
70 - 74	552	26,816	2,405	9,638
75 - 79	486	24,565	1,867	8,965
80 - 84	380	24,352	1,627	8,578
85 - 89	239	23,632	1,266	8,535
90 & OVER	118	19,475	730	8,431
TOTALS	<u>3,020</u>	<u>\$25,637</u>	<u>12,435</u>	<u>\$9,739</u>

NOTE: This schedule is based on 2013 data (LAG)

#### SUMMARY OF ACTIVES BY AGE AND SERVICE: MALE

Data Used In The June 30, 2013 (LAG) Actuarial Valuation For Determining Fiscal Year 2015 Employer Contributions

AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP A	LL YEARS
NUMBER:										
UNDER 20	3	0	0	0	0	0	0	0	0	3
20 TO 24	140	2	0	0	0	0	0	0	0	142
25 TO 29	338	32	0	0	0	0	0	0	0	370
30 TO 34	395	136	28	1	0	0	0	0	0	560
35 TO 39	346	228	91	14	0	0	0	0	0	679
40 TO 44	324	246	129	63	12	0	0	0	0	774
45 TO 49	321	226	177	127	67	20	1	0	0	939
50 TO 54	259	201	160	161	162	71	12	0	0	1,026
55 TO 59	212	160	142	126	131	112	38	8	0	929
60 TO 64	118	111	94	78	69	65	40	28	5	608
65 TO 69	44	50	47	25	22	20	12	1	6	227
70 & UP	21	30	34	17	14	17	5	5	1	144
TOTAL	2,521	1,422	902	612	477	305	108	42	12	6,401
	THOUSANDS)									
UNDER 20	41	0	0	0	0	0	0	0	0	41
20 TO 24	3,550	96	0	0	0	0	0	0	0	3,646
25 TO 29	12,267	1,300	0	0	0	0	0	0	0	13,568
30 TO 34	17,525	7,901	1,324	26	0	0	0	0	0	26,776
35 TO 39	16,952	14,889	5,293	994	0	0	0	0	0	38,128
40 TO 44	15,314	17,208	8,488	4,111	705	0	0	0	0	45,826
45 TO 49	15,771	15,727	12,169	9,600	4,718	1,535	94	0	0	59,614
50 TO 54	10,198	12,182	10,280	12,252	12,206	6,069	1,068	0	0	64,255
55 TO 59	8,883	9,684	8,244	9,146	10,202	9,616	3,911	675	0	60,361
60 TO 64	4,732	6,092	5,095	4,593	5,741	5,765	3,910	2,412	473	38,811
65 TO 69	1,547	2,535	2,685	1,897	1,811	1,580	1,235	76	609	13,974
70 & UP	827	1,222	1,439	712	895	1,337	325	370	124	7,251
TOTAL *	107,610	88,835	55,017	43,331	36,277	25,902	10,541	3,534	1,205	372,252
AVERAGE SA							_		_	
UNDER 20	13,581	0	0	0	0	0	0	0	0	13,581
20 TO 24	25,360	48,009	0	0	0	0	0	0	0	25,679
25 TO 29	36,294	40,638	0	0	0	0	0	0	0	36,670
30 TO 34	44,368	58,094	47,280	26,068	0	0	0	0	0	47,815
35 TO 39	48,995	65,301	58,169	70,969	0	0	0	0	0	56,153
40 TO 44	47,266	69,949	65,802	65,252	58,721	0	0	0	0	59,206
45 TO 49	49,132	69,590	68,750	75,592	70,415	76,746	93,530	0	0	63,487
50 TO 54	39,375	60,606	64,252	76,097	75,345	85,483	89,003	0	0	62,627
55 TO 59	41,903	60,522	58,059	72,590	77,877	85,855	102,908	84,437	0	64,975
60 TO 64	40,098	54,882	54,198	58,882	83,202	88,693	97,738	86,157	94,571	63,835
65 TO 69	35,168	50,696	57,118	75,874	82,308	79,005	102,903	76,344	101,453	61,561
70 & UP	39,401	40,738	42,311	41,910	63,923	78,653	64,940	73,902	123,840	50,352
TOTAL	42,685	62,472	60,994	70,802	76,052	84,925	97,603	84,137	100,451	58,155

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

#### SUMMARY OF ACTIVES BY AGE AND SERVICE : FEMALE

Data Used In The June 30, 2013 (LAG) Actuarial Valuation For Determining Fiscal Year 2015 Employer Contributions

NUMBER:         UNDER 20       3       0       0       0       0       0       0         20 TO 24       207       0       0       0       0       0       0       0         25 TO 29       598       47       0       0       0       0       0       0         30 TO 34       752       264       41       1       0       0       0       0         35 TO 39       784       438       186       33       0       0       0       0	0 3 0 207 0 645 0 1,058 0 1,441 0 1,912 0 2,849
20 TO 24         207         0	$\begin{array}{ccc} 0 & 207 \\ 0 & 645 \\ 0 & 1,058 \\ 0 & 1,441 \\ 0 & 1,912 \end{array}$
25 TO 29         598         47         0 <th< td=""><td>0 645 0 1,058 0 1,441 0 1,912</td></th<>	0 645 0 1,058 0 1,441 0 1,912
30 TO 34         752         264         41         1         0         0         0         0	0 1,058 0 1,441 0 1,912
	0 1,441 0 1,912
35 TO 39 784 438 186 33 0 0 0 0	0 1,912
40 TO 44 929 502 354 96 30 1 0 0	0 2.840
45 TO 49 1,113 776 587 242 92 36 3 0	0 2,849
50 TO 54 1,037 893 967 407 185 95 27 1	0 3,612
55 TO 59 797 798 1,027 592 304 114 66 17	2 3,717
60 TO 64 375 464 710 458 335 117 44 18	14 2,535
65 TO 69 114 160 262 182 167 72 22 5	6 990
70 & UP 54 55 90 86 111 62 13 5	2 478
TOTAL 6,763 4,397 4,224 2,097 1,224 497 175 46	24 19,447
SALARIES (IN THOUSANDS):	
UNDER 20 53 0 0 0 0 0 0 0	0 53
20 TO 24         4,786         0 <t< td=""><td>0 4,786</td></t<>	0 4,786
25 TO 29 24,748 1,935 0 0 0 0 0 0 0 0 0	0 4,780 0 26,683
25 10 29         24,745         1,955         0	0 20,083 0 50,513
35 TO 39         31,581         23,029         9,653         1,439         0         0         0         0           40 TO 44         30,782         20,196         14,771         5,152         1,713         81         0         0	0 65,703 0 72,695
40 10 44         50,702         20,190         14,771         5,152         1,715         81         0         0           45 TO 49         32,678         26,208         19,705         10,157         4,830         2,474         214         0	0 72,093 0 96,265
50 TO 54         29,495         29,357         29,560         14,248         7,718         6,122         1,796         84           55 TO 50         22,718         25,550         20,552         10,186         11,578         5,602         4,470         1,100	,
55 TO 59         22,718         25,559         30,553         19,186         11,578         5,693         4,470         1,100           C0 TO 64         11,122         14,767         10,815         14,261         11,676         5,585         2,200         1,112	83 120,939 20 81 488
	30         81,488           57         28,078
	57 28,978
<u>70 &amp; UP 1,213 1,512 2,229 2,195 2,911 2,021 446 214</u>	96 12,838
TOTAL * 226,920 161,426 134,740 71,764 45,501 24,404 10,284 2,814 1,4	66 679,319
AVERAGE SALARIES: **	
UNDER 20 17,788 0 0 0 0 0 0 0 0	0 17,788
20 TO 24 23,120 0 0 0 0 0 0 0 0 0	0 23,120
25 TO 29 41,385 41,176 0 0 0 0 0 0 0	0 41,370
30 TO 34 45,920 54,005 41,158 36,287 0 0 0 0	0 47,744
35 TO 39 40,282 52,579 51,898 43,615 0 0 0 0	0 45,595
40 TO 44 33,134 40,232 41,727 53,662 57,112 80,891 0 0	0 38,020
45 TO 49 29,360 33,773 33,569 41,969 52,495 68,735 71,312 0	0 33,789
50 TO 54 28,443 32,874 30,569 35,008 41,721 64,438 66,504 83,513	0 32,774
55 TO 59 28,504 32,028 29,750 32,409 38,085 49,937 67,732 64,687 41,4	
60 TO 64 29,686 31,825 27,909 31,137 34,853 47,739 52,481 61,772 59,5	
65 TO 69 28,094 28,786 25,826 27,968 30,387 33,715 47,685 60,882 76,1	
70 & UP 22,454 27,498 24,767 25,525 26,228 32,600 34,306 42,866 47,5	
TOTAL 33,553 36,713 31,899 34,222 37,174 49,102 58,766 61,170 61,0	

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

#### SUMMARY OF ACTIVES BY AGE AND SERVICE: MALE AND FEMALE

Data Used In The June 30, 2013 (LAG) Actuarial Valuation For Determining Fiscal Year 2015 Employer Contributions

AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP A	LL YEARS
NUMBER:										
UNDER 20	6	0	0	0	0	0	0	0	0	6
20 TO 24	347	2	0	0	0	0	0	0	0	349
25 TO 29	936	79	0	0	0	0	0	0	0	1,015
30 TO 34	1,147	400	69	2	0	0	0	0	0	1,618
35 TO 39	1,130	666	277	47	0	0	0	0	0	2,120
40 TO 44	1,253	748	483	159	42	1	0	0	0	2,686
45 TO 49	1,434	1,002	764	369	159	56	4	0	0	3,788
50 TO 54	1,296	1,094	1,127	568	347	166	39	1	0	4,638
55 TO 59	1,009	958	1,169	718	435	226	104	25	2	4,646
60 TO 64	493	575	804	536	404	182	84	46	19	3,143
65 TO 69	158	210	309	207	189	92	34	6	12	1,217
70 & UP	75	85	124	103	125	79	18	10	3	622
TOTAL	9,284	5,819	5,126	2,709	1,701	802	283	88	36	25,848
SALARIES (IN	THOUSANDS	):								
UNDER 20	94	0	0	0	0	0	0	0	0	94
20 TO 24	8,336	96	0	0	0	0	0	0	0	8,432
25 TO 29	37,016	3,236	0	0	0	0	0	0	0	40,251
30 TO 34	52,058	22,158	3,011	62	0	0	0	0	0	77,290
35 TO 39	48,533	37,918	14,946	2,433	0	0	0	0	0	103,830
40 TO 44	46,096	37,404	23,260	9,262	2,418	81	0	0	0	118,521
45 TO 49	48,449	41,935	31,874	19,757	9,547	4,009	307	0	0	155,879
50 TO 54	39,693	41,539	39,840	26,500	19,924	12,191	2,864	84	0	182,635
55 TO 59	31,601	35,242	38,797	28,332	21,780	15,309	8,381	1,775	83	181,300
60 TO 64	15,864	20,859	24,910	18,854	17,417	11,350	6,219	3,524	1,303	120,299
65 TO 69	4,750	7,141	9,451	6,987	6,885	4,008	2,284	381	1,066	42,952
70 & UP	2,040	2,735	3,668	2,908	3,806	3,358	771	584	219	20,088
TOTAL *	334,529	250,261	189,757	115,095	81,778	50,306	20,825	6,348	2,671	1,051,571
AVERAGE SA	LARIES: **									
UNDER 20	15,684	0	0	0	0	0	0	0	0	15,684
20 TO 24	24,024	48,009	0	0	0	0	0	0	0	24,161
25 TO 29	39,547	40,958	0	0	0	0	0	0	0	39,656
30 TO 34	45,386	55,396	43,642	31,178	0	0	0	0	0	47,769
35 TO 39	42,950	56,934	53,958	51,763	0	0	0	0	0	48,977
40 TO 44	36,788	50,005	48,157	58,254	57,571	80,891	0	0	0	44,125
45 TO 49	33,786	41,851	41,719	53,541	60,046	71,596	76,866	0	0	41,151
50 TO 54	30,628	37,969	35,351	46,655	57,419	73,440	73,427	83,513	0	39,378
55 TO 59	31,319	36,787	33,188	39,460	50,069	67,737	80,585	71,007	41,448	39,023
60 TO 64	32,178	36,276	30,982	35,175	43,111	62,365	74,032	76,615	68,591	38,275
65 TO 69	30,064	34,003	30,586	33,753	36,431	43,561	67,174	63,459	88,810	35,293
70 & UP	27,199	32,171	29,577	28,229	30,450	42,510	42,816	58,384	73,164	32,296
TOTAL	36,033	43,008	37,019	42,486	48,076	62,726	73,587	72,131	74,204	40,683
		,	,	/		1	/***	, -	2 -	- 7

Note: Age is last birthday. Service is completed years.

\* Total may not add up due to rounding.

\*\* Average based on unrounded salary.

#### ANNUAL AVERAGE BENEFIT PAYMENT AMOUNTS

FISCAL YEAR	RE	SERVICE TIREMENT BEN	NEFITS		RDINARY (NON- ISABILITY BEN	,		ACCIDENTAL (D DISABILITY BEN	,	SURVIVOR BENEFITS		
ENDED JUNE 30	NUMBER	AVERAGE ANNUAL ALLOWANCE	AVERAGE MONTHLY ALLOWANCE	NUMBER	AVERAGE ANNUAL ALLOWANCE	AVERAGE MONTHLY ALLOWANCE	NUMBER	AVERAGE ANNUAL ALLOWANCE	AVERAGE MONTHLY ALLOWANCE	NUMBER	AVERAGE ANNUAL ALLOWANCE	AVERAGE MONTHLY ALLOWANCE
2003	9,898	\$10,938	\$912	399	\$9,785	\$815	104	\$12,294	\$1,025	582	\$12,968	\$1,081
2004	10,450	\$11,018	\$918	454	\$9,881	\$823	118	\$12,295	\$1,025	603	\$12,942	\$1,079
2004 (Lag)	10,450	\$11,018	\$918	454	\$9,881	\$823	118	\$12,295	\$1,025	603	\$12,942	\$1,079
2005 (Lag)	10,723	\$11,106	\$926	495	\$9,802	\$817	125	\$12,555	\$1,046	628	\$12,956	\$1,080
2006 (Lag)	11,246	\$11,260	\$938	543	\$9,967	\$831	127	\$12,501	\$1,042	657	\$13,168	\$1,097
2007 (Lag)	11,618	\$11,440	\$953	565	\$10,031	\$836	141	\$12,354	\$1,030	667	\$13,497	\$1,125
2008 (Lag)	11,820	\$11,556	\$963	575	\$10,278	\$857	133	\$12,614	\$1,051	668	\$13,382	\$1,115
2009 (Lag)	12,176	\$11,665	\$972	627	\$10,547	\$879	118	\$13,036	\$1,086	720	\$13,448	\$1,121
2010 (Lag)	12,435	\$11,844	\$987	671	\$10,655	\$888	133	\$12,700	\$1,058	730	\$13,356	\$1,113
2011 (Lag)	12,841	\$12,244	\$1,020	698	\$10,975	\$915	138	\$12,559	\$1,047	722	\$13,724	\$1,144
2012 (Lag)	13,218	\$12,520	\$1,043	731	\$11,393	\$949	148	\$12,490	\$1,041	777	\$13,969	\$1,164
2013 (Lag)	13,662	\$12,811	\$1,068	795	\$11,620	\$968	153	\$12,809	\$1,067	845	\$14,579	\$1,215

#### **PARTICIPATING EMPLOYERS** AS OF JUNE 30, 2013 (LAG)

	As of June 30, 2013 (Lag)						As of June 30, 2004				
<u>Employer</u>	<u>Number of</u> <u>Employees*</u>		<u>Annual Payroll*</u>			<u>Number of</u> <u>Employees*</u>		<u>Annual Payroll*</u>			
NYC Department of Education **	2	25,271			\$	997,290,412		20,548		\$ :	598,412,618
NYC Schools Construction Authority		560			\$	53,681,013		339		\$	26,005,741
Charter Schools Beginning with Children Renaissance	3 14	17	\$ \$	105,736 494,007	\$	599,743	5 7	12	\$ 130,762 \$ 334,492	\$	465,254
TOTAL	2	25,848			<b>\$</b> 1	1,051,571,168		20,899		\$	524,883,613

\* The Number of Employees and their corresponding salaries (Annual Payroll) include only current active members receiving salary as of June 30th. \*\*A limited number of these employees have been reported as employed by employers other than those listed in the table.

For actuarial valuation purposes these employees are included with the NYC Department of Education pending confirmation of status.



# **Board of Education Retirement System of the City of New York**

65 Court Street, 16th Floor | Brooklyn, New York 11201 (718) 935-5400 | (800) 843-5575 | www.nycbers.org

