

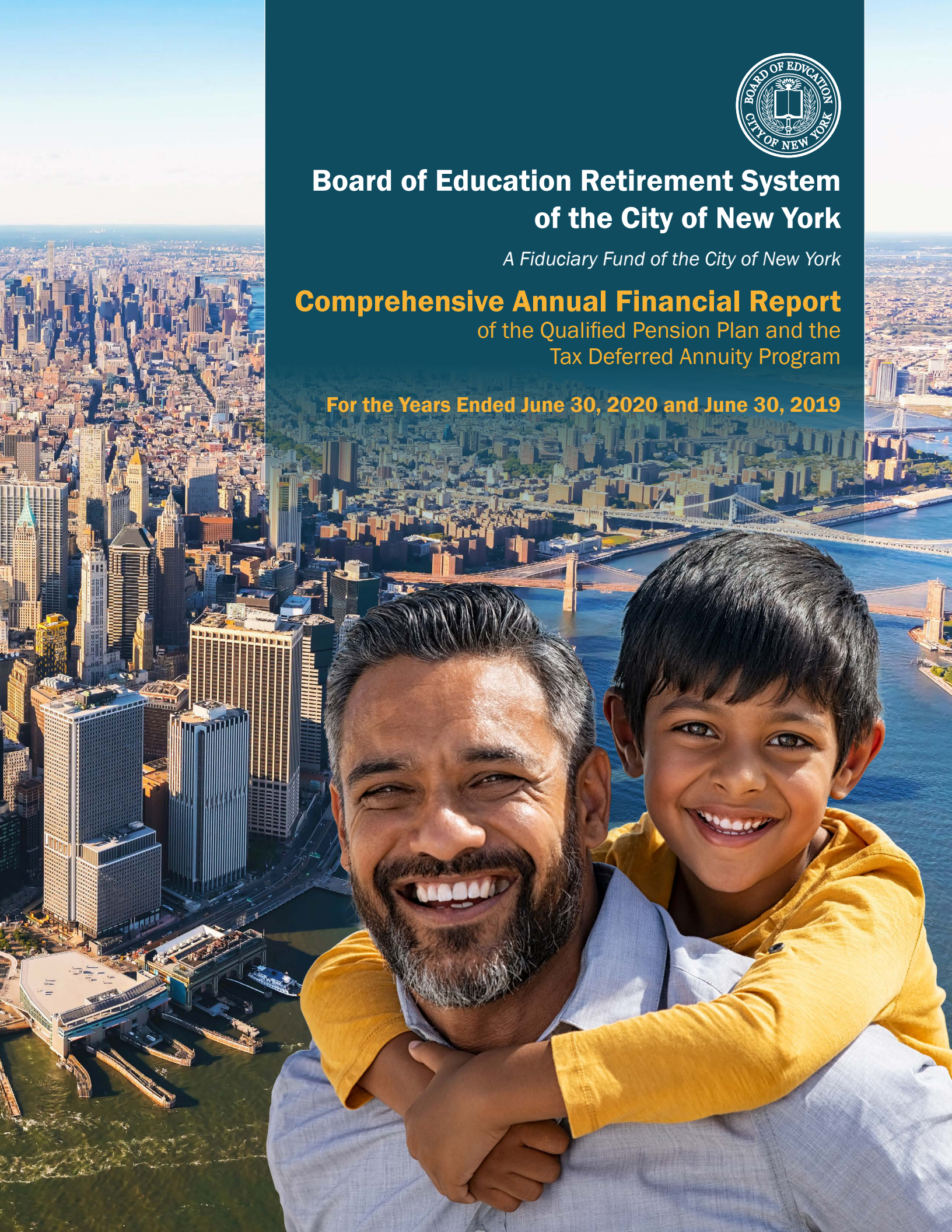


Board of Education Retirement System of the City of New York

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, 2020 and June 30, 2019



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Board of Education Retirement System 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 Fiscal Years Ended
June 30, 2020 and June 30, 2019

Prepared by

Sanford R. Rich, Executive Director

Chithra Subramaniam, Acting Director of Fiscal Operations

State of New York



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**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**

**INTRODUCTORY SECTION
PART I**

**FOR THE YEARS ENDED
JUNE 30, 2020 AND JUNE 30, 2019**

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SANFORD R. RICH
EXECUTIVE DIRECTOR

DANIEL D. MILLER
DEPUTY EXECUTIVE DIRECTOR

**BOARD OF EDUCATION RETIREMENT SYSTEM
OF THE CITY OF NEW YORK**
65 COURT STREET – 16th FLOOR
BROOKLYN, NEW YORK 11201- 4965

929-305-3800
OUTSIDE NEW YORK STATE
1-800-843-5575

December 22, 2020

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

Ladies and Gentlemen:

I am pleased to present the Comprehensive Annual Financial Report (“CAFR”) of the New York City Board of Education Retirement System (“BERS”, “Funds”, the “Plan” or the “System”) for the fiscal years ended June 30, 2020 and June 30, 2019. BERS administers the BERS Qualified Pension Plan (the “QPP”) and the BERS Tax Deferred Annuity Program (the “TDA Program”).

The QPP is a cost sharing, multiple employer Public Employee Retirement System (“PERS”) that was created on August 31st, 1921. The QPP provides pension benefits to non-pedagogical employees of the Department of Education, certain other specific schools, school crossing guards employed by the New York City Police Department, 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 1st, 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 responsibility for the accuracy of the data, and the completeness and fairness of the presentation, including all disclosures, rests with 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, 2018 through June 30, 2020

Chapter 266 of 2018

Extends the time for members or eligible beneficiaries to file a Notice of Participation in World Trade Center Rescue, Recovery, and Cleanup Operations to September 11, 2022. This law takes effect immediately and is deemed to have been in full force and effect on and after September 11, 2001.

Chapter 59 of 2019

Revises the composition of the Board of Education of the City of New York, and hence the BERS Board of Trustees, to include one additional mayoral appointee and one member to be elected by community district education council presidents. This provision takes effect on July 1, 2020.

Chapter 589 of the Laws of 2019

Increases the amount of money a retiree may earn in a position of public service in the year 2020 and thereafter to, \$35,000 from \$30,000.

Chapter 76 of the Laws of 2019

Extends for two fiscal years, until June 30, 2021, the 7% rate of interest used by the Chief Actuary for BERS in valuing the retirement system liabilities for the purpose of computing the amount of employer contributions. The bill also extends for two fiscal years the rate of interest to be paid into certain constituent funds of the City retirement systems and the 8.25% per annum rate to be credited on AMCs and ITHP reserves for Tier 1 and Tier 2 members.

Chapter 89 of the Laws of 2020

Provides death benefits to statutory beneficiaries of members whose death was a result of or was contributed to by COVID-19. This law provides an Accidental Death Benefit to the eligible beneficiaries of a member or a retiree who retired after March 1, 2020, where such member reported for work outside their home and contracted COVID-19 within 45 days after reporting for work, and whose death was caused by COVID-19 or where COVID-19 contributed to such member's death. Amounts payable are reduced by payments of any ordinary death benefits or option benefit paid to another statutory beneficiary.

FUNDING

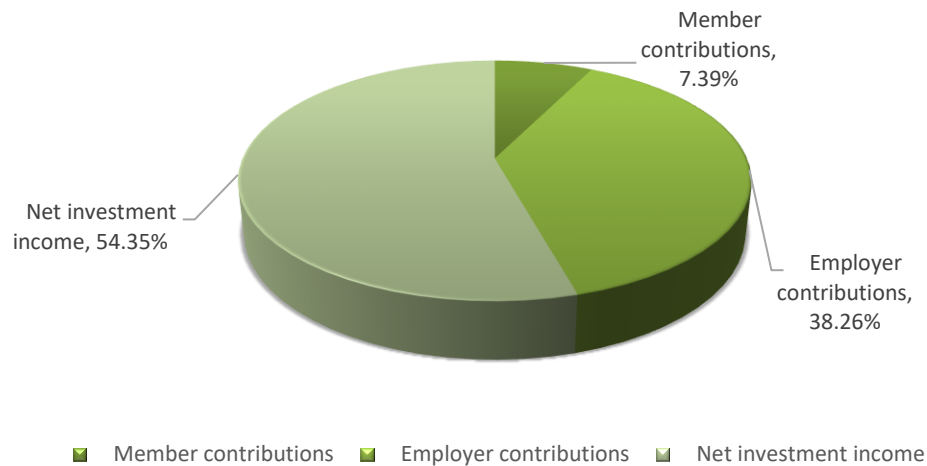
The financial objective of the QPP is to fund members' retirement benefits during their active service. The Employer contributes amounts that, together with member contributions and investment income, would ultimately be sufficient to accumulate assets to pay benefits when due.

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 2020, BERS sought to maintain a level of funding within the established guidelines of the Government Accounting Standards Board ("GASB"). As per GASB 67, a defined benefit pension plan is required to report fiduciary net position as a percentage of plan's total pension liability. As of June 30th, 2020, the QPP's fiduciary net position represents 94.92% of the total pension liability. The funded status of the QPP is expressed by the relationship of assets to liabilities. The ratio of actuarial value of assets to the Entry Age Actuarial Accrued liability, stands at 76.6% as of June 30th, 2018. Funding status has been discussed in detail in the actuarial section of this report.

Funding Sources

The chart below summarizes the contribution funding sources for fiscal year 2020 for the QPP.

Funds	Percentage	Contribution (in thousands)
Member Contributions	7.39%	\$ 49,766
Employer Contributions	38.26%	\$257,503
Net Investment Income	54.35%	\$365,767
Total	100.00%	\$673,036



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

INVESTMENTS

Investment Summary

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").

The Board of Education Retirement System Total Fund from the fixed return program returned 5.72%, net of management fees, for the fiscal year ending June 2020, compared to 4.29% for the Board of Education Policy Benchmark, against which it is measured. Performance for the fiscal year ranked better than 85% of a peer group of public funds. The Fund increased in value and ended the fiscal year at \$6.8 billion (compared to \$6.4 billion last year). Over the 5-year time period ending June 2020, the Fund remains ahead of its benchmarks, with a 7.6% average annual return versus 6.8% for the benchmark. The 5-year performance ranks in the top 1% of peers.

As of June 2020, the variable investments held at TRS, decreased to \$593.8 million from \$599.3 million in FY2019. During FY2020, the variable return fund performance was at +2.23% versus +6.83% during FY2019.

Investment Description¹

Asset allocation is the percentage of fund assets that are in stocks, bonds and private market alternatives. The Trustees establish a target asset mix after considering the long-term growth prospects of a diversified portfolio of investments and the expected costs of the Plan participants' benefits. In order to participate in the broad market performance while keeping Fund expenses low, the Fund uses passive, index strategies for most of its public equity allocation. During FY2020, the implementation plan for the asset allocation approved during FY2016 has progressed with additions to Private Equity, Real Estate and Infrastructure investments, while reducing U.S. equities and developed market non-U.S. equities. These are long-term commitments expected to improve the risk and return profile of the fund. The Fund's target asset mix, approved in FY2020, is 47%

¹ Michael Wright, Segal Marco Advisors, Report on Investment Activity

Equity (including US and Non-US), 22% Alternative Private Markets (including Private equities, Real Estate and Infrastructure), 27% Fixed Income, and 4% Real Assets. Over the long-term, which is the framework for considering the term structure of the Plan's liabilities, we expect our asset allocation will continue to meet the benefit needs while providing growth and preservation of principal.

Investment Policy

BERS' investment policy statement, ratified by the Board of Trustees in January 2009 and amended in October 2011, in January 2013, in February 2015, in June 2016, and in April 2020, 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. Fair value is defined as the quoted market price at the end of the last trading day for the specified period, except for Alternative Investments which are considered long-term and illiquid in nature. Alternative investments consist of limited partnership structures invested in privately held 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 GPs after review by an independent consultant and the custodian bank for the funds. They include investments held within Private Equity, Real Estate, Opportunistic Fixed Income, and Infrastructure.

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 individual company may represent more than 2% of the Plan's total net assets or 5% of the company's total outstanding shares. Exclusions apply for obligations of the United States, or those for which the faith of the United States is pledged to provide payment of the interest and principal.

ECONOMIC AND MARKET COMMENT²

Fiscal year 2020, ending June 30 was a case study in contrasts. The latter half of 2019, included improving economic conditions, high employment and a strong stock market. The first half of 2020, included a world paralyzed due to the COVID-19 pandemic, economic shutdowns, increasing unemployment and a stock market crash. This reversal stretched the resources and wits of citizens across the planet. Last year's letter mentioned the U.S. Gross Domestic Product ("GDP") growth of 2% at the end of fiscal year 2019. This small positive number at that time seemed strong when compared to the -33% GDP at the end of fiscal year 2020. The U.S. unemployment rate was 11.1% at the end of June 2020 compared to 3.7% at June 2019. In late March 2020, the U.S. government attempted to limit the economic fallout from the pandemic and passed the Coronavirus Aid, Relief, and Economic Security Act more commonly known as the CARES Act. The goal of this legislation was to keep unemployed workers and closed companies afloat in a time of minimal economic activity while investing resources to thwart the COVID-19 pandemic. The United States Federal Reserve (the "Fed") ensured liquidity in capital markets by lowering interest rates quickly. In addition, the Fed started to purchase investment securities in the open market. These two actions helped corporations handle their debts and enabled access to capital markets in a challenging environment. One outcome was a dramatic improvement in pension funds' performance starting in June, the last month of many public plan's fiscal year.

² Michael Wright, Segal Marco Advisors, Report on Investment Activity

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 the members are recognized when respective employers make payroll deductions from the QPP 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.

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. Grant Thornton 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, 2020. The five New York City retirement systems also undergo a five-year audit conducted by the New York State Department of Financial Services. During the fiscal year 2020, BERS went through an audit covering fiscal year 2014 thru fiscal year 2018.

Professional Services

The Chief Actuary provides actuarial services for the five major pension systems maintained by the City. The Chief Actuary's 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.

BERS went live with the new Enterprise Resource Planning software, known as the Comprehensive Pension Management System ("CPMS") on May 31st, 2017. We have moved into the next phase of the project (known as Velocity) which will expand CPMS to enable members to perform transactions online and will also increase the security and stability of the system by moving to cloud-based hosting. This will be a multiyear project. The services of Vitech Systems Group Incorporated have been retained to guide BERS through this phase.

Additional details about the consulting and professional services are mentioned in the introductory section, page 11. Details of the investment management fees and commissions to the brokerage firms are found in the investment section, page 82-88.

Awards

The GFOA awarded a Certificate of Achievement for Excellence in Financial Reporting to BERS for its CAFR for the fiscal year ended June 30, 2019. 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. 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 thirty-three 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,

Sanford Rich

Sanford R. Rich
Executive Director



NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

FOR THE FISCAL YEAR ENDED JUNE 30, 2020

BOARD OF TRUSTEES

Hon. Peter J. Calandrella
Hon. Isaac Carmignani
Hon. Richard Carranza, Chancellor
Hon. Geneal Chacon
Hon. April Chapman
Hon. Deborah Dillingham
Hon. Natalie Green Giles
Hon. Michael Kraft
Hon. Vanessa Leung
Hon. Gary Linnen
Hon. John Maderich
Hon. Donald Nesbit
Hon. Lori Podvesker
Hon. Shannon Waite
Hon. Kathy Park Price

CHANCELLOR'S DESIGNEES

Hon. Russell Buckley
Hon. Lindsey Oates

ALTERNATE EMPLOYEE-MEMBERS

Hon. Christopher Attianese
Hon. Shaun Francois

CO-CHAIRS

HON. John Maderich
HON. Lindsey Oates

Prepared By:

Sanford R. Rich, Executive Director
Chithra Subramaniam, Acting Director of Fiscal Operations

Actuary:

Sherry S. Chan
Chief Actuary

Custodian of the Funds:

Scott M. Stringer, Comptroller of the City of New York
Teachers' Retirement System of the City of New York

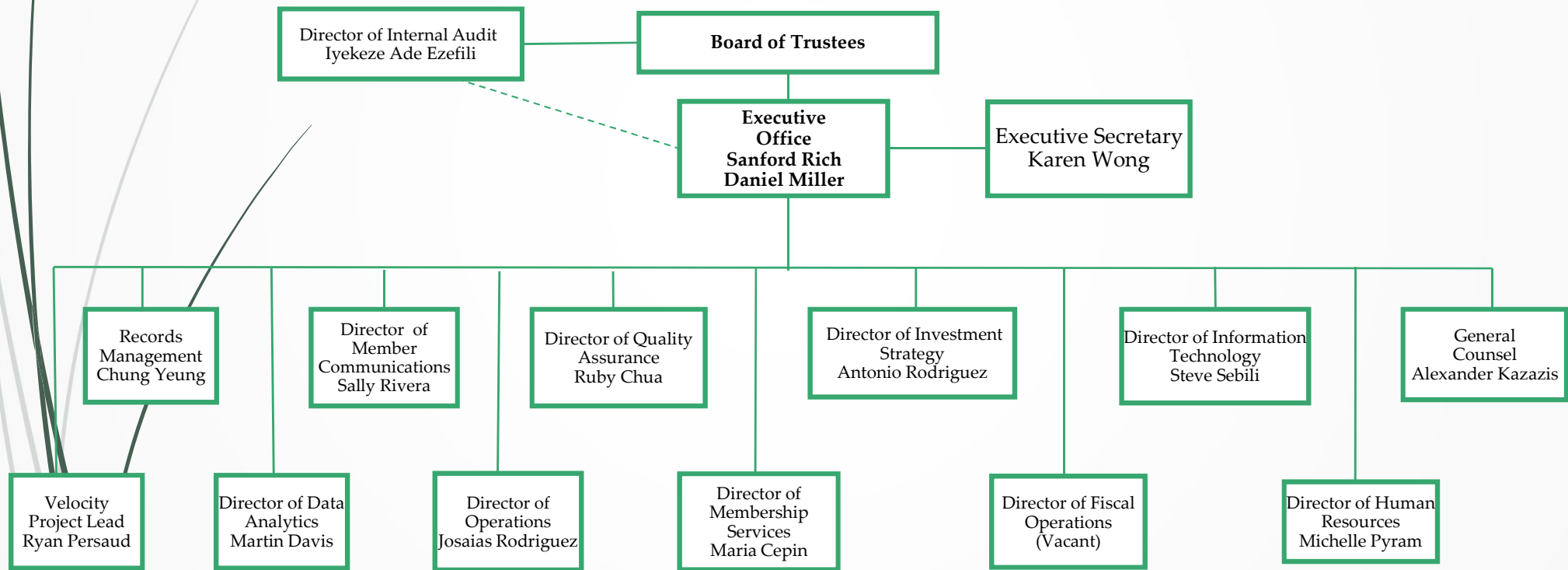
Headquarters Address:

Board of Education Retirement System of the City of New York
65 Court Street, 16th Floor, Brooklyn, New York 11201

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM FOR THE FISCAL YEAR ENDED JUNE 30, 2020



BERS Organization Structure





NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

CONSULTING AND PROFESSIONAL SERVICES

FOR THE FISCAL YEAR ENDED JUNE 30, 2020

ACTUARY

Office of the Actuary
255 Greenwich street, 9th Floor
New York, NY 10007

AUDITORS

Grant Thornton LLP
757 Third Ave., 9th Floor
New York, NY 10017-2013

CUSTODIAN OF FUNDS

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

Teachers' Retirement System
of the City of New York
55 Water street
New York, NY 10041

HR RESEARCH AND ADVISORY SERVICES

McLean & Company
3960 Howard Hughes Parkway, Suite 500
Las Vegas, NV, 89169

INTERNAL AUDIT CONSULTANT

Baker Tilly Virchow Krause, LLP
2801 Via Fortuna, Suite 300
Austin, TX 78746

INVESTMENT CONSULTANT

Aksia TorreyCove Partners LLC
10180 Barnes Canyon Road, Suite 200
San Diego, CA 92121

Cordatus, LLC
39 W 93rd Street, Suite 9
New York, NY 10025

Segal Marco Advisors
333 West 34th Street
New York, NY 10001

LEGAL CONSULTANT

Groom Law Group, Chartered
Department 0589
Washington, DC 20073

VELOCITY PROJECT CONSULTANT

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

Unique Comp Inc
27-08 42nd Road
Long Island City, NY 11101

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



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, 2019

Christopher P. Morill

Executive Director/CEO



**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**

**FINANCIAL SECTION
PART II**

**FOR THE YEARS ENDED
JUNE 30, 2020 AND JUNE 30, 2019**

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GRANT THORNTON LLP

757 Third Ave., 9th Floor
New York, NY 10017-2013

D +1 212 599 0100

F +1 212 370 4520

REPORT OF INDEPENDENT CERTIFIED PUBLIC ACCOUNTANTS

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

We have audited the accompanying combining financial statements of New York City Board of Education Retirement System Qualified Pension Plan ("QPP") and the New York City Board of Education Retirement System Tax-Deferred Annuity ("TDA") Program (collectively, the "System"), which comprise the combining statement of fiduciary net position as of June 30, 2020 and the related combining statement of changes in fiduciary net position for the year then ended, and the related notes to combining financial statements ("2020 combining financial statements").

Management's responsibility for the 2020 combining financial statements

Management is responsible for the preparation and fair presentation of these 2020 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 combining financial statements that are free from material misstatement, whether due to fraud or error.

Auditor's responsibility

Our responsibility is to express an opinion on these 2020 combining financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the 2020 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 System's 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 System's 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 opinion.

Opinion

In our opinion, the 2020 combining financial statements referred to above present fairly, in all material respects, the combining fiduciary net position of the System as of June 30, 2020, and the changes in the combining fiduciary net position for the year 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 - Schedules of Changes in the Employers' Net Pension Liability and Related Ratios, Schedule 2 - Schedules of City Contributions, and Schedule 3 - Schedule of Investment Returns, as listed in the table of contents, be presented to supplement the basic 2020 combining financial statements. Such information, although not a required part of the basic 2020 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 2020 combining financial statements in an appropriate operational, economic, or historical context. This required supplementary information is the responsibility of management. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America. These limited procedures 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 2020 combining financial statements, and other knowledge we obtained during our audit of the basic 2020 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 information

Our audit was 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 (Schedule 4 - Schedule of Investment Expenses, Schedule 5 - Schedule of Administrative Expenses, and Schedule 6 - Schedule of Direct Payments to Consultants) for the year ended June 30, 2020, 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 audit of the basic combining financial statements and certain additional procedures, applied in the audit of 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. 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.

Report on 2019 combining financial statements

The combining financial statements of the System as of and for the year ended June 30, 2019 ("2019 combining financial statements") were audited by other auditors. Those auditors expressed an unmodified opinion on those 2019 combining financial statements in their report dated October 24, 2019.

Grant Thornton LLP

New York, New York
October 28, 2020
(except for the Additional Supplementary Information,
as to which the date is December 22, 2020)

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
YEARS ENDED JUNE 30, 2020 AND 2019**

This narrative discussion and analysis of the New York City Board of Education Retirement System's ("BERS", "Funds", the "Plan" or the "System") financial performance provides an overview of the System's combining financial activities for the Fiscal Years ended June 30, 2020 and 2019. 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, the effects of significant changes, and a comparison of 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 inflow of resources) with the difference between assets/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 (Unaudited)**—as required by GASB includes the management discussion and analysis and information presented following the notes to combining financial statements.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
YEARS ENDED JUNE 30, 2020 AND 2019**

FINANCIAL HIGHLIGHTS

QPP Fiduciary Net Position

QPP's net position restricted for pension benefits totaled \$5.18 billion during Fiscal Year 2020, an increase of 3.82% from Fiscal Year 2019. The increase was primarily due to an increase in the fair value of investments. Fair value of investments, which includes the collateral from security lending, increased from \$6.90 billion in Fiscal Year 2019 to \$7.36 billion in Fiscal Year 2020, an increase of 6.72%. Return on investments stood at 4.96%.

During Fiscal Year 2019, QPP's net position restricted for pension benefits stood at \$4.99 billion, an increase of 6.83% from Fiscal Year 2018. The increase in the net position during Fiscal Year 2019 was due to an increase in the fair value of investments. Fair value of investments, including the collateral from security lending, stood at \$6.90 billion, an increase of 6.91% from Fiscal Year 2018. Return on investments stood at 5.89%.

QPP Fiduciary Net Position

June 30, 2020, 2019, and 2018

(In thousands)

	2020	2019	2018
Assets:			
Cash	\$ 977	\$ 3,694	\$ 2,106
Receivables	195,190	240,378	149,067
Investments, at fair value	6,915,714	6,491,787	6,067,189
Collateral from securities lending	452,087	412,005	390,140
Other	<u>242,160</u>	<u>248,466</u>	<u>206,757</u>
Total assets	<u>7,806,128</u>	<u>7,396,330</u>	<u>6,815,259</u>
Liabilities:			
Accounts payable	32,441	43,333	34,454
Other liability	-	-	-
Payable for investment securities purchased	166,434	182,667	115,140
Accrued benefits payable	12,884	10,034	9,747
Due to the TDA Program's Fixed return fund from the System	1,959,392	1,756,459	1,592,875
Payables for securities lending	<u>452,087</u>	<u>412,005</u>	<u>390,140</u>
Total liabilities	<u>2,623,238</u>	<u>2,404,498</u>	<u>2,142,356</u>
Net position restricted for pension benefits	<u>\$ 5,182,890</u>	<u>\$ 4,991,832</u>	<u>\$ 4,672,903</u>

Total receivables decreased from \$240.37 million in Fiscal Year 2019 to \$195.19 million in Fiscal Year 2020, a decrease of 18.79%. The decrease in the receivables was caused by the decrease in the receivables for investment securities sold. Receivables for investment securities sold totaled \$116.43 million in Fiscal Year 2020, a decrease of 32.95% from Fiscal Year 2019. Payables for investment securities purchased decreased from \$182.66 million in Fiscal Year 2019 to \$166.43 million in Fiscal Year 2020, a decrease of \$16.23 million from Fiscal Year 2019.

At the close of Fiscal Year 2019, total receivables increased from \$149.06 million in Fiscal Year 2018 to \$240.37 million, an increase of 61.26%. Included in the total receivables are the receivables for investment securities sold, which increased from \$84.96 million in Fiscal Year 2018 to \$173.66 million in Fiscal Year 2019, an increase of \$88.70 million from Fiscal Year 2018.

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.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
YEARS ENDED JUNE 30, 2020 AND 2019**

Member loans stood at \$48.75 million in Fiscal Year 2020, a marginal decrease of 3.62% from Fiscal Year 2019.

The account "Due to the TDA Program's Fixed return fund from the System" represents a liability to the TDA program, since the TDA Program assets are pooled with QPP assets for investment purposes. The liability for Fiscal Year 2020 stood at \$1.95 billion, an increase of 11.55% from Fiscal Year 2019. This liability includes the TDA member's account balances for deposits invested in fixed investment program.

Changes in QPP Fiduciary Net Position

During Fiscal Year 2020, the QPP member contributions increased to \$49.76 million, an increase of 7.47% from Fiscal Year 2019. In Fiscal Year 2019, the QPP member contributions increased to \$46.30 million, an increase of 13.36% from Fiscal Year 2018 contributions of \$40.84 million.

**Changes in QPP Program Fiduciary Net Position
Years Ended June 30, 2020, 2019, and 2018**

(In thousands)	2020	2019	2018
Additions:			
Member contributions	\$ 49,766	\$ 46,304	\$ 40,846
Employer contributions	257,503	269,637	318,643
Net investment income before securities lending transaction	364,295	404,959	561,877
Net securities lending income	1,472	1,920	3,700
TDA Program's interest income in the fixed return fund	(155,749)	(141,695)	(127,972)
Other - payments to other retirement systems & other revenues/expenses	<u>(7,975)</u>	<u>35,624</u>	<u>51,024</u>
Total additions	<u>509,312</u>	<u>616,749</u>	<u>848,118</u>
Deductions:			
Benefit payments and withdrawals	296,047	280,463	261,574
Administrative expenses	<u>22,207</u>	<u>17,357</u>	<u>13,212</u>
Total deductions	<u>318,254</u>	<u>297,820</u>	<u>274,786</u>
Net increase (decrease) in net position	191,058	318,929	573,332
Net position restricted for pension benefits:			
Beginning of year	<u>4,991,832</u>	<u>4,672,903</u>	<u>4,099,571</u>
End of year	<u>\$5,182,890</u>	<u>\$4,991,832</u>	<u>\$4,672,903</u>

Employer contributions received through the QPP Program decreased from \$269.63 million in the Fiscal Year 2019 to \$257.50 million in Fiscal Year 2020, a decrease of 4.50%. The employer contributions are made on a statutory basis based on the one-year lag methodology.

The net investment income, which includes the security lending income, decreased from \$406.87 million in Fiscal Year 2019 to \$365.76 million in Fiscal Year 2020. Return on investments decreased from 5.89% in Fiscal Year 2019 to 4.96% in Fiscal Year 2020.

The benefit payments and withdrawals increased from \$280.46 million in Fiscal Year 2019 to \$296.04 million in Fiscal Year 2020, an increase of 5.55%. During Fiscal Year 2019, the benefits payments and withdrawals increased by 7.22%, from \$261.57 million to \$280.46 million.

Administrative expenses increased from \$17.35 million in Fiscal Year 2019 to \$22.20 million in Fiscal Year 2020, a net increase of \$4.85 million. During Fiscal Year 2019, administrative expenses stood at \$17.35 million, an increase of \$4.14 million from Fiscal Year 2018.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
YEARS ENDED JUNE 30, 2020 AND 2019**

Interest to the TDA Program's fixed return fund represents the statutory interest credited on the TDA Program member account balances. The statutory rate of interest is currently 7.00% for United Federation of Teachers ("UFT") members and 8.25% for all other members. During Fiscal Year 2020, the interest to the TDA Program's fixed return fund stood at \$155.74 million, an increase of \$14.05 million from Fiscal Year 2019. The table below displays revenue (expenses) to the System due to any surplus or deficiency between the actual rate of return on the fixed investments and the statutory rate.

Net Investment Income (Loss) to the System from TDA Member Holdings in Fixed Return Fund*:

Years Ended June 30, 2020, 2019, 2018, 2017 and 2016

(In thousands)	2020	2019	2018	2017	2016
Net investment income	\$ 364,638	\$ 403,041	\$ 559,753	\$ 854,992	\$ 164,435
TDA percent of Fixed Assets (average)	26.22%	25.26%	25.13%	25.63%	25.03%
Investment Income on account of TDA investment	\$ 95,601	\$ 101,812	\$ 140,661	\$ 219,121	\$ 41,165
Less: Statutory Interest to TDA	<u>(155,749)</u>	<u>(141,695)</u>	<u>(127,972)</u>	<u>(106,554)</u>	<u>(94,789)</u>
Revenue (Expense) to the System	<u>\$ (60,148)</u>	<u>\$ (39,883)</u>	<u>\$ 12,689</u>	<u>\$ 112,567</u>	<u>\$ (53,624)</u>

*Includes security-lending income

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
YEARS ENDED JUNE 30, 2020 AND 2019**

TDA Program Fiduciary Net Position

The TDA program's net position restricted for TDA benefits was \$2.33 billion during Fiscal Year 2020, a net increase of 9.83% from Fiscal Year 2019. The increase was primarily due to an increase in the amounts due to the TDA Program's Fixed return fund from the System. Due to the TDA Program's Fixed return fund from the System increased by 11.55% in Fiscal Year 2020; from \$1.75 billion in Fiscal Year 2019 to \$1.95 billion in Fiscal Year 2020.

During Fiscal Year 2019, the TDA Program's net position restricted for TDA benefits increased to \$2.12 billion, a net increase of \$158.61 million or 8.06% from Fiscal Year 2018. The increase in Fiscal Year 2019 was primarily due to an increase in the fair value of investments and the amounts due to the TDA Program's Fixed return fund from the System, which increased 5.84% and 10.27%, respectively. The TDA Program's fair value of variable investment including collateral security lending stood at \$548.27 million, an increase of 5.84% from Fiscal Year 2018. Amounts due to the TDA Program's Fixed return fund from the System increased by 10.27% in Fiscal Year 2019, from \$1.59 billion for Fiscal Year 2018 to \$1.75 billion in Fiscal Year 2019.

**TDA Program Fiduciary Net Position
June 30, 2020, 2019, and 2018**

(In thousands)	2020	2019	2018
Assets:			
Cash	\$ 398	\$ 410	\$ 355
Receivables	44,400	48,205	44,831
Due to the TDA Program's Fixed return fund from the System	1,959,392	1,756,459	1,592,875
Investments, at fair value	540,275	544,694	512,426
Collateral from securities lending	3,480	3,583	5,618
Other	-	-	-
Total assets	<u>2,547,945</u>	<u>2,353,351</u>	<u>2,156,105</u>
Liabilities:			
Accounts payable	\$ -	\$ -	\$ -
Other liability	195,228	209,241	173,813
Payable for investment securities purchased	711	3,654	709
Accrued benefits payable	11,776	9,455	7,157
Payables for securities lending transactions	3,480	3,583	5,618
Total liabilities	<u>211,195</u>	<u>225,933</u>	<u>187,297</u>
Net position restricted for TDA benefits	<u>\$ 2,336,750</u>	<u>\$ 2,127,418</u>	<u>\$ 1,968,808</u>

Total receivables decreased by \$3.80 million in Fiscal Year 2020, a decrease of 7.89% from Fiscal Year 2019. Member loan outstanding decreased from \$43.79 million in Fiscal Year 2019 to \$42.81 million in Fiscal Year 2020, a decrease of 2.22% from Fiscal Year 2019.

During Fiscal Year 2020, receivables and payables for investment stood at \$0.51 million and \$3.48 million respectively. 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.

At the end of Fiscal Year 2019, total receivables increased by \$3.37 million, an increase of 7.53% from Fiscal Year 2018. Included in these receivables, the TDA Program's member loans outstanding increased from \$43.56 million in Fiscal Year 2018 to \$43.79 million in Fiscal Year 2019, an increase of 0.51% from Fiscal Year 2018.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
YEARS ENDED JUNE 30, 2020 AND 2019**

Changes in TDA Program Fiduciary Net Position

During Fiscal Year 2020, member contributions to the TDA Program increased to \$109.94 million, a 7.57% increase from \$102.20 million contributed in Fiscal Year 2019. The number of contributing members increased by 1.41%. Net investment income including net securities lending income decreased from \$40.08 million in Fiscal Year 2019 to \$14.91 million in Fiscal Year 2020, a net decrease of \$25.17 million.

Member contributions to the TDA Program increased to \$102.20 million during Fiscal Year 2019, a 13.59% increase from the \$89.97 million contributed in Fiscal Year 2018. Net investment income decreased from \$59.16 million in Fiscal Year 2018 to \$40.08 million in Fiscal Year 2019, a net decrease of \$19.08 million.

Changes in TDA Program Fiduciary Net Position

Years Ended June 30, 2020, 2019, and 2018

(In thousands)

	2020	2019	2018
Additions:			
Member contributions	\$ 109,944	\$ 102,203	\$ 89,972
Net investment income before securities lending transaction	14,838	40,008	59,075
Net securities lending income	74	79	93
TDA Program's interest income in the fixed return fund	155,749	141,695	127,972
Other - payments to other retirement systems and other revenues/expenses	<u>2,945</u>	<u>(43,842)</u>	<u>(54,240)</u>
Total additions	<u>283,550</u>	<u>240,143</u>	<u>222,872</u>
Deductions:			
Benefit payments and withdrawals	74,051	81,414	53,668
Administrative expenses	<u>167</u>	<u>119</u>	<u>84</u>
Total deductions	<u>74,218</u>	<u>81,533</u>	<u>53,752</u>
Net increase in net position	209,332	158,610	169,120
Net position restricted for TDA benefits:			
Beginning of year	<u>2,127,418</u>	<u>1,968,808</u>	<u>1,799,688</u>
End of year	<u><u>\$2,336,750</u></u>	<u><u>\$2,127,418</u></u>	<u><u>\$1,968,808</u></u>

Benefit payments and withdrawals decreased from \$81.41 million in Fiscal Year 2019 to \$74.05 million in Fiscal Year 2020, a decrease of \$7.36 million or 9.04%. The decrease was primarily due to a decrease in the benefit payments towards death benefits and refund payments. The death benefit payments decreased from \$25.49 million in Fiscal Year 2019 to \$20.69 million in Fiscal Year 2020, a decrease of \$4.80 million from Fiscal Year 2019. The refund payments stood at \$52.87 million in Fiscal Year 2020, a decrease of \$2.61 million from Fiscal Year 2019.

During Fiscal Year 2019, the benefit payments and withdrawals stood at \$81.41 million, an increase of \$27.75 million from Fiscal Year 2018. The increase was primarily due to an increase in the benefit payments towards death benefits and refund payments. The death benefit payments increased from \$10.85 million in Fiscal Year 2018 to \$25.49 million in Fiscal Year 2019, an increase of \$14.64 million from Fiscal Year 2018. The refund payments stood at \$55.49 million in Fiscal Year 2019, an increase of \$13.06 million from Fiscal Year 2018.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
MANAGEMENT'S DISCUSSION AND ANALYSIS (UNAUDITED)
YEARS ENDED JUNE 30, 2020 AND 2019**

Investment Summary

Investments held by BERS' QPP and TDA Programs (which includes the fixed fund and the variable 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, 2020	June 30, 2019	June 30, 2018
Short-term Investments	\$ 256,725	\$ 89,806	\$ 139,691
Debt Securities	1,954,884	1,853,710	1,542,859
Equity Securities	3,298,510	2,698,595	2,236,820
Alternative Investments	976,076	892,479	765,549
Collective Trust Funds	969,794	1,501,891	1,894,696
Collateral Securities Lending	455,567	415,588	395,758
Total	\$ 7,911,556	\$ 7,452,069	\$ 6,975,373

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 6.17% in FY 2020, 6.83% in FY 2019, increased by 13.04% in Fiscal Year 2018.

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 Acting Director of Fiscal Operations, New York City Board of Education Retirement System, 65 Court Street, 16th Floor, and Brooklyn, New York 11201.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
COMBINING STATEMENTS OF FIDUCIARY NET POSITION
JUNE 30, 2020
(In thousands)

	QPP	TDA Program	Eliminations	TOTAL
ASSETS:				
Cash	\$ 977	\$ 398	\$ -	\$ 1,375
Receivables:				
Investment securities sold	116,436	514	-	116,950
Accrued interest and dividends	15,279	1,068	-	16,347
Member loans	48,751	42,818	-	91,569
Other	14,724	-	-	14,724
Total receivables	195,190	44,400	-	239,590
Investments — at fair value				
Fixed return funds:				
Short term investments:				
Commercial paper	29,179	-	-	29,179
Short-term investment fund	73,082	-	-	73,082
T-bills and Discount notes	149,094	-	-	149,094
Debt securities	1,941,029	-	-	1,941,029
Equity securities	2,723,900	-	-	2,723,900
Alternative Investments	976,076	-	-	976,076
Collective Trust Funds				
International equity	776,286	-	-	776,286
Domestic Equity	51,279	-	-	51,279
Mortgage debt security	22,965	-	-	22,965
Fixed Income	119,264	-	-	119,264
Collateral from securities lending	451,742	-	-	451,742
Variable return funds:				
Short term investments	484	4,886	-	5,370
Debt securities	1,250	12,605	-	13,855
Equities	51,826	522,784	-	574,610
Collateral from securities lending	345	3,480	-	3,825
Total investments	7,367,801	543,755	-	7,911,556
Due to the TDA Program's Fixed return fund from System	-	1,959,392	(1,959,392)	-
Other assets	242,160	-	(195,228)	46,932
Total assets	7,806,128	2,547,945	(2,154,620)	8,199,453
LIABILITIES:				
Accounts payable	32,441	-	-	32,441
Other liability	-	195,228	(195,228)	-
Payable for investment securities purchased	166,434	711	-	167,145
Accrued benefits payable	12,884	11,776	-	24,660
Due to the TDA Program's Fixed return fund from System	1,959,392	-	(1,959,392)	-
Payables for securities lending	452,087	3,480	-	455,567
Total liabilities	2,623,238	211,195	(2,154,620)	679,813
NET POSITION RESTRICTED FOR BENEFITS:				
Net position restricted for QPP (Qualified Pension Plan) benefits	5,182,890	-	-	5,182,890
Net position restricted for TDA (Tax-Deferred Annuity) benefits	-	2,336,750	-	2,336,750
TOTAL NET POSITION RESTRICTED FOR BENEFITS:	\$ 5,182,890	\$ 2,336,750	\$ -	\$ 7,519,640

The accompanying notes are an integral part of these combining financial statements.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
COMBINING STATEMENTS OF FIDUCIARY NET POSITION
JUNE 30, 2019
(In thousands)

	QPP	TDA Program	Eliminations	TOTAL
ASSETS:				
Cash	\$ 3,694	\$ 410	\$ -	\$ 4,104
Receivables:				
Investment securities sold	173,665	3,459	-	177,124
Accrued interest and dividends	15,501	953	-	16,454
Member loans	50,586	43,793	-	94,379
Other	626	-	-	626
Total receivables	240,378	48,205	-	288,583
Investments — at fair value				
Fixed return funds:				
Short term investments:				
Commercial paper	46,954	-	-	46,954
Short-term investment fund	26,625	-	-	26,625
Tbills and Discount notes	11,108	-	-	11,108
Debt securities	1,841,703	-	-	1,841,703
Equity securities	2,116,377	-	-	2,116,377
Alternative Investments	892,479	-	-	892,479
Collective Trust Funds				
International equity	1,096,779	-	-	1,096,779
Domestic Equity	261,858	-	-	261,858
Mortgage debt security	20,203	-	-	20,203
Fixed Income	123,051	-	-	123,051
Collateral from securities lending	411,646	-	-	411,646
Variable return funds:				
Short term investments	467	4,652	-	5,119
Debt securities	1,095	10,912	-	12,007
Equities	53,088	529,130	-	582,218
Collateral from securities lending	359	3,583	-	3,942
Total investments	6,903,792	548,277	-	7,452,069
Due to the TDA Program's Fixed return fund from System	-	1,756,459	(1,756,459)	-
Other assets	248,466	-	(209,241)	39,225
Total assets	7,396,330	2,353,351	(1,965,700)	7,783,981
LIABILITIES:				
Accounts payable	43,333	-	-	43,333
Other liability	-	209,241	(209,241)	-
Payable for investment securities purchased	182,667	3,654	-	186,321
Accrued benefits payable	10,034	9,455	-	19,489
Due to the TDA Program's Fixed return fund from System	1,756,459	-	(1,756,459)	-
Payables for securities lending	412,005	3,583	-	415,588
Total liabilities	2,404,498	225,933	(1,965,700)	664,731
NET POSITION RESTRICTED FOR BENEFITS:				
Net position restricted for QPP (Qualified Pension Plan) benefits	4,991,832	-	-	4,991,832
Net position restricted for TDA (Tax-Deferred Annuity) benefits	-	2,127,418	-	2,127,418
TOTAL NET POSITION RESTRICTED FOR BENEFITS:	\$ 4,991,832	\$ 2,127,418	\$ -	\$ 7,119,250

The accompanying notes are an integral part of these combining financial statements.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
COMBINING STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED JUNE 30, 2020
(In thousands)

	QPP	TDA Program	TOTAL
ADDITIONS:			
Contributions			
Member contributions	\$ 49,766	\$ 109,944	\$ 159,710
Employer contributions	<u>257,503</u>	<u>-</u>	<u>257,503</u>
Total contributions	<u>307,269</u>	<u>109,944</u>	<u>417,213</u>
Investment income			
Interest income	81,870	3,188	85,058
Dividend income	79,419	7,542	86,961
Net appreciation in fair value of investments	<u>235,683</u>	<u>4,888</u>	<u>240,571</u>
Total investment income	396,972	15,618	412,590
Less — investment expenses	<u>(32,677)</u>	<u>(780)</u>	<u>(33,457)</u>
Net investment income, before securities lending transactions	<u>364,295</u>	<u>14,838</u>	<u>379,133</u>
Securities lending transactions			
Securities lending income	1,608	82	1,690
Securities lending fees	<u>(136)</u>	<u>(8)</u>	<u>(144)</u>
Net securities lending income	<u>1,472</u>	<u>74</u>	<u>1,546</u>
Net investment income	<u>365,767</u>	<u>14,912</u>	<u>380,679</u>
Other — payments to other retirement systems & other revenues/expenses	(7,975)	2,945	(5,030)
TDA Program's interest income in the fixed return fund	<u>(155,749)</u>	<u>155,749</u>	<u>-</u>
Total additions	<u>509,312</u>	<u>283,550</u>	<u>792,862</u>
DEDUCTIONS:			
Benefit payments and withdrawals	296,047	74,051	370,098
Administrative expenses	<u>22,207</u>	<u>167</u>	<u>22,374</u>
Total deductions	<u>318,254</u>	<u>74,218</u>	<u>392,472</u>
NET INCREASE IN NET POSITION	191,058	209,332	400,390
NET POSITION RESTRICTED FOR BENEFITS:			
Beginning of year	<u>4,991,832</u>	<u>2,127,418</u>	<u>7,119,250</u>
End of year	<u>\$5,182,890</u>	<u>\$ 2,336,750</u>	<u>\$7,519,640</u>

The accompanying notes are an integral part of these combining financial statements.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
COMBINING STATEMENTS OF CHANGES IN FIDUCIARY NET POSITION
FOR THE YEAR ENDED JUNE 30, 2019
(In thousands)

	QPP	TDA Program	TOTAL
ADDITIONS:			
Contributions			
Member contributions	\$ 46,304	\$ 102,203	\$ 148,507
Employer contributions	<u>269,637</u>	<u>-</u>	<u>269,637</u>
Total contributions	<u>315,941</u>	<u>102,203</u>	<u>418,144</u>
Investment income			
Interest income	85,249	3,435	88,684
Dividend income	82,451	7,698	90,149
Net appreciation in fair value of investments	<u>268,479</u>	<u>29,540</u>	<u>298,019</u>
Total investment income	436,179	40,673	476,852
Less — investment expenses	<u>(31,220)</u>	<u>(665)</u>	<u>(31,885)</u>
Net investment income, before securities lending transactions	<u>404,959</u>	<u>40,008</u>	<u>444,967</u>
Securities lending transactions			
Securities lending income	2,124	88	2,212
Securities lending fees	<u>(204)</u>	<u>(9)</u>	<u>(213)</u>
Net securities lending income	<u>1,920</u>	<u>79</u>	<u>1,999</u>
Net investment income	<u>406,879</u>	<u>40,087</u>	<u>446,966</u>
Other — payments to other retirement systems & other revenues/expenses	35,624	(43,842)	(8,218)
TDA Program's interest income in the fixed return fund	<u>(141,695)</u>	<u>141,695</u>	<u>-</u>
Total additions	<u>616,749</u>	<u>240,143</u>	<u>856,892</u>
DEDUCTIONS:			
Benefit payments and withdrawals	280,463	81,414	361,877
Administrative expenses	<u>17,357</u>	<u>119</u>	<u>17,476</u>
Total deductions	<u>297,820</u>	<u>81,533</u>	<u>379,353</u>
NET INCREASE IN NET POSITION	318,929	158,610	477,539
NET POSITION RESTRICTED FOR BENEFITS:			
Beginning of year	<u>4,672,903</u>	<u>1,968,808</u>	<u>6,641,711</u>
End of year	<u>\$4,991,832</u>	<u>\$ 2,127,418</u>	<u>\$7,119,250</u>

The accompanying notes are an integral part of these combining financial statements.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

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”, “Funds”, the “Plan” 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 Funds (“POLICE”), and the New York City Fire Pension Funds (“FIRE”). Each pension system is a separate Public Employee Retirement System (“PERS”) with a separate oversight body and is financially independent of the other.

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 pension plan. The QPP provides pension benefits for non-pedagogical employees of the Department of Education, 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. For voluntary enrollment, 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, 2020, June 30, 2019, June 30, 2018, June 30, 2017 and June 30, 2016, the QPP’s membership consisted of:

	2020*	2019	2018	2017	2016
Retirees and beneficiaries receiving benefits	19,194	18,502	18,041	17,425	16,937
Terminated vested members not receiving benefits	1,680	2,019	1,934	1,528	851
Other inactives**	8,475	11,422	10,525	2,618	2,629
Active members on Payroll	<u>29,792</u>	<u>25,825</u>	<u>25,864</u>	<u>25,794</u>	<u>25,864</u>
Total	<u>59,141</u>	<u>57,768</u>	<u>56,364</u>	<u>47,365</u>	<u>46,281</u>

* Preliminary figures.

** As of June 30, 2018, Represents terminated members who are not vested in a pension benefit but who are eligible to withdraw their employee contribution account balance, and members who are no longer on payroll but who are not otherwise classified.

BERS is a fiduciary component unit of the City and is included in the City’s CAFR 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 members’ voluntary tax-deferred contributions until the period after retirement or upon withdrawal of contributions.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

Contributions to the TDA Program are made by the members only. The TDA Program is maintained as a separate plan.

At June 30, 2020, June 30, 2019, June 30, 2018, June 30, 2017 and June 30, 2016, the TDA Program participants consisted of:

	2020	2019	2018	2017	2016
Contributing members	19,148	18,881	17,899	16,917	16,113
Retired members with TDA balances	7,102	6,798	6,484	6,673	5,844

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 and member contributions 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 Pay ("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 QPP 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, ("Tier 1" and "Tier 2"), 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.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

- 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 United Federation of Teachers ("UFT") members)), and/or (2) in the QPP'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 active members' Excess of Contributions, net of all Deficiencies of Contributions, is \$2.57 million and \$3.35 million, for the years ended June 30, 2020 and 2019, 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. Also, certain members retiring prior to age 62 may have their benefit reduced by an age-based factor. 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 ten 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 for 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 age 62 have their benefit reduced by an age-based factor.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

- 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 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 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 eligible titles who joined after February 27, 2008, but before December 10, 2009 were automatically enrolled in the 55/27 retirement program. Participants in the 55/27 retirement may retire if they are at least age 55 as of their retirement date and have attained at least 27 years of credited service. 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 ten years, rather than five 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, or 35% upon the attainment of 20 years of 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 five years, rather than three, 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.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

- 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). COLA is payable to all members who are either: (1) at least age 62 and have been retired for at least five years or (2) at least age 55 and have been retired for at least ten years. Additionally, COLA is payable to members who retired for disability after being retired for five or more years and beneficiaries receiving accidental death benefits who have been receiving them for at least five years. COLA is one-half of the increase in the CPI-U based on the year ending March 31, rounding to the next higher 0.1%, not less than 1% nor greater than 3% of the first \$18,000 of the sum of the maximum retirement allowance and prior COLA.

TDA Program Benefits

Contributions to the TDA Program are made by the members 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 2020 is \$19,500. Participants, who have attained age 50, are permitted to make additional contributions. The additional contribution limit for 2020 is \$6,500. 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 59½ or for reasons of hardship (as defined by Internal Revenue Service regulations).

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 59½. A member who has received a hardship withdrawal may continue to 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 Internal Revenue Service (“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.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

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

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.

Use of Estimates — The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and revenues and expenses during the reporting period. Actual results could differ from those estimates.

Cash and Cash Equivalents — Cash equivalents consist of financial instruments with original maturity dates of three months or less.

Investment Valuation — Investments are reported at fair value. Fair value is defined as the quoted market price at the end of the last trading day for the specified period, except for Alternative Investments which are considered long-term and illiquid in nature. Alternative investments consist of limited partnership structures invested in privately held 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 GPs after review by an independent consultant and the custodian bank for the funds. They include investments held within Hedge Funds, Private Equity, Real Estate, Opportunistic Fixed Income, and Infrastructure.

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.

Concentrations — In accordance with RSSL section 177, no investment in any individual company may represent more than 2% of the Plan's total net assets or 5% of the company's total outstanding shares. Exclusions apply for obligations of the United States, or those for which the faith of the United States is pledged to provide payment of the interest and principal.

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.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

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 TDA Program is not subject to Federal income tax.

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.

Accrued Benefits Payable — Accrued benefits payable represent benefits due and unpaid by the QPP and the TDA Program for the Fiscal Year ended on June 30.

Interest (to) from TDA Program's Fixed Return Fund — The statutory interest credited on TDA Program member account balances invested in the fixed return fund is reported as the "Interest (to) from TDA Program's Fixed Return Fund."

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 System's 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, 2020 and 2019 management believes that the System has no credit risk exposure to because the fair value of collateral held by the System equaled or exceeded the fair value of securities lent to the borrowers. The contracts with the System's Securities Lending Agent (the "Agent") require the Agent to indemnify the System as follows: 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 40.18 days for Collateral Investments.

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 fiduciary 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, 2020 and 2019 are \$447.39 million and \$409.64 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 38.70 days.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
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GASB Statement No. 72, *Fair Value Measurement and Application* describes fair value as an exit price, requiring investments to be categorized under a fair value hierarchy prescribed by GASB. GASB 72 establishes a hierarchy of inputs used to measure fair value consisting of three levels based on market price observability. 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.

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 staff and 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, January 2013, February 2015, June 2016 and April 2020. 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.

State Street Bank and Trust Company is the primary custodian for the fixed return fund. The variable return fund assets are held in custody at JPMorgan Chase Bank.

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.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

Credit Risk—The possibility of a loss or default resulting from a borrower's inability to repay a loan or fulfill its contractual debt obligations. Portfolios other than U.S. Government and related portfolios, have credit rating limitations. Investment Grade portfolios are limited to mostly ratings, of BBB/Baa2 and above, except that they are also permitted a 10% maximum exposure to BB & B / Ba2 & B2 rated securities. While High Yield non-investment grade managers primarily invest in BB & B / Ba2 & B2 rated securities, they can also invest up to 10% of their portfolio in securities rated CCC/Caa2. The quality ratings of the Fund's investments, by percentage of the rated portfolio, as described by nationally recognized statistical rating organizations, at June 30, 2020 and 2019 are as follows:

Investment Type	Moody's Quality																			
Fixed Funds																		Caa &		
June 30, 2020	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Below	NR	Total	
U.S. Government	55.89%	0.03%	0.01%	0.01%	- %	0.01%	- %	0.04%	0.08%	0.01%	- %	- %	- %	- %	- %	- %	- %	7.24%	63.32%	
Corporate bonds	0.46	0.27	0.18	0.30	0.66	1.48	1.28	1.88	2.26	1.96	1.76	2.40	3.38	3.09	3.05	2.34	2.37	2.60	31.72	
Short term																				
Commercial Paper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	1.25	1.25	
STIF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	3.71	3.71	
Portfolio	<u>56.35%</u>	<u>0.30%</u>	<u>0.19%</u>	<u>0.31%</u>	<u>0.66%</u>	<u>1.49%</u>	<u>1.28%</u>	<u>1.92%</u>	<u>2.34%</u>	<u>1.97%</u>	<u>1.76%</u>	<u>2.40%</u>	<u>3.38%</u>	<u>3.09%</u>	<u>3.05%</u>	<u>2.34%</u>	<u>2.37%</u>	<u>14.80%</u>	<u>100.00%</u>	

Investment Type	Moody's Quality																		
Fixed Funds																		Caa &	
June 30, 2019	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Below	NR	Total
U.S. Government	62.92%	0.03%	0.02%	0.01%	- %	0.01%	- %	0.03%	0.07%	- %	- %	- %	- %	- %	- %	- %	- %	0.31%	63.40%
Corporate bonds	0.64	0.24	0.12	0.28	0.79	1.10	0.99	1.80	2.27	2.10	1.38	2.60	3.34	3.05	3.22	2.47	1.98	3.51	31.88
Short term																			
Commercial Paper	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.27	2.27
STIF	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2.45	2.45
Portfolio	<u>63.56%</u>	<u>0.27%</u>	<u>0.14%</u>	<u>0.29%</u>	<u>0.79%</u>	<u>1.11%</u>	<u>0.99%</u>	<u>1.83%</u>	<u>2.34%</u>	<u>2.10%</u>	<u>1.38%</u>	<u>2.60%</u>	<u>3.34%</u>	<u>3.05%</u>	<u>3.22%</u>	<u>2.47%</u>	<u>1.98%</u>	<u>8.54%</u>	<u>100.00%</u>

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

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, 2020 and 2019, are as follows:

Investment Type Variable Funds June 30, 2020	Moody's Quality																			Total
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	NR	
U.S. Government	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %
Corporate bond	-	-	-	-	-	0.45	0.73	1.00	0.63	0.59	-	0.38	-	0.87	-	-	-	-	52.91	57.56
Yankee bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Municipal bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
U.S. Agencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Short-term:																				
U.S. Treasury Bills	0.43	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.43
Money Market	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	42.01	42.01
Cash Equivalent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Portfolio	<u>0.43%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.45%</u>	<u>0.73%</u>	<u>1.00%</u>	<u>0.63%</u>	<u>0.59%</u>	<u>0.00%</u>	<u>0.38%</u>	<u>0.00%</u>	<u>0.87%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>94.92%</u>	<u>100.00%</u>

Investment Type Variable Funds June 30, 2019	Moody's Quality																			Total
	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa1	Caa2	NR	
U.S. Government	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %	- %
Corporate bond	-	-	-	-	-	0.49	-	0.42	-	0.72	0.30	-	0.74	0.22	0.30	-	-	-	49.53	52.72
Yankee bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Municipal bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
U.S. Agencies	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Short-term:																				
U.S. Treasury Bills	0.30	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.30
Money Market	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	46.85	46.85
Cash Equivalent	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	0.13	0.13
Portfolio	<u>0.30%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.49%</u>	<u>0.00%</u>	<u>0.42%</u>	<u>0.00%</u>	<u>0.72%</u>	<u>0.30%</u>	<u>0.00%</u>	<u>0.74%</u>	<u>0.22%</u>	<u>0.30%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>96.51%</u>	<u>100.00%</u>

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

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 or depository financial institution, the Funds 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 not registered in the name of the Funds and are held by either the counterparty or the counterparty's trust department or agent but not in the name of the Funds. Consistent with the Funds' investment policy, the investments are held by the Funds' custodian and registered in the name of the Funds. All of the Funds' deposits are insured by the Federal Deposit Insurance Corporation ("FDIC") are collateralized by securities held by a financial institution separate from the Funds' depository financial institution. However, the plans cash balances can exceed FDIC insured limits. Non-invested cash is swept into a State Street Short-term investment intraday account, which is not FDIC insured.

Interest Rate Risk — The risk that the value of debt securities will be affected by fluctuations in market interest rates. Although there is no formal interest rate risk management policy, the duration of the portfolio, relative to the duration of the portfolio's benchmark, is monitored by the Bureau of Asset Management. The lengths of investment maturities for fixed return fund (in years), as shown by the percent of the rated portfolio, at June 30, 2020 and 2019 are as follows:

Years to Maturity Investment Type June 30, 2020	Investment Maturities				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
U.S Government	63.32%	6.41%	15.78%	18.56%	22.57%
Corporate Bonds	31.72	1.00	11.55	13.01	6.16
Short-term:					
Commercial Paper	1.25	1.25	-	-	-
STIF	3.71	3.71	-	-	-
Portfolio	100.00%	12.37%	27.33%	31.57%	28.73%

Years to Maturity Investment Type June 30, 2019	Investment Maturities				
	Fair Value	Less Than One Year	One to Five Years	Six to Ten Years	More Than Ten Years
U.S Government	63.40%	1.30%	17.69%	22.24%	22.17%
Corporate Bonds	31.88	0.43	12.14	13.26	6.05
Short-term:					
Commercial Paper	2.27	2.27	-	-	-
STIF	2.45	2.45	-	-	-
Portfolio	100.00%	6.45%	29.83%	35.50%	28.22%

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

The lengths of investment maturities (in years) of the variable return fund, as shown by the percent of the rated portfolio, at June 30, 2020 and 2019 are as follows:

Years to Maturity	Investment Maturities				
Investment Type	Fair	Less than	One to Five	Six to Ten	More than
June 30, 2020	Value	One Year	Years	Years	Ten Years
U.S. Government	- %	- %	- %	- %	- %
Corporate bonds	57.56	3.18	35.58	16.46	2.34
Yankee Bonds	-	-	-	-	-
Municipal Bonds	-	-	-	-	-
U.S. Agencies	-	-	-	-	-
Short-term:					
U.S. Treasury Bills	0.43	0.43	-	-	-
Money Market	42.01	42.01	-	-	-
Cash Equivalent	-	-	-	-	-
Portfolio	<u>100.00%</u>	<u>45.62%</u>	<u>35.58%</u>	<u>16.46%</u>	<u>2.34%</u>

Years to Maturity	Investment Maturities				
Investment Type	Fair	Less than	One to Five	Six to Ten	More than
June 30, 2019	Value	One Year	Years	Years	Ten Years
U.S. Government	- %	- %	- %	- %	- %
Corporate bonds	52.72	1.83	33.77	13.31	3.81
Yankee Bonds	-	-	-	-	-
Municipal Bonds	-	-	-	-	-
U.S. Agencies	-	-	-	-	-
Short-term:					
U.S. Treasury Bills	0.30	0.30	-	-	-
Money Market	46.85	46.85	-	-	-
Cash Equivalent	0.13	0.13	-	-	-
Portfolio	<u>100.00%</u>	<u>49.11%</u>	<u>33.77%</u>	<u>13.31%</u>	<u>3.81%</u>

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

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 stocks and/or bonds. The currency markets are 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, 2020 and 2019 in the fixed return fund are as follows (amounts in thousands of U.S. dollars):

Trade Currency	June 30, 2020	June 30, 2019
Euro Currency	\$ 359,167	\$ 323,243
Hong Kong Dollar	173,319	185,711
Japanese Yen	133,559	138,122
British Pound Sterling	98,967	125,382
South Korean Won	61,177	72,510
New Taiwan Dollar	55,729	38,707
Swiss Franc	49,737	54,401
Indian Rupee	43,088	41,860
Danish Krone	25,644	21,475
Chinese Yuan Renminbi	24,761	3,725
Australian Dollar	20,347	21,747
Brazilian Real	19,627	36,591
Canadian Dollar	18,782	23,943
Swedish Krona	17,682	23,981
South African Rand	16,164	23,621
Turkish Lira	13,516	18,191
Singapore Dollar	13,034	19,293
Norwegian Krone	12,486	17,078
Thailand Baht	11,041	20,275
Polish Zloty	6,197	11,172
Malaysian Ringgit	4,507	9,448
Indonesian Rupiah	4,492	13,056
Chinese Yuan (Offshore)	3,391	5
Mexican Peso	3,100	4,029
UAE Dirham	2,387	2,381
Hungarian Forint	2,325	2,754
Chilean Peso	2,278	3,363
Qatari Rial	1,841	3,335
Philippine Peso	1,690	2,213
New Israeli Sheqel	1,341	2,000
Colombian Peso	532	1,125
New Zealand Dollar	433	464
Czech Koruna	200	208
Egyptian Pound	187	386
Russian Ruble	98	-
Pakistan Rupee	80	37
Peruvian Nouveau Sol	80	122
Moroccan Dirham	1	1
	\$ 1,202,987	\$ 1,265,955

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

The foreign currency exposures of the variable return funds as of June 30, 2020 and 2019 are as follows (amounts in thousands of U.S. dollars):

Trade Currency	June 30, 2020	June 30, 2019
Euro Currency	\$ 29,070	\$ 31,919
Japanese Yen	20,792	22,009
British Pound Sterling	13,057	16,754
Hong Kong Dollar	9,067	3,731
Swiss Franc	8,804	9,554
Australian Dollar	4,333	5,890
Taiwan Dollar	2,776	1,480
South Korean Won	2,752	2,630
Swedish Krona	2,484	2,223
Danish Krone	2,210	1,774
Canadian Dollar	2,194	1,084
Indian Rupee	2,112	2,387
Singapore Dollar	1,058	1,526
Chinese Renminbi (Yuan)	890	-
Brazilian Real	692	1,267
Norwegian Krone	569	803
South African Rand	446	941
Turkish Lira	436	403
Thailand Baht	379	610
New Zealand Dollar	291	205
Indonesian Rupiah	249	283
Israeli Shekel	171	279
Mexican Nuevo Peso	151	284
UAE Dirham	131	232
Polish Zloty	74	256
Malaysian Ringgit	63	321
Hungarian Forint	59	106
Chilean Peso	42	78
Saudi Arabian Ryal	39	-
Egyptian Pound	36	36
Philippine Peso	5	2
Czech Koruna	2	3
	<u>2</u>	<u>3</u>
Total	\$ 105,434	\$ 109,070

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

Securities Lending Transactions: *Credit Risk*— The quality ratings of investments held as collateral for Securities Lending at June 30, 2020 and 2019 are as follows:

Investment Type and Fair Value - Fixed Return Fund

Securities Lending Transactions

(In thousands)

June 30, 2020

Moody's Quality

	Aaa	Aa	A1	A2	A3	Baa	Ba	B	Caa	Ca	NR
U.S. Government	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Corporate bonds	-	-	-	-	-	-	-	-	-	-	-
Yankee bonds	-	-	-	-	-	-	-	-	-	-	-
Short-term:											
Reverse Repurchase Agreements	-	-	-	19,635	119,646	6,071	-	-	-	-	132,902
Money Market	80,766	-	-	-	-	-	-	-	-	-	44,554
Bank Notes	-	-	-	-	-	-	-	-	-	-	-
US Agency	-	-	-	-	-	-	-	-	-	-	2,997
Cash or Cash Equivalent	-	-	45,171	-	-	-	-	-	-	-	-
Uninvested	-	-	-	-	-	-	-	-	-	-	-
Total	\$ 80,766	\$ -	\$ 45,171	\$ 19,635	\$ 119,646	\$ 6,071	\$ -	\$ -	\$ -	\$ -	\$ 180,453
Percentage of securities lending portfolio	17.88%	- %	10.00%	4.35%	26.48%	1.34%	- %	- %	- %	- %	39.95%

Investment Type and Fair Value - Fixed Return Fund

Securities Lending Transactions

(In thousands)

June 30, 2019

Moody's Quality

	Aaa	Aa	A1	A2	A3	Baa	Ba	B	Caa	Ca	NR
U.S. Government	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Corporate bonds	-	-	-	-	-	-	-	-	-	-	-
Yankee bonds	-	-	-	-	-	-	-	-	-	-	-
Short-term:											
Reverse Repurchase Agreements	-	-	-	21,472	125,411	6,195	-	-	-	-	196,132
Money Market	6,644	-	-	-	-	-	-	-	-	-	11,721
Bank Notes	-	-	-	-	-	-	-	-	-	-	-
US Agency	-	-	-	-	-	-	-	-	-	-	3,978
Cash or Cash Equivalent	-	-	40,093	-	-	-	-	-	-	-	-
Uninvested	-	-	-	-	-	-	-	-	-	-	-
Total	\$ 6,644	\$ -	\$ 40,093	\$ 21,472	\$ 125,411	\$ 6,195	\$ -	\$ -	\$ -	\$ -	\$ 211,831
Percentage of securities lending portfolio	1.61%	- %	9.74%	5.22%	30.47%	1.50%	- %	- %	- %	- %	51.46%

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

Investment Type and Fair Value - Variable Return Fund

Securities Lending Transactions

(In thousands)

June 30, 2020

Moody's Quality

	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa	NR	Total
U.S. Government	\$ 751	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 751
Corporate bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yankee bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Short-term:																			
U.S. Treasury Bills	104	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	104
Repurchase Agreements	2,018	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	952	2,970
Uninvested	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	<u>\$ 2,873</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 952</u>	<u>\$ 3,825</u>
By Percent	<u>75.11%</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>24.89%</u>	<u>100.00%</u>

Investment Type and Fair Value - Variable Return Fund

Securities Lending Transactions

(In thousands)

June 30, 2019

Moody's Quality

	Aaa	Aa1	Aa2	Aa3	A1	A2	A3	Baa1	Baa2	Baa3	Ba1	Ba2	Ba3	B1	B2	B3	Caa	NR	Total
U.S. Government	\$ 850	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ 850
Corporate bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Yankee bonds	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Short-term:																			
U.S. Treasury Bills	91	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	91
Repurchase Agreements	2,678	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	323	3,001
Uninvested	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
Total	<u>\$ 3,619</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ 323</u>	<u>\$ 3,942</u>
By Percent	<u>91.81%</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>- %</u>	<u>8.19%</u>	<u>100.00%</u>

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

Interest Rate Risk — The lengths of investment maturities of the collateral for Securities Lending at June 30, 2020 and 2019 are as follows:

Years to Maturity

Fixed Return Fund

(In thousands)

June 30, 2020

	Investment Maturities (in years)				
	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					
Repurchase Agreements	-	-	-	-	-
Reverse Repurchase Agreements	278,254	278,254	-	-	-
Certificate of Deposits	-	-	-	-	-
Commerical Paper	-	-	-	-	-
Money Market	125,320	125,320	-	-	-
Bank Notes	-	-	-	-	-
U.S. Treasury	-	-	-	-	-
U.S. Agency	2,997	2,997	-	-	-
Time Deposit	-	-	-	-	-
Cash or Cash Equivalent	45,171	45,171	-	-	-
Uninvested	-	-	-	-	-
Total	<u>\$ 451,742</u>	<u>\$ 451,742</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
By Percent	<u>100.00%</u>	<u>100.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>

Years to Maturity

Fixed Return Fund

(In thousands)

June 30, 2019

	Investment Maturities (in years)				
	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					
Repurchase Agreements	-	-	-	-	-
Reverse Repurchase Agreements	349,210	349,210	-	-	-
Certificate of Deposits	-	-	-	-	-
Commerical Paper	-	-	-	-	-
Money Market	18,365	18,365	-	-	-
Bank Notes	-	-	-	-	-
U.S. Treasury	-	-	-	-	-
U.S. Agency	3,978	3,978	-	-	-
Time Deposit	-	-	-	-	-
Cash or Cash Equivalent	40,093	40,093	-	-	-
Uninvested	-	-	-	-	-
Total	<u>\$ 411,646</u>	<u>\$ 411,646</u>	<u>\$ -</u>	<u>\$ -</u>	<u>\$ -</u>
By Percent	<u>100.00%</u>	<u>100.00%</u>	<u>0.00%</u>	<u>0.00%</u>	<u>0.00%</u>

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

Years to Maturity
Variable Return Fund
(in thousands)
June 30, 2020

	Investment Maturities (in years)				
	Fair Value	Less than One Year	One to Five Years	Six to Ten Years	More than Ten Years
U.S. Government	\$ 751	\$ 90	\$ 343	\$ 146	\$ 172
Corporate Bonds	-	-	-	-	-
Yankee Bonds	-	-	-	-	-
Short-Term					
Repurchase Agreements	2,970	2,970	-	-	-
Reverse Repurchase Agreements	-	-	-	-	-
Certificate of Deposits	-	-	-	-	-
Commercial Paper	-	-	-	-	-
Money Market	-	-	-	-	-
Bank Notes	-	-	-	-	-
U.S. Treasury	104	104	-	-	-
U.S. Agency	-	-	-	-	-
Time Deposit	-	-	-	-	-
Cash or Cash Equivalent	-	-	-	-	-
Uninvested	-	-	-	-	-
Total	\$ 3,825	\$ 3,164	\$ 343	\$ 146	\$ 172
By Percent	100.00%	82.72%	8.97%	3.82%	4.49%

Years to Maturity
Variable Return Fund
(in thousands)
June 30, 2019

	Investment Maturities (in years)				
	Fair Value	Less than One Year	One to Five Years	Six to Ten Years	More than Ten Years
U.S. Government	\$ 850	\$ 48	\$ 626	\$ 93	\$ 83
Corporate Bonds	-	-	-	-	-
Yankee Bonds	-	-	-	-	-
Short-Term					
Repurchase Agreements	3,001	3,001	-	-	-
Reverse Repurchase Agreements	-	-	-	-	-
Certificate of Deposits	-	-	-	-	-
Commercial Paper	-	-	-	-	-
Money Market	-	-	-	-	-
Bank Notes	-	-	-	-	-
U.S. Treasury	91	91	-	-	-
U.S. Agency	-	-	-	-	-
Time Deposit	-	-	-	-	-
Cash or Cash Equivalent	-	-	-	-	-
Uninvested	-	-	-	-	-
Total	\$ 3,942	\$ 3,140	\$ 626	\$ 93	\$ 83
By Percent	100.00%	79.65%	15.88%	2.36%	2.11%

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

For the years ended June 30, 2020 and 2019, 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 5.75% and 7.00%, respectively. The money-weighted rate of return expresses investment performance, net of investment expense adjusted for the changing amounts invested.

In Fiscal Year 2015, the System adopted GASB 72. GASB 72 was issued to address accounting and financial reporting issues related to fair value measurements.

The System categorizes its fair value measurements within the fair value hierarchy established by generally accepted accounting principles ("GAAP"). 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, 2020 and June 30, 2019:

Fixed Return Funds

GASB 72 Disclosure

(in thousands)

June 30, 2020

INVESTMENTS — At fair value

Short-term investments:

Commercial paper	\$ -	\$ 29,179	\$ -	\$ 29,179
Discount notes	-	-	-	-
Short-term investment fund	-	73,082	-	73,082
U.S. Treasury bills and Agencies	-	149,094	-	149,094

Debt securities:

Bank loans	-	11,389	74	11,463
Corporate and Other	-	581,446	2,433	583,879
Mortgage debt securities	-	232,438	-	232,438
Treasury Inflation Protected Securities	-	285,623	-	285,623
U.S. Government and Agency	-	827,626	-	827,626

Equity securities

2,723,691	-	209	2,723,900
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Alternative investments

-	-	976,076	976,076
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Collective Pooled funds:

Bank Loans	-	115,248	3,289	118,537
Corporate and Other	-	727	-	727
Domestic equity	51,103	-	176	51,279
International equity	774,933	-	1,353	776,286
Mortgage debt securities	-	10,346	12,619	22,965

<u>\$ 3,549,727</u>	<u>\$ 2,316,198</u>	<u>\$ 996,229</u>	<u>\$ 6,862,154</u>
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NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

Fixed Return Funds

GASB 72 Disclosure

(in thousands)

June 30, 2019

	<u>Level One</u>	<u>Level Two</u>	<u>Level Three</u>	<u>QPP Total</u>
INVESTMENTS — At fair value				
Short-term investments:				
Commercial paper	\$ -	\$ 46,954	\$ -	\$ 46,954
Discount notes	-	1,576	-	1,576
Short-term investment fund	-	26,625	-	26,625
U.S. Treasury bills and Agencies	-	9,532	-	9,532
Debt securities:				
Bank loans	-	7,390	-	7,390
Corporate and Other	-	487,820	-	487,820
Mortgage debt securities	-	197,830	17,723	215,553
Treasury Inflation Protected Securities	-	312,116	-	312,116
U.S. Government and Agency	-	818,824	-	818,824
Equity securities	2,116,353	-	24	2,116,377
Alternative investments	-	-	892,479	892,479
Collective Pooled funds:				
Bank Loans	-	118,705	574	119,279
Corporate and Other	-	3,772	-	3,772
Domestic equity	260,619	-	1,239	261,858
International equity	1,096,708	-	71	1,096,779
Mortgage debt securities	-	9,448	10,755	20,203
	<u>\$ 3,473,680</u>	<u>\$ 2,040,592</u>	<u>\$ 922,865</u>	<u>\$ 6,437,137</u>

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 of the fair value hierarchy are securities whose stated market price is unobservable by the marketplace; 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. Collective Trust funds are reported using NAV. The 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.

Collective Trust Funds

Collective trust funds are separately managed accounts which are owned 100% by the City's pension systems. The investments underlying the collective trust funds are presented as Level 1, Level 2 or Level 3 based on their respective fair value hierarchy classifications.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019

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 Net Assets Value calculated by the general partner's valuation policy. Alternative investments are mainly illiquid and typically not sold or redeemed. The assets in our Alternative Investment program are classified as mainly 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 or the fund administrator using one or more valuation methodologies outlined in Accounting Standards 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 to measure fair value.

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.

Alternative investments are not fully funded upon subscribing to the investment. The general partner can draw down or call for capital as the fund goes into more investments or when the need arises such as expenses associated with the partnership. The residual balance of uncalled capital is also known as unfunded commitments which are restricted to the maximum amount of the limited partners total committed amount.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

**Variable-Return Funds
GASB 72 Disclosure
As of June 30, 2020
(In thousands)**

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Variable Return Funds:				
Short-term Investments	\$ -	\$ 5,370	\$ -	\$ 5,370
Debt Securities	-	13,855	-	13,855
Equities	546,475	24,171	3,964	574,610
Total	<u>\$ 546,475</u>	<u>\$ 43,396</u>	<u>\$ 3,964</u>	<u>\$ 593,835</u>

**Variable-Return Funds
GASB 72 Disclosure
As of June 30, 2019
(In thousands)**

	<u>Level 1</u>	<u>Level 2</u>	<u>Level 3</u>	<u>Total</u>
Variable Return Funds:				
Short-term Investments	\$ -	\$ 5,119	\$ -	\$ 5,119
Debt Securities	-	12,007	-	12,007
Equities	555,938	19,298	6,982	582,218
Total	<u>\$ 555,938</u>	<u>\$ 36,424</u>	<u>\$ 6,982</u>	<u>\$ 599,344</u>

Level One – Valued using prices quoted in active markets

Level Two – Valued using a matrix pricing technique: based on relationship to benchmark quoted prices

Level Three – 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 voluntary 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.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

- 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, 2020 and 2019 were as follows:

(In thousands)	2020	2019
Total pension liability	\$ 5,460,141	\$ 5,266,066
Fiduciary net position *	<u>5,182,890</u>	<u>4,991,832</u>
Employers' net pension liability	<u>\$ 277,251</u>	<u>\$ 274,234</u>
Fiduciary net position as a percentage of the total Pension liability	<u>94.92 %</u>	<u>94.79 %</u>

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

Actuarial Methods and Assumptions — The total pension liability as of June 30, 2020 and 2019 were determined by actuarial valuations as of June 30, 2019 and June 30, 2018, 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 and beneficiaries were developed from an experience study of the QPP.

There were no changes in actuarial assumptions and methods from the prior actuarial valuation.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

Beginning with the June 30, 2017 actuarial valuation, the Employer Contribution is based on the actuarial assumptions and methods adopted by the BERS Board of Trustees during Fiscal Year 2019 (the "2019 A&M").

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 recent of these studies was performed by Bolton, Inc. and included experience through June 30, 2017.

The Entry Age Normal ("EAN") cost method of funding is utilized by the Plan's Actuary to calculate the contribution required of the Employer.

Under this method, the Present Value (PV) of Future Benefits (PVFB) 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 PVFB allocated to a valuation year is the Normal Cost. The portion of this PVFB not provided for at a valuation date by the PV of Future Normal Costs or future member contributions is the Accrued Liability (AL).

The excess, if any, of the AL over the Actuarial Value of Asset (AVA) is the Unfunded Accrued Liability (UAL).

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

Increases or decreases in obligations due to benefit changes, actuarial assumption changes, and actuarial method changes are also explicitly identified and amortized.

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
Public Markets		
U.S. public market equities	31.0%	6.6%
Developed public market equities	10.0	7.2
Emerging public market equities	6.0	9.1
Fixed Income	27.0	1.6
Private Markets (Alternative Investments)		
Private Equity	9.0	10.4
Private Real Estate	8.0	4.8
Infrastructure	4.0	6.0
Opportunistic Fixed Income	5.0	7.3
Total	<u>100.0%</u>	

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

Discount Rate — The discount rate used to measure the total pension liability was 7%. 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%)	Discount Rate (7%)	1% Increase (8%)
Employers' net pension liability—June 30, 2020	<u>\$ 942,100</u>	<u>\$ 277,251</u>	<u>\$ (281,430)</u>

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, 2020 and 2019 is \$48.75 million and \$50.58 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, 2020 and 2019 is \$42.81 million and \$43.79 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, the Financial Information Services Agency ("FISA"), and the Office of Payroll Administration ("OPA") 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 \$2.66 million and \$1.55 million were incurred on behalf of the System by other City agencies, primarily the Comptroller's Office for 2020 and 2019, 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 2020 and 2019, 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 \$22.37 million and \$17.47 million, respectively.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

In August 2019, the System entered into a Sub-sublease agreement for office space. The agreement is for a term of six years and seven months and requires a total commitment of approximately \$11,180,000 over the term of the lease.

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.

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.

Revisions to Actuarial Assumptions and Methods — 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.

The most recently completed study was published by Bolton, Inc., dated June 2019. Bolton analyzed experience for the four and ten-year periods ending June 30, 2017 and made recommendations with respect to the actuarial assumptions and methods based on their analysis. Based in part on these recommendations, the Actuary proposed new assumptions and methods for use in determining Employer Contributions for Fiscal Years beginning on and after July 1, 2018. These assumptions and methods have been adopted by the Board of Trustees during Fiscal Year 2019.

Previously, Gabriel, Roeder, Smith & Company (GRS) published their study in October 2015.

New York State Legislation (only significant laws since Fiscal Year 2012 included)

Chapter 18 of the Laws of 2012 ("Chapter 18/12") placed certain limitations on the Tier 3 and Tier 4 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 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 One-Year Lag Methodology ("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, and defined the amortization of Unfunded Actuarial Accrued Liabilities ("UAAL").

Chapter 489 of the Laws of 2013 extended the Notice of Participation filing deadline to September 11, 2014 for vested members to file a sworn statement indicating participation in the World Trade Center Rescue, Recovery and Clean-up Operations.

Chapter 427 of the Laws of 2014 ("Chapter 427/14") provides non-contributory retirement service credit for members called to active military duty on or after September 11, 2001 and prior to January 1, 2006 who did not receive their full salary from a participating employer and are otherwise eligible to receive retirement service credit for such service. Such member would not be required to make member contributions to receive such credit.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

Chapter 510 of the Laws of 2015 ("Chapter 510/15") clarifies for Tier 6 the definition of multiple employers for the purpose of exclusion of wages and changes the plan year for contributions from plan year April 1 to March 31 to plan year January 1 to December 31.

Chapter 41 of the Laws of 2016 was enacted on May 31, 2016. This amendment removes the specified periods of time, medal requirements, and theaters of operation in which military service would had to have been rendered for a service purchase pursuant to RSSL § 1000. Accordingly, for a member to be eligible to purchase service credit pursuant to RSSL § 1000 for pre-membership military service, the member need only have been honorably discharged from the military; all other requirements of RSSL § 1000 remain the same. This law is not retroactive and does not permit retired members to purchase service credit.

Chapter 326 of the Laws of 2016, enacted on September 11, 2016, extends the deadline to file a Notice of Participation in the World Trade Center Rescue, Recovery and Clean-up Operations to September 11, 2018. Proper filing of a Notice of Participation is a requirement for a member to be eligible for a World Trade Center disability or death benefit.

Chapter 438 of the Laws of 2016, enacted on November 14, 2016, amends Retirement and Social Security Law Section 43 to eliminate restrictions upon transferring between public retirement systems.

Chapter 71 of the Laws of 2017, enacted on June 29, 2017, continues for Fiscal Year 2019, the Actuarial Interest Rate assumption of 7.0% per annum used to determine employer contributions to the New York City Pension Funds and Retirement Systems. This act also extends through Fiscal Year 2019, the interest rate of 8.25% per annum to credit interest on Tier 1 and Tier 2 member contributions and Increased-Take-Home-Pay (ITHP) Reserves.

Chapter 266 of 2018 extends the time for members or eligible beneficiaries to file a Notice of Participation in World Trade Center Rescue, Recovery, and Cleanup Operations to September 11, 2022.

Chapter 59 of the Laws of 2019 revises the composition of the Board of Education of the City of New York, and therefore the BERS Board of Trustees, to include one additional mayoral appointee and one member to be elected by community district education council presidents. This provision took effect on July 1, 2020.

Chapter 589 of the Laws of 2019 increases the amount of money a retiree may earn in a position of public service in the year 2020 and thereafter to \$35,000 from \$30,000.

Chapter 76 of the Laws of 2019 extends for two fiscal years, until June 30, 2021, the 7% rate of interest used by the Chief Actuary for BERS in valuing the retirement system liabilities for the purpose of computing the amount of employer contributions. The bill also extends for two fiscal years the rate of interest to be paid into certain constituent funds of the City retirement systems and the 8.25% per annum rate to be credited on AMCs and ITHP reserves for Tier 1 and Tier 2 members.

Chapter 89 of the Laws of 2020 provides death benefits to statutory beneficiaries of members whose death was a result of or was contributed to by COVID-19. This law provides an Accidental Death Benefit to the eligible beneficiaries of a member or a retiree who retired after March 1, 2020, where such member reported for work outside their home and contracted COVID-19 within 45 days after reporting for work, and whose death was caused by COVID-19 or where COVID-19 contributed to such member's death. Amounts payable are reduced by payments of any ordinary death benefits or option benefit paid to another statutory beneficiary.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
NOTES TO COMBINING FINANCIAL STATEMENTS
YEARS ENDED JUNE 30, 2020 AND 2019**

The Coronavirus Aid, Relief, and Economic Security (CARES) Act

The CARES Act, signed into law on March 27, 2020, is a major piece of federal legislation providing relief to individuals, as well as state and local governments, in connection with the impact of the COVID-19 outbreak. The CARES Act impacted the operations of BERS in five principal ways during FY2020:

- a) all required minimum distributions (RMDs) were suspended between March 27, 2020 and December 31, 2020;
- b) qualified individuals who were entitled to receive a QPP refund (other than a refund of a deduction in error) were permitted to classify such a refund as a coronavirus-related distribution, not subject to the 10% penalty for individuals younger than 59½ years of age (subject to the limitation that the sum of all coronavirus-related distributions cannot exceed \$100,000), until December 30, 2020;
- c) qualified individuals were permitted to request a TDA refund, even if they would not otherwise have been eligible to do so, as a coronavirus-related distribution, not subject to the 10% penalty for individuals younger than 59½ years of age (subject to the limitation that the sum of all coronavirus-related distributions cannot exceed \$100,000), until December 30, 2020;
- d) qualified individuals were permitted to apply for coronavirus-related loans, with a higher aggregate maximum amount than ordinary loans (for QPP/AMC loans, the expanded limit was the lesser of \$100,000 or 75% of the account balance; for TDA loans, the expanded limit was the lesser of \$100,000 or 100% of the account balance), until September 23, 2020; and
- e) qualified individuals with outstanding loans of any type were permitted to apply for extension of any loan payments due between March 27, 2020 and December 31, 2020 by up to one year.
- f) For the purposes of the above provisions, the CARES Act defined a “qualified individual” as an individual who:
 - 1. is diagnosed with COVID-19 by a test approved by the Centers for Disease Control and Prevention, or
 - 2. has a spouse or dependent diagnosed with COVID-19 by a test approved by the Centers for Disease Control and Prevention, or
 - 3. experiences adverse financial consequences as a result of (i) being quarantined, furloughed or laid off or having work hours reduced due to COVID-19, (ii) being unable to work due to lack of child care due to COVID-19, (iii) being unable to work due to closing or reducing hours of a business owned or operated by the individual due to COVID-19, or (iv) other factors as determined by the Secretary of the Treasury.

The Setting Every Community Up for Retirement Enhancement (SECURE) Act

The SECURE Act of December 2019 increased the age at which Required Minimum Distributions must commence from 70.5 to 72. It also required that certain inherited retirement plan accounts be more rapidly distributed to their owners.

COVID-19

The outbreak of the coronavirus disease (COVID-19), has been declared a pandemic by the World Health Organization. The Governor declared a state of emergency in the State on March 7, 2020 and the Mayor declared a state of emergency in the City on March 12, 2020, each of which is still in effect. The ultimate impact of the COVID-19 pandemic on the Plan cannot be determined at this time.

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)

	2020	2019	2018	2017	2016	2015	2014
Total pension liability:							
Service cost	\$ 166,792	\$ 168,501	\$ 176,110	\$ 168,625	\$ 153,107	\$ 147,898	\$ 142,867
Interest	369,904	366,084	350,999	346,510	320,315	299,592	288,162
Change of benefit terms	-	-	-	-	-	-	-
Differences between expected and actual experience	(46,574)	152,160	(164,587)	19,938	(75,907)	50,148	50,148
Changes of assumptions	-	(314,503)	-	-	183,677	-	-
Benefit payments and withdrawals	(296,047)	(280,463)	(261,574)	(262,432)	(240,727)	(223,244)	(214,315)
Net change in total pension liability	194,075	91,779	100,948	272,641	340,465	274,394	216,534
Total pension liability—beginning	5,266,066	5,174,287	5,073,339	4,800,698	4,460,233	4,185,839	3,969,305
Total pension liability—ending (a)	5,460,141	5,266,066	5,174,287	5,073,339	4,800,698	4,460,233	4,185,839
Plan fiduciary net position:							
Employer contributions	257,503	269,637	318,643	288,233	265,532	258,099	214,590
Member contributions	49,766	46,304	40,846	39,821	38,581	39,564	37,193
Net investment income	365,767	406,879	565,577	862,510	164,144	177,166	875,453
Payment of interest on TDA program fixed return funds	(296,047)	(141,695)	(127,972)	(106,554)	(94,789)	(85,104)	(206,615)
Benefit payments and withdrawals	(22,207)	(280,463)	(261,574)	(262,432)	(240,727)	(223,244)	(214,315)
Administrative expenses	(155,749)	(17,357)	(13,212)	(15,486)	(12,818)	(10,956)	(9,776)
Other	(7,975)	35,624	51,024	(122,954)	(157,499)	(52,021)	(70,916)
Net change in plan fiduciary net position	191,058	318,929	573,332	683,138	(37,576)	103,504	625,614
Plan fiduciary net position—beginning*	4,991,832	4,672,903	4,099,571	3,416,433	3,454,009	3,350,505	2,653,652
Plan fiduciary net position—ending (b)	5,182,890	4,991,832	4,672,903	4,099,571	3,416,433	3,454,009	3,279,266
BERS's net pension liability—ending (a)-(b)	\$ 277,251	\$ 274,234	\$ 501,384	\$ 973,768	\$ 1,384,265	\$ 1,006,224	\$ 906,573
Plan fiduciary net position as a percentage of the total pension liability	94.92 %	94.79 %	90.31 %	80.81 %	71.17 %	77.44 %	78.34 %
Covered payroll ¹	\$ 1,353,266	\$ 1,264,079	\$ 1,102,184	\$ 1,052,171	\$ 1,008,056	\$ 1,016,822	\$ 989,168
BERS's net pension liability as percentage of covered payroll	20.49 %	21.69 %	45.49 %	92.55 %	137.32 %	98.96 %	91.65 %

*FY 2015 Plan fiduciary net position—beginning was revised from the prior year.

In accordance with paragraph 50 of GASB No. 67, this schedule should present information for 10 years, if available. The information presented here pertains to periods beginning with the June 30, 2014 fiscal year, the System's adoption year of GASB No. 67. Additional years will be added until the 10-year requirement is met.

See Report of Independent Certified Public Accountants.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

QUALIFIED PENSION PLAN

SCHEDULE OF EMPLOYERS' CONTRIBUTIONS

(In thousands)

	2020	2019	2018	2017	2016	2015	2014	2013	2012	2011	2010
Actuarially determined contribution	\$ 257,503	\$ 269,637	\$ 318,643	\$ 288,233	\$ 265,532	\$ 258,099	\$ 214,590	\$ 196,246	\$ 213,651	\$ 180,191	\$ 147,349
Contributions in relation to the actuarially determined contribution	<u>257,503</u>	<u>269,637</u>	<u>318,643</u>	<u>288,233</u>	<u>265,532</u>	<u>258,099</u>	<u>214,590</u>	<u>196,246</u>	<u>213,651</u>	<u>180,191</u>	<u>147,349</u>
Contribution deficiency (excess)	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -	\$ -
Covered payroll ¹	<u>\$ 1,353,266</u>	<u>\$ 1,264,079</u>	<u>\$ 1,102,184</u>	<u>\$ 1,052,171</u>	<u>\$ 1,008,056</u>	<u>\$ 1,016,822</u>	<u>\$ 989,168</u>	<u>\$ 886,186</u>	<u>\$ 879,476</u>	<u>\$ 880,656</u>	<u>\$ 826,782</u>
Contributions as a percentage of covered-employee payroll	<u>19.03 %</u>	<u>21.33 %</u>	<u>28.91 %</u>	<u>27.39 %</u>	<u>26.34 %</u>	<u>25.38 %</u>	<u>21.69 %</u>	<u>22.15 %</u>	<u>24.29 %</u>	<u>20.46 %</u>	<u>17.82 %</u>

¹Projected employee payroll at time 1.0 under previous roll-forward methodology through 2018. Actual employee payroll at valuation date (time = 0) beginning in 2019.

(Continued)

See Report of Independent Certified Public Accountants.

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 2020 contributions were determined using an actuarial valuation as of June 30, 2018). The methods and assumptions used to determine the actuarially determined contributions are as follows:

Valuation Dates	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015	June 30, 2014	June 30, 2013	June 30, 2012	June 30, 2011	June 30, 2010	June 30, 2009– June 30, 2008
Actuarial cost method	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Entry Age	Frozen Initial Liability ¹
Amortization method for unfunded actuarial accrued liabilities:										
Initial unfunded	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar	Increasing dollar	NA ²
Post-2010 unfunded	Level dollar	Level dollar	Level dollar	Level dollar	Level dollar	Level dollar	Level dollar	Level dollar	Level dollar	NA ²
Remaining amortization period:										
Initial unfunded	14 years (closed)	15 years (closed)	16 years (closed)	17 years (closed)	18 years (closed)	19 years (closed)	20 years (closed)	21 years (closed)	22 years (closed)	NA ²
2010 ERI	0 year (closed)	0 year (closed)	0 year (closed)	1 year (closed)	2 years (closed)	3 years (closed)	4 years (closed)	5 years (closed)		
2011 Actuarial gain/loss	8 years (closed)	9 years (closed)	10 years (closed)	11 years (closed)	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA ²
2012 Actuarial gain/loss	9 years (closed)	10 years (closed)	11 years (closed)	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA	NA ²
2013 Actuarial gain/loss	10 years (closed)	11 years (closed)	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA	NA	NA ²
2014 Actuarial gain/loss	11 years (closed)	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA	NA	NA	NA ²
2015 Actuarial gain/loss	12 years (closed)	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA	NA	NA	NA	NA ²
2016 Actuarial gain/loss	13 years (closed)	14 years (closed)	15 years (closed)	NA	NA	NA	NA	NA	NA	NA ²
2017 Actuarial gain/loss	14 years (closed)	15 years (closed)	NA	NA	NA	NA	NA	NA	NA	
2017 Assumption Change	19 years (closed)	20 years (closed)	NA	NA	NA	NA	NA	NA	NA	
2017 Method Change	19 years (closed)	20 years (closed)	NA	NA	NA	NA	NA	NA	NA	
2018 Actuarial gain/loss	15 years (closed)									
2018 Method Change	20 years (closed)									
Actuarial Asset Valuation (AAV) method ³	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 2011. The June 30, 2010 AAV is defined to recognize Fiscal Year 2010 investment performance.	Modified six-year moving average of market values with a "Market Value Restart" as of June 30, 1999.

(Continued)

See Report of Independent Certified Public Accountants.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

REQUIRED SUPPLEMENTARY INFORMATION (UNAUDITED)

QUALIFIED PENSION PLAN

NOTES TO SCHEDULE OF EMPLOYERS' CONTRIBUTIONS

Valuation Dates	June 30, 2018	June 30, 2017	June 30, 2016	June 30, 2015	June 30, 2014	June 30, 2013	June 30, 2012	June 30, 2011	June 30, 2010	June 30, 2009– June 30, 2008
Actuarial assumptions:										
Assumed rate of return ⁴	7.0% per annum, net of investment expenses	7.0% per annum, net of investment expenses	7.0% per annum, net of investment expenses	7.0% per annum, net of investment expenses	7.0% per annum, net of investment expenses	7.0% per annum, net of investment expenses	7.0% per annum, net of investment expenses	7.0% per annum, net of investment expenses	7.0% per annum, net of investment expenses	8.0% per annum, gross of investment expenses
Post-retirement mortality	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2016	Tables adopted by Board of Trustees during Fiscal Year 2016	Tables adopted by Board of Trustees during Fiscal Year 2016	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2006
Active service: withdrawal, death, disability, service retirement	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2019	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2012	Tables adopted by Board of Trustees during Fiscal Year 2006 ⁴
Salary increases ⁴	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.	In general, merit and promotion increases plus assumed general increases of 3.0% per year.
Cost-of-living adjustments ⁴	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.	1.5% 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.	1.5% per annum for Auto COLA. 2.5% per annum for Escalation.	1.3% per annum

^{1.} 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.

^{2.} 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.

^{3.} As of June 30, 2014 (Lag) valuation, the AAV is constrained to be no more than 20% of Market Value.

^{4.} Developed using a long-term Consumer Price Inflation assumption of 2.5% per year.

See Report of Independent Certified Public Accountants.

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 from fixed investments for each of the past seven fiscal years:

Fiscal Year End	Money-Weighted Rate of Return
June 30, 2020	5.75%
June 30, 2019	7.00%
June 30, 2018	10.31%
June 30, 2017	15.33%
June 30, 2016	0.20%
June 30, 2015	3.15%
June 30, 2014	19.51%

Note: In accordance with paragraph 50 of GASB No. 67, this schedule should present information for 10 years, if available. The information presented here pertains to periods beginning with the June 30, 2014 fiscal year, the Plan's adoption year of GASB No. 67. Additional years will be added until the 10-year requirement is met.

See Report of Independent Certified Public Accountants.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

ADDITIONAL SUPPLEMENTARY INFORMATION

SCHEDULE 4 - SCHEDULE OF INVESTMENT EXPENSES

FISCAL YEAR ENDED JUNE 30, 2020

Fund Manager	Category	Amount (in \$)
1 Fixed Investment Expenses (net)		
American Securities Partners VII, L.P.	Alternative Investment Private Equity	\$ 86,571
Apax Partners IX	Alternative Investment Private Equity	259,750
Apax Partners X	Alternative Investment Private Equity	138,972
Apollo Investment Fund VIII	Alternative Investment Private Equity	489,228
Apollo Investment Fund IX, L.P.	Alternative Investment Private Equity	350,746
Ares Corporate Opportunities Fund V, L.P.	Alternative Investment Private Equity	159,522
ASF VI B	Alternative Investment Private Equity	71,726
ASF VI B NYC Co-Invest L.P.	Alternative Investment Private Equity	6,862
ASF VII B, L.P.	Alternative Investment Private Equity	80,984
ASF VII B NYC Co-Invest L.P.	Alternative Investment Private Equity	(1,125)
ASF VIII B, L.P.	Alternative Investment Private Equity	228,379
ASF VIII B NYC Co-Invest L.P.	Alternative Investment Private Equity	1,107
BC European Capital X	Alternative Investment Private Equity	76,041
BC European Capital X Co-Investment	Alternative Investment Private Equity	8,117
Bridgepoint Europe V L.P.	Alternative Investment Private Equity	82,189
Bridgepoint Europe V Co-Investment	Alternative Investment Private Equity	603
Bridgepoint Europe VI L.P.	Alternative Investment Private Equity	170,055
Bridgepoint Europe VI Co-Investment	Alternative Investment Private Equity	21,888
Capital Partners Private Equity Income Fund III, L.P.	Alternative Investment Private Equity	44,756
Carlyle Partners VI, L.P.	Alternative Investment Private Equity	126,544
Carlyle Partners VI, L.P. (Side Car)	Alternative Investment Private Equity	2,060
Clearlake Capital Partners VI	Alternative Investment Private Equity	31,675
Centerbridge Capital Partners III, L.P.	Alternative Investment Private Equity	87,053
Crestview Partners III, L.P.	Alternative Investment Private Equity	640,060
Crestview Partners III (Co-Investment B), L.P.	Alternative Investment Private Equity	4,664
Crestview Partners IV	Alternative Investment Private Equity	12,019
Crestview Partners IV Co-Investment	Alternative Investment Private Equity	4,007
CVC Capital Partners VI	Alternative Investment Private Equity	114,879
CVC Capital Partners VII	Alternative Investment Private Equity	242,065
EQT VII, L.P.	Alternative Investment Private Equity	186,864
EQT VIII	Alternative Investment Private Equity	241,790
EQT VIII Co-Investment	Alternative Investment Private Equity	8,940
New York Fairview Private Equity, L.P.	Alternative Investment Private Equity	62,508
FTV V, LP	Alternative Investment Private Equity	48,840
FTV VI, LP	Alternative Investment Private Equity	28,786
Grain Communications Opportunities Fund II	Alternative Investment Private Equity	91,913
Green Equity Investors VII	Alternative Investment Private Equity	108,550
ICG Strategic Equity Fund III	Alternative Investment Private Equity	281,869
ICV Partners IV, L.P.	Alternative Investment Private Equity	51,324
KKR Americas Fund XII L.P.	Alternative Investment Private Equity	139,189
KKR Europe V	Alternative Investment Private Equity	38,579
Landmark Equity Partners XV	Alternative Investment Private Equity	200,780
Landmark NYC Fund I	Alternative Investment Private Equity	4,378
Lexington Capital Partners VIII, L.P.	Alternative Investment Private Equity	227,327
Lexington Capital Partners IX L.P.	Alternative Investment Private Equity	138,918
Lindsay Goldberg V	Alternative Investment Private Equity	17,983
Mesirow Financial Private Equity Fund III	Alternative Investment Private Equity	163,172
Mesirow Financial Private Equity Fund IV	Alternative Investment Private Equity	95,942
Mesirow Financial Private Equity Fund V	Alternative Investment Private Equity	325,528
Mill City Capital II	Alternative Investment Private Equity	20,378
New MainStream Capital II	Alternative Investment Private Equity	51,824
New MainStream Capital III	Alternative Investment Private Equity	36,729
Palladium Equity Partners V, L.P.	Alternative Investment Private Equity	227,272
Patriot Financial Partners II	Alternative Investment Private Equity	44,767
Patriot Financial Partners III	Alternative Investment Private Equity	39,894
Platinum Equity Capital Partners III, LP	Alternative Investment Private Equity	249,886
Platinum Equity Partners Small Cap I	Alternative Investment Private Equity	394,677
Platinum Equity Capital Partners IV, LP	Alternative Investment Private Equity	112,157
Platinum Equity Capital Partners IV - SC	Alternative Investment Private Equity	442
Raine Partners II	Alternative Investment Private Equity	31,608

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NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

ADDITIONAL SUPPLEMENTARY INFORMATION

SCHEDULE 4 - SCHEDULE OF INVESTMENT EXPENSES

FISCAL YEAR ENDED JUNE 30, 2020

Fund Manager	Category	Amount (in \$)
Raine Partners III	Alternative Investment Private Equity	\$ 177,698
Reverence Capital Partners Opportunities Fund II, L.P.	Alternative Investment Private Equity	127,535
Reverence Capital Partners Opportunities Fund II (Parallel), L.P.	Alternative Investment Private Equity	4,006
Siris Partners III	Alternative Investment Private Equity	30,738
Siris Partners IV	Alternative Investment Private Equity	136,910
Stellex Capital Management LP	Alternative Investment Private Equity	81,334
Valor Equity III	Alternative Investment Private Equity	99,428
Valor Equity Partners IV	Alternative Investment Private Equity	72,450
Vista Equity Partners Fund V, L.P.	Alternative Investment Private Equity	1,876,388
Vista Equity Partners Fund VI, L.P.	Alternative Investment Private Equity	399,428
Vista Equity Partners VII	Alternative Investment Private Equity	248,304
Vistria Fund III, LP	Alternative Investment Private Equity	34,196
Welsh, Carson, Anderson & Stowe XII, L.P.	Alternative Investment Private Equity	244,350
Welsh, Carson, Anderson & Stowe XIII, L.P.	Alternative Investment Private Equity	169,201
Warburg Pincus Financial Sector Fund	Alternative Investment Private Equity	50,732
Warburg Pincus Private Equity XI, LP	Alternative Investment Private Equity	829,037
Warburg Pincus Private Equity XII, LP	Alternative Investment Private Equity	208,604
Warburg Pincus Global Growth, L.P.	Alternative Investment Private Equity	282,595
Webster Capital III	Alternative Investment Private Equity	21,453
Aermont Capital Real Estate Fund IV	Alternative Investment Real Estate	84,045
Almanac Realty Securities VIII, L.P.	Alternative Investment Real Estate	132,879
Almanac Realty Securities VIII Sidecar	Alternative Investment Real Estate	4,611
Artemis Income & Growth	Alternative Investment Real Estate	130,452
Artemis Co-Investment (Artemis Mach II, LLC)	Alternative Investment Real Estate	84,703
Blackstone Real Estate Partners Europe IV, L.P.	Alternative Investment Real Estate	682,366
Blackstone Real Estate Ptnrs VIII	Alternative Investment Real Estate	328,166
Blackstone Real Estate Ptnrs IX	Alternative Investment Real Estate	143,626
Brookfield Strategic Real Estate	Alternative Investment Real Estate	802,950
Brookfield Strategic Real Estate Partners III	Alternative Investment Real Estate	105,761
Brookfield Premier Real Estate Partners	Alternative Investment Real Estate	357,287
Carlyle Realty Partners VII	Alternative Investment Real Estate	774,009
DivcoWest Fund V	Alternative Investment Real Estate	178,800
DRA Growth and Income Fund IX	Alternative Investment Real Estate	230,853
NYC Vanbarton Interborough Fund LLC (NYC Asset Investors #1 LLC)	Alternative Investment Real Estate	298,381
Exeter Core Industrial Club Fund II, L.P.	Alternative Investment Real Estate	64,961
Exeter Core Fund III	Alternative Investment Real Estate	4,230
Exeter Industrial Value Fund IV LP	Alternative Investment Real Estate	95,423
Franklin Templeton Private Real Estate Fund of Funds	Alternative Investment Real Estate	91,180
Harrison Street Core Property Fund, L.P.	Alternative Investment Real Estate	79,217
Harrison Street (HSRE) Core Co-investment, L.P.	Alternative Investment Real Estate	6,913
H/2 Special Opportunities III L.P.	Alternative Investment Real Estate	136,720
H/2 Special Opportunities IV L.P.	Alternative Investment Real Estate	53,040
Heitman Credit	Alternative Investment Real Estate	78,335
Hudson Superstorm Sandy Rebuilding Fund (NYC Asset Investor #3 LLC)	Alternative Investment Real Estate	45,011
Jamestown Premier Fund	Alternative Investment Real Estate	41,333
KKR Real Estate Credit Opp Ptnrs Agg I	Alternative Investment Real Estate	100,609
KKR Real Estate Partners Americas II LP	Alternative Investment Real Estate	97,672
Lasalle US Property Fd	Alternative Investment Real Estate	254,957
Clarion Lion Industrial Trust	Alternative Investment Real Estate	206,278
Lone Star Real Estate Fund V (U.S.), LP	Alternative Investment Real Estate	69,835
MetLife Core Property	Alternative Investment Real Estate	92,053
Pramerica Real Estate VI, LP	Alternative Investment Real Estate	53,980
PW Real Estate Fund III LP	Alternative Investment Real Estate	62,868
RFM NYCRS Sandy LLC (NYC Asset Investors #2 -Related)	Alternative Investment Real Estate	80,214
Tristan European Property Investors Special Opportunities 4	Alternative Investment Real Estate	154,994
UBS Trumbull Property Fd	Alternative Investment Real Estate	261,028
USAA Eagle Real Estate Fund	Alternative Investment Real Estate	160,716
Westbrook Real Estate Fund X Co-Investment	Alternative Investment Real Estate	168,234
Axiom Infrastructure Canada II (Intl) L.P.	Alternative Investment Infrastructure	16,398
AxInfra US II L.P.	Alternative Investment Infrastructure	51,559
Actis Energy 4	Alternative Investment Infrastructure	218,684
Ardian Infrastructure Fund V	Alternative Investment Infrastructure	93,814

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NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

ADDITIONAL SUPPLEMENTARY INFORMATION

SCHEDULE 4 - SCHEDULE OF INVESTMENT EXPENSES

FISCAL YEAR ENDED JUNE 30, 2020

Fund Manager	Category	Amount (in \$)
ASF VII Infrastructure B LP	Alternative Investment Infrastructure	\$ 118,654
Brookfield Infrastructure Fund II	Alternative Investment Infrastructure	64,328
Brookfield Infrastructure Fund III	Alternative Investment Infrastructure	109,501
Brookfield Infrastructure Fund III Co-Invest	Alternative Investment Infrastructure	199
Brookfield Infrastructure Fund IV-B	Alternative Investment Infrastructure	230,208
Brookfield Infrastructure Fund IV Co-Invest	Alternative Investment Infrastructure	1,274
EIG Energy Partners	Alternative Investment Infrastructure	8,293
EQT Infrastructure III	Alternative Investment Infrastructure	144,668
EQT Infrastructure IV (No.2) USD SCSp	Alternative Investment Infrastructure	411,557
Global Energy & Power Infrastructure Fund II	Alternative Investment Infrastructure	186,941
Global Energy & Power Infrastructure Fund III	Alternative Investment Infrastructure	221,017
Global Infrastructure Partners III	Alternative Investment Infrastructure	218,027
Global Infrastructure Partners IV-A/B, L.P.	Alternative Investment Infrastructure	299,560
IFM Global Infrastructure	Alternative Investment Infrastructure	576,388
KKR Global Infrastructure Investors II, L.P.	Alternative Investment Infrastructure	99,184
KKR Global Infrastructure Investors III	Alternative Investment Infrastructure	80,237
Bowling Portfolio MGMT	Domestic Equity	21
BlackRock US LMC R1000 Core	Domestic Equity	32,338
LEGATO-ALTRAVUE SCV	Domestic Equity	7,838
LEGATO-BOWLING SCV	Domestic Equity	7,495
LEGATO-BRIDGE CITY SCG	Domestic Equity	12,942
LEGATO-DEAN SCV	Domestic Equity	9,850
LEGATO-ESSEX SCG	Domestic Equity	10,064
LEGATO-LISANTI-SCG	Domestic Equity	7,711
SSGA Russell Top 200 Core	Domestic Equity	24,933
Wasatch US SCG	Domestic Equity	112,306
Wellington Mgmt MCC	Domestic Equity	1,621,921
AFL-CIO Housing Investment Trust	Fixed Income	56,423
Blackrock - Mortgage	Fixed Income	106,729
Fail Float	Fixed Income	306,075
Mackay Shields High Yield	Fixed Income	430,318
Nomura High Yield	Fixed Income	512,296
Short Term Cash Account	Fixed Income	2,023
Prudential - Credit	Fixed Income	99,444
SSGA IT Treasury 1-10Y	Fixed Income	533
SSGA LI Treasury	Fixed Income	245,490
SSGA ST Treasury 1-3Y	Fixed Income	22,497
SSGA TIPS Passive	Fixed Income	16,719
Taplin Canida - Credit	Fixed Income	105,805
Acadian EM	International Equity	968,194
Acadian MTA	International Equity	1,032,695
Acadian WorldxUS SCC	International Equity	235,629
Algert EAFE SCC	International Equity	102,090
Baillie Gifford WorldxUS LMCG	International Equity	248,825
Baillie Gifford WorldxUS LMCG	International Equity	794,195
BlackRock Passive MSCI EM Core	International Equity	443,199
CONY EAFE Rebel	International Equity	-
CONY GRP Acadian	International Equity	90,484
Fiera Capital - Global	International Equity	344,526
FIS-Algert EAFE SC	International Equity	2,024
FIS-ATIVO EAFE	International Equity	34,599
FIS-AUBREY EM	International Equity	34,920
FIS-CHANGE GLOBAL EM	International Equity	42,541
FIS-DENALI EAFE	International Equity	24,009
FIS-DUNDAS EAFE	International Equity	40,774
FIS-MARTIN-EAFE	International Equity	17,873
FIS-METIS EAFE	International Equity	12,221
FIS-North South-EM ACV	International Equity	300
FIS-OSMOSIS EAFE	International Equity	33,532
FIS-REDWOOD INVESTMENTS	International Equity	20,728
FIS-TRANSITION	International Equity	31
JP Morgan AM-EM ACG	International Equity	327

(Continued)

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

ADDITIONAL SUPPLEMENTARY INFORMATION

SCHEDULE 4 - SCHEDULE OF INVESTMENT EXPENSES

FISCAL YEAR ENDED JUNE 30, 2020

Fund Manager	Category	Amount (in \$)
Morgan Stanley - Global	International Equity	\$ 303,256
Sprucegrove MTA	International Equity	280,392
Sprucegrove WorldxUS LMCV	International Equity	649,744
Blackrock R2000 Growth	Mutual Fund Equity	2,155
Blackrock R2000 Value	Mutual Fund Equity	5,997
Barings Bank Loans	Mutual Fund Fixed Income	390,394
RBC Access MBS	Mutual Fund Mortgage	18,197
	Sub total	32,183,401
<u>Legal Fees</u>		
Cox Castle Nicholson LLP		2,632
Day Pitney LLP		708
Foster Pepper PLLC		3,455
Pillsbury Winthrop Shaw Pittman LLP		4,292
Reinhart Boerner Van Dueren		2,686
Squire Patton Boggs (US) LLP		473
	Sub total	14,246
<u>Consultant Fees</u>		
Hamilton Lane Advisors LLC		47,500
Msci - Esg Research LLC		583
Segal Marco Advisors		200,000
Stepstone Group Real Estate LP		8,693
Torrey Cove		130,083
	Sub total	386,859
<u>Others</u>		
NCorp Inc/The		570
Institutional Shareholder Services		2,311
Ovis Oncology Inc		8,966
	Sub total	11,847
2 <u>Variable Investment Expenses</u>		
Qualified Pension Plan		80,656
Tax-Deferred Annuity		780,243
Investment Expenses FY 2020		\$ 33,457,252

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

ADDITIONAL SUPPLEMENTARY INFORMATION

**SCHEDULE 5 - SCHEDULE OF ADMINISTRATIVE EXPENSES
FISCAL YEAR ENDED JUNE 30, 2020**

EXPENSE TYPE		AMOUNT (in \$)
1	<u>ADMINISTRATIVE EXPENSES (QPP):</u>	
	Consumable Supplies and Materials	\$ 261,316
	Contractual Services	4,787,316
	Furniture and Equipment	405,540
	General Services	553,011
	Salaries paid to Plan Personnel	16,199,820
	Sub-Total	22,207,003
2	<u>ADMINISTRATIVE EXPENSES (TDA):</u>	
	Contractual Services	166,615
	Sub-Total	166,615
3	<u>MISCELLANEOUS EXPENSES:</u>	
	Related Parties Administrative Expenses	Sub-Total
	(Adm expenses made by the Comptroller on our behalf. Charged on investment)	2,667,410
	Total Administrative Expenses for FY 2020:	\$ 25,041,028

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

ADDITIONAL SUPPLEMENTARY INFORMATION

SCHEDULE 6 - SCHEDULE OF DIRECT PAYMENTS TO CONSULTANTS

FISCAL YEAR ENDED JUNE 30, 2020

INDIVIDUAL OR FIRM NAME	NATURE OF SERVICES	AMOUNT (in \$)
Richard Nathan Consulting LLC 132 East 43rd St, Suite 206 New York, NY 10017	Accounting Software Consultant	\$ 20,000
Baker Tilly Virchow Krause, LLP 2801 Via Fortuna, Suite 300 Austin, TX 78746	Internal Audit Service Consultant	198,500
McLean & Company 3960 Howard Hughes Parkway, Suite 500 Las Vegas, NV, 89169	HR Research and Advisory Services	12,869
Cordatius, LLC 39 W 93rd Street, Suite 9 New York, NY 10025	Investment Consultant	120,000
Segal Marco Advisors 333 West 34th Street New York, NY 10001	Investment Consultant	200,000
Aksia TorreyCove Partners LLC 10180 Barnes Canyon Road, Suite 200 San Diego, CA 92121	Investment Consultant	130,083
Groom Law Group, Chartered Department #0589 Washington, DC 20073	Legal Consultant	41,331
Gary Tunncliffe & Jack Ziegler, LLC 321 Union Street, #4A Brooklyn, NY 11231	Velocity Project Consultant	504,185
Unique Comp Inc 27-08 42nd Road Long Island City, NY 11101	Velocity Project Consultant	57,650
Vitech Systems Group, Inc. 401 Park Avenue South, 12th Floor New York, NY 10016	Velocity Project Consultant	5,916,485
Total Consulting Fees for FY 2020		\$ 7,201,103

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**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, 2020 AND JUNE 30, 2019**

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

INTRODUCTION

The investment section presents the following:

- Investment report for FY 2020, prepared by Segal Marco Advisors, investment consultant for BERS.
- The investment schedules following the investment report supplement the investment information presented in the financial section and the investment report as presented by the investment consultant.

Schedules are presented for the following categories

- a. Consolidated investment performance
- b. Asset Pie: focusing on the current fiscal year asset composition
- c. Asset Allocation: presents 10-year comparison of the invested assets
- d. Investment Holdings
- e. Management fees and brokers commission
- f. Investment Summary

The investment section has been prepared based on data provided by:

- The Comptroller of the City of New York through BAM;
- Teachers' Retirement System of The City of New York;
- Segal Marco, independent investment advisor for BERS;
- Custodians of investments; and the
- Investment managers.

To: New York City Board of Education Retirement System (BERS)

From: Segal Marco Advisors (Michael C. Wright and Vanessa Vargas Guijarro)

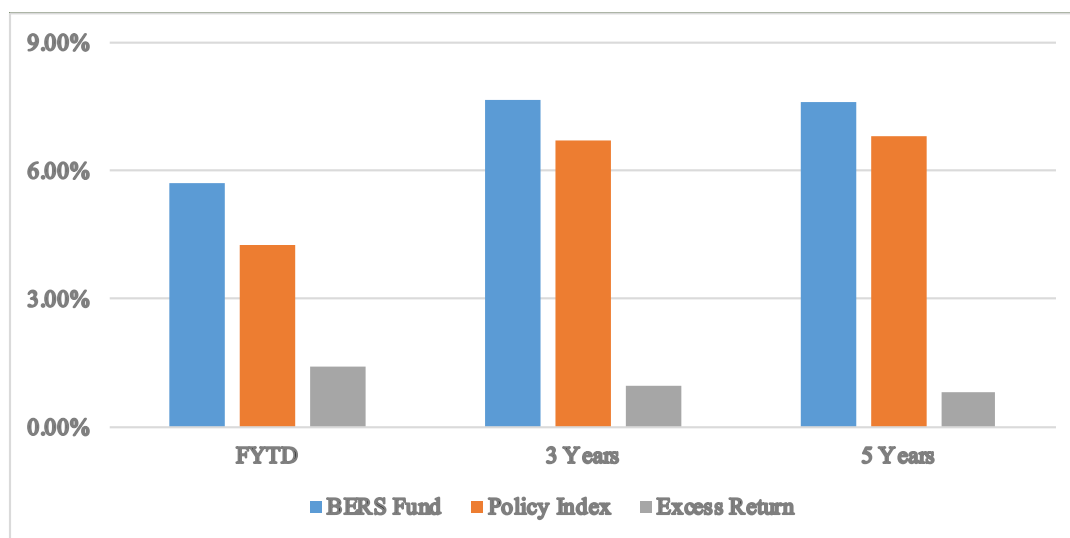
Date: October 14, 2020

Re: Report of Investment Activity for Fiscal Year 2020

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

Fund Summary of investment performance

The Board of Education Retirement System (“BERS”) Total Fund returned +5.72%, net of fees, for the Fiscal Year (FY) ending June 2020 compared to +4.29% for the BERS Policy Benchmark¹, against which it is measured. Performance for the FY ranked better than 85% of a peer group of public funds. The Fund increased in value and ended the fiscal year at \$6.83 billion (compared to \$6.45 billion last year). The one-year performance was good. It is important to note that a pension fund is a long-term investment established to pay for participants’ benefits. Over the long term, the expected return used for the actuarial valuation of the benefits is 7%. However, the Fund is not expected to outperform these benchmarks every year. Over the 5-year time period ending June 2020, the Fund has averaged a 7.6% annual return versus 6.8% for the Policy Benchmark. The 5-year performance also ranks in the top 1% of public funds’ peers.



¹ 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 Fund. The Policy Benchmark as of 6/30 consisted of: 34.7% Russell 3000, 14.6% MSCI EAFE, 6.7% MSCI Emerging Markets, 5.91% Russell 3000 + 300 bps, 5.6% NFI ODCE Net + 100 bps, 1.2% Infrastructure index, 18.6% fixed income, 4.7% Barclays Capital US TIPS, 6.0% Citigroup BB&B Index, and 2.0% Credit Suisse Leveraged Loan Index.

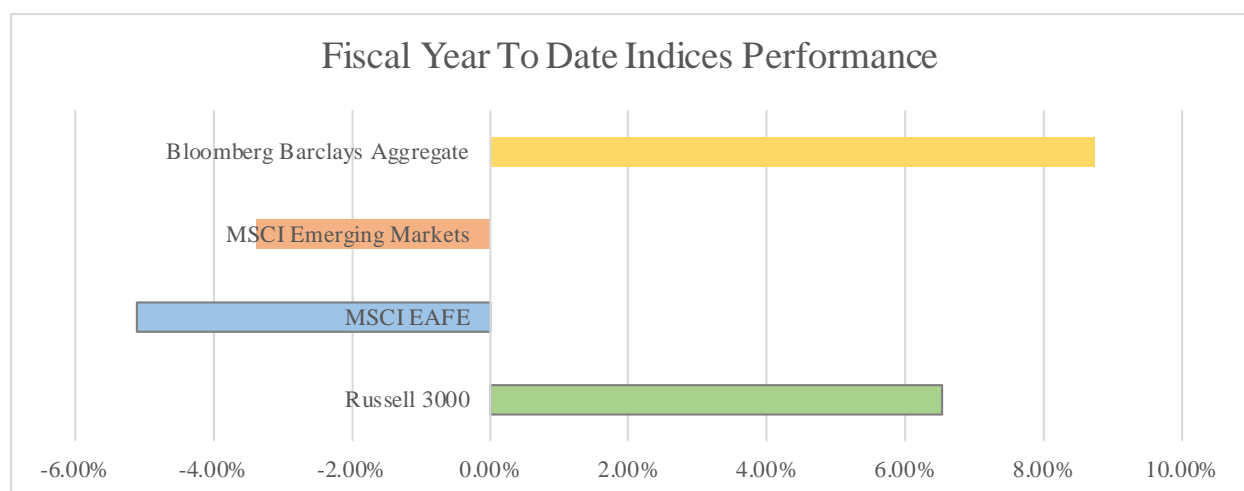
Economic and Market Comment

Fiscal year 2020, ending June 30 was a case study in contrasts. The latter half of 2019, included improving economic conditions, high employment and a strong stock market. The first half of 2020, included a world paralyzed due to the COVID-19 pandemic, economic shutdowns, increasing unemployment and a stock market crash. This reversal stretched the resources and wits of citizens across the planet. Last year's letter mentioned the U.S. Gross Domestic Product ("GDP") growth of 2% at the end of fiscal year 2019. This small positive number at that time seemed strong when compared to the -33% GDP at the end of fiscal year 2020. The U.S. unemployment rate was 11.1% at the end of June 2020 compared to 3.7% just a year prior. Many Americans went from positive expectations at the new year to withstanding social and economic trying times by April.

In late March 2020, the U.S. government attempted to limit the economic fallout from the virus and passed the Corona Virus Relief and Economic Security Act more commonly known as the CARES Act. This piece of legislation included \$2.2 trillion of stimulus, which is the largest in U.S. history. The CARES act included direct payments to individuals, loans to corporations and investments in health care. State and local governments received money to fight the virus as well. The goal of this legislation was to keep unemployed workers and closed companies afloat in a time of minimal economic activity while investing resources to thwart the COVID-19 pandemic. The United States Federal Reserve (the "Fed") ensured liquidity in capital markets by lowering interest rates quickly. In addition, the Fed started to purchase investment securities in the open market. These two actions helped corporations handle their debts and enabled access to capital markets in a challenging environment. One outcome was a dramatic improvement in pension funds' performance starting in June, the last month of many public plan's fiscal year.

Capital Market Comment

The BERS Fund is diversified across U.S. and non-U.S. markets. In the first half of 2020, all equities took a steep dive, due to the global pandemic, before the rebound started late in the quarter. Calendar year to date through June 30, 2020, U.S. equities remained in negative territory. The U.S. stock market, as measured by the benchmark, Russell 3000 Index, returned + 6.53% for the Fiscal Year 2020. Performance in the U.S. was fueled by uncertainty surrounding the COVID-19 pandemic. In the U.S., the poorest performing sectors were energy, financials and industrials. The largest mega cap technology companies did well and have led the recovery in U.S. equity returns. In addition, technology, telecommunication services and consumer discretionary were among the top performing sectors.



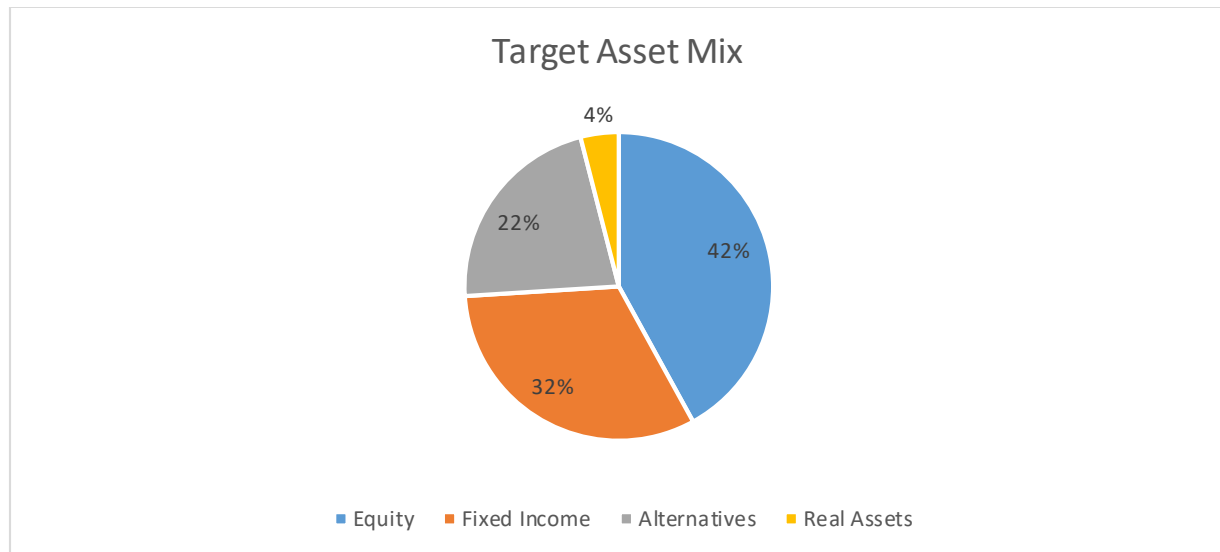
Similarly, Non-U.S. developed equities were a risky investment in the first half of 2020. The non-U.S. equity market, as measured by the benchmark, MSCI EAFE Index, returned -5.11% for the Fiscal Year 2020. Austria, Belgium, United Kingdom and Norway have been bottom returning countries thus far in 2020. Within non-U.S. developed countries, the tracking of the severity of COVID-19 cases during the first half of 2020 were the primary drivers of their economic and capital market performance. At the end of June, some of the Eurozone countries began to experience lower numbers of new cases compared to earlier in 2020. Japan has been further along in recovery in terms lower cases and deaths per capita. Similar to the United States, developed market countries in Europe and Asia have leaned on Central Banks for liquidity and spending to solidify capital markets and support the necessary large health care investments. Calendar year to date, Denmark and New Zealand were the only European countries with returns in positive territory.

Emerging markets stocks had a strong second quarter of 2020, but the returns were not enough to offset the large negative performance of the first quarter. The slowdown in developed markets, caused a contagion in emerging market countries and companies especially any with energy or tourism based economies. As supply chains reopened and government spending surged, many companies were able to rebound with higher activity in the second quarter of 2020. Businesses linked to commodities continued to struggle as global energy use remains muted. The emerging market asset class as measured by the benchmark, MSCI Emerging Markets Index, returned -3.39% for the Fiscal Year 2020.

The diversified holdings of the BERS Fund have been a contributor to its long term success. The Fund is over weight to U.S. investments while still maintaining a diversified geographic and asset class structure. This diversification was an important factor in the positive performance during this most recent period of uncertainty. The Fund has investments across all the major public and private equity, fixed income and real estate capital markets. Both, international developed and emerging markets returned less than U.S. and less than the long term expected return primarily due to volatility in those regions given the outbreak of the virus and its impact on people and businesses. Fixed income investments were the safe haven with government and investment grade corporate bonds outperforming high yield and bank loan securities. Pension investors such as the BERS Fund have long term horizons over which benefits will be paid. Therefore, BERS and its peers diversify a portion to less liquid, private investments with higher expected returns where the invested capital is not needed for benefit payments over a 5 to 7-year period. These private market investments are not similarly affected by short-term moves in stocks, interest rates and inflation. Investments in real estate and private equity did not outperform public markets in FY 2020. These investments have added value to the Fund over longer periods and continue to be an important allocation.

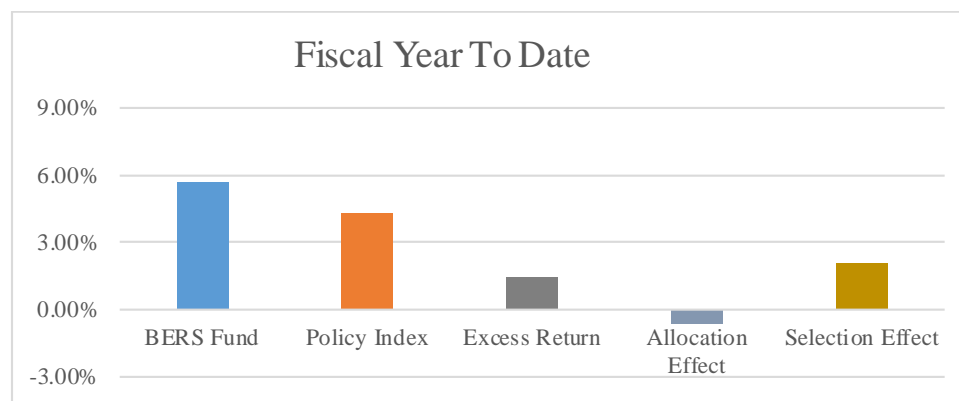
BERS Fund Description

The Trustees establish an Investment Policy asset allocation targets after considering the long-term growth prospects of a diversified portfolio of investments and the expected costs of the Plan participants' benefits. Asset allocation refers to the percentages of the BERS Fund assets that are in stocks, bonds and private markets investments. In order to participate in the broad market performance, while keeping Fund expenses low, the Fund invests in passive, index strategies for the majority of its US public equity allocation. For BERS, diversification and the focus on low investment expenses and fees are very important to the long term planning. During the 2020 FY, the implementation plan with additions to Private Equity, Real Estate and Infrastructure investments, while reducing U.S. equities and developed market non-U.S. equities continued to progress.



The Fund's target asset mix, approved in FY2020, is shown in the graph depicted above. Over the long-term, which is the framework for considering the term structure of the Plans' liabilities, we expect the asset allocation will continue to meet the benefit needs while providing growth and preservation of principal.

During this most recent FY, the Fund's asset allocation hurt relative performance versus the Policy benchmark. Manager selection, that is the component contributed by the active management of the individual stock and bond purchases more than made up for the allocation effect. This breakout of the attribution of returns is shown in the chart below. The comparison is based on the FY return of +5.72%. The policy benchmark return, measuring if the Fund was all invested in passive, index funds, was lower at +4.29%. The breakout of the contribution to return is shown in the chart below.



The passive managers matched their benchmarks while active manager selection in U.S. stocks was able to outpace the benchmark (6.89% vs. 6.53% for the index). World ex-U.S. equity also performed very well with a 6.18% return versus a -5.11% return for the benchmark. Global equity strategies added value returning 15.96% versus 2.11% for the MSCI AC World Index. A small amount of the underperformance within the non-U.S. equity came from the emerging market sub-component. The Total Fixed Income return was 8.15%. Government fixed income and bank loans were the largest detractors of relative performance. Investment grade and high yield strategies outperformed their respective benchmarks. As part of our

ongoing monitoring, we review the manager contributions and the structure of the Fund in order to achieve the expected levels of returns net of fees. The Fund's current level of diversification into alternative assets had a positive impact in FY 2020, as the Private Equity and Private Infrastructure investments outperformed their respective benchmarks while the Private Real Estate fell below its benchmark.

Market conditions and Fund performance will continue to be monitored closely to accomplish the goal of providing the benefits as promised to participants.

Sincerely,



Michael Wright
Senior Vice President &
Senior Consultant



Vanessa Vargas Guijarro
Vice President &
Senior Consultant

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

SCHEDULE OF INVESTMENT RETURNS (FIXED)

ANNUALIZED INVESTMENTS RESULTS (UNAUDITED)

FISCAL YEAR ENDED JUNE 30, 2020

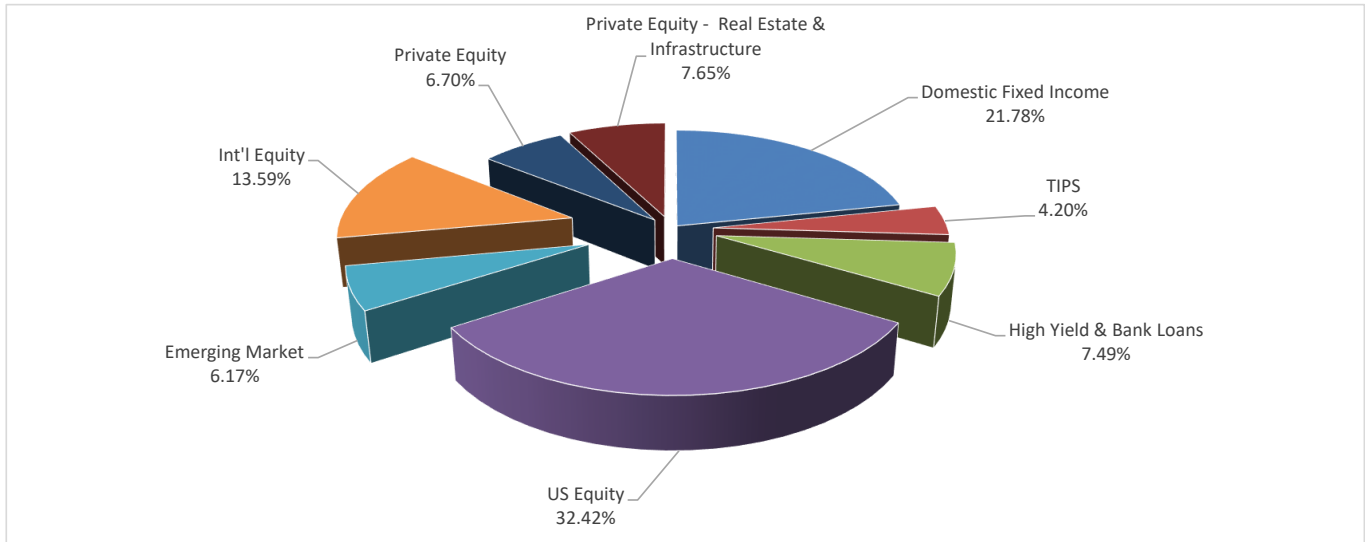
	3 Mos Apr-20 Jun-20 %	6 Mos Jan-20 Jun-20 %	1 Yr Jul-19 Jun-20 %	3 Yrs Jul-17 Jun-20 %	5 Yrs Jul-15 Jun-20 %	10 Yrs Jul-11 Jun-20 %
Domestic Equity	22.19	(2.94)	6.89	10.49	10.49	13.84
Russell 3000 Index	22.03	(3.48)	6.53	10.04	10.03	13.72
Total World ex-USA Equity	25.86	(1.23)	6.18	6.96	6.67	8.80
NYC Developed Equity Benchmark	16.21	(11.68)	(5.11)	0.74	2.01	5.71
Total Emerging Markets	16.47	(11.75)	(6.16)	(0.14)	2.13	3.72
MSCI Emerging Markets	18.08	(9.78)	(3.39)	1.90	2.86	3.27
International Fund of Funds	18.09	(8.58)	(2.34)	2.19	-	-
MSCI ACWI EX USA IMI NET	16.96	(11.24)	(4.74)	0.96	-	-
Total Global Equity	24.69	6.62	15.96	-	-	-
MSCI AC World (Daily Const)	19.22	(6.25)	2.11	-	-	-
Private Equity	(7.90)	(4.15)	3.52	11.99	11.53	14.24
Russell 3K + 300bps	(20.26)	(12.38)	(6.37)	7.12	8.93	13.70
Real Estate	(3.81)	(1.57)	1.00	7.53	9.53	-
NCREIF NFI-ODCE NET + 100 BP	(0.14)	(0.52)	2.34	5.76	7.40	-
Infrastructure	(1.21)	(0.18)	7.01	12.04	11.64	-
CPI + 4%	0.70	1.50	4.74	5.82	5.66	-
Total Fixed Income	3.05	6.73	7.26	3.57	3.27	5.64
Structured Fixed Income	2.10	8.85	11.47	6.26	5.15	4.81
NYC Custom Structured Index - BERS	2.28	10.12	13.00	7.11	-	-
TIPS	4.26	6.10	8.36	5.09	3.78	3.62
BBG BARC GBL INF - LK: US TIPS (DLY)	4.24	6.02	8.28	5.05	3.75	3.52
Targeted Investments	1.21	5.12	8.15	5.51	4.98	4.17
BERS Custom Benchmark	1.59	4.87	7.37	4.84	3.97	3.58
High Yield	10.15	(2.93)	0.94	3.39	4.28	6.98
High Yield Custom Benchmark	10.14	(3.83)	-	3.25	4.35	6.34
Bank Loans	7.33	(5.83)	(3.08)	1.53	2.30	3.43
CSFB Leveraged Loan Index	9.71	(4.76)	(2.27)	2.13	2.94	3.50
Short-term Investments	0.04	0.36	1.36	1.63	1.21	0.82
Total Portfolio	11.11	(0.72)	5.72	7.68	7.60	9.73
BERS Policy Benchmark	10.20	(2.24)	4.29	6.72	6.79	9.30

Yield data were obtained from the NYCBERS Performance Overview as of June 30, 2020

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

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

ASSET ALLOCATION (FIXED) FISCAL YEAR ENDED JUNE 30, 2020

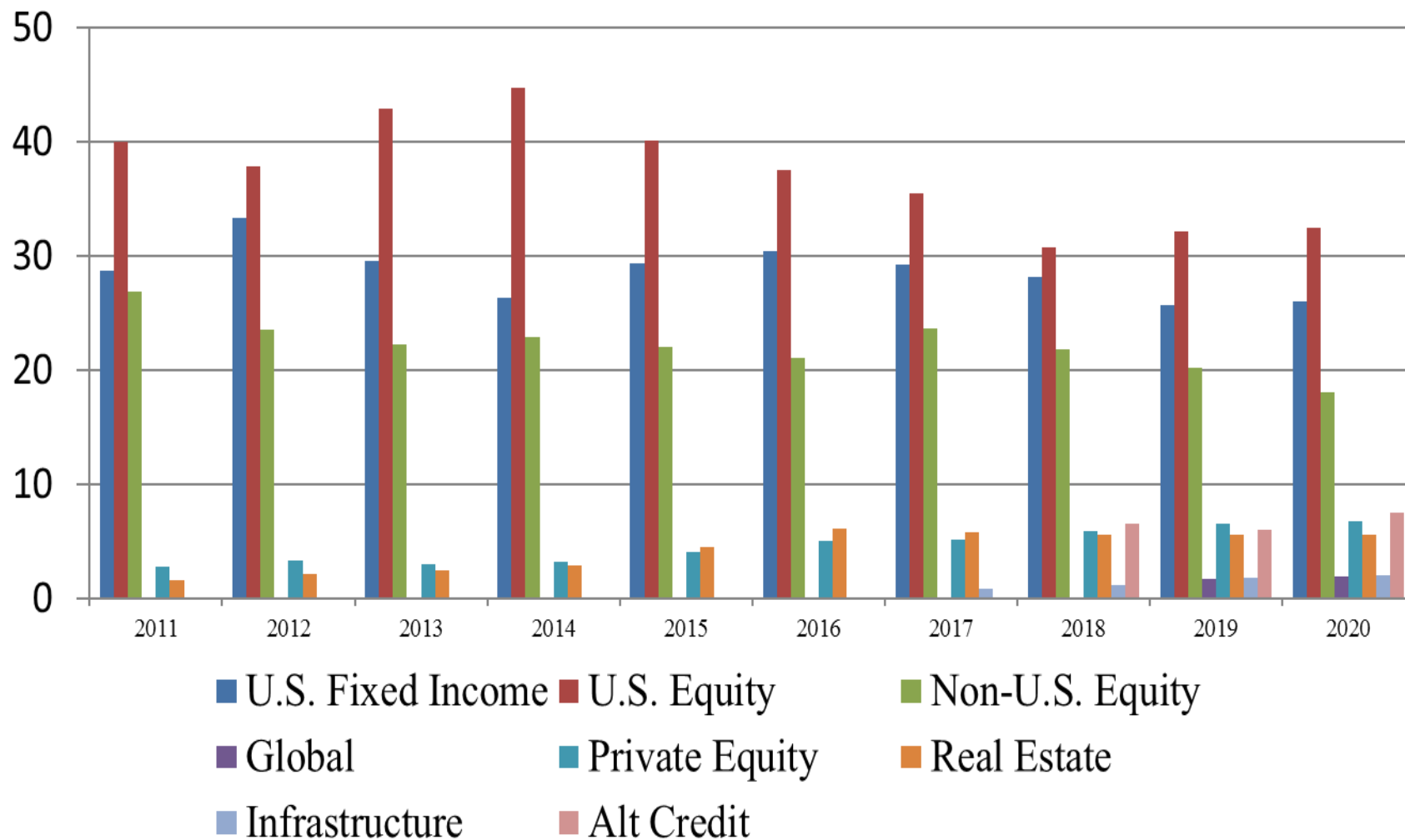


Years	Domestic Fixed Income	TIPS	High Yield & Bank Loans	US Equity	Emerging Market	Int'l Equity	Private Equity	Private Equity - Real Estate & Infrastructure
6/30/2011	22.63	2.62	3.43	39.97	5.37	21.51	2.81	1.66
6/30/2012	24.81	2.46	6.00	37.79	4.48	19.03	3.28	2.15
6/30/2013	20.01	3.91	5.60	42.90	4.56	17.59	3.04	2.39
6/30/2014	16.69	3.38	6.19	44.72	4.67	18.27	3.25	2.83
6/30/2015	20.67	3.16	5.48	40.15	4.94	17.06	4.07	4.47
6/30/2016	19.50	5.00	5.50	37.00	5.00	17.00	4.97	6.03
6/30/2017	20.37	4.81	6.00	36.49	7.98	12.76	5.01	6.58
6/30/2018	22.87	4.73	7.11	30.74	7.54	14.24	5.91	6.86
6/30/2019	20.99	4.69	6.42	32.12	6.97	14.92	6.55	7.34
6/30/2020	21.78	4.20	7.49	32.42	6.17	13.59	6.70	7.65

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

ASSET ALLOCATION (FIXED)

FISCAL YEARS ENDED JUNE 30, 2011 - JUNE 30, 2020



NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

LIST OF 50 LARGEST EQUITY HOLDINGS (FIXED)

FISCAL YEAR ENDED JUNE 30, 2020

NAME OF EQUITY SECURITIES		COST	FAIR VALUE
1	MICROSOFT CORP	\$ 54,957,659	\$ 126,306,218
2	APPLE INC	53,833,692	123,408,461
3	AMAZON.COM INC	52,170,415	102,203,053
4	ALPHABET INC	54,991,158	75,880,043
5	FACEBOOK INC	33,780,656	47,872,210
6	ALIBABA GROUP HOLDING LTD	24,055,591	36,255,815
7	JOHNSON & JOHNSON	29,348,911	33,178,143
8	TENCENT HOLDINGS LTD	16,253,754	33,173,117
9	SAMSUNG ELECTRONICS CO LTD	15,881,377	32,002,187
10	ASML HOLDING NV	8,763,169	29,787,506
11	BERKSHIRE HATHAWAY INC	31,733,602	29,627,382
12	VISA INC	17,592,580	29,470,580
13	MASTERCARD INC	17,155,403	29,245,536
14	PROCTER & GAMBLE CO/THE	16,373,513	24,567,188
15	JPMORGAN CHASE & CO	26,273,527	23,697,265
16	UNITEDHEALTH GROUP INC	16,746,322	23,408,628
17	HOME DEPOT INC/THE	14,582,084	22,269,976
18	SPOTIFY TECHNOLOGY SA	13,350,804	21,136,424
19	INTEL CORP	16,536,605	21,081,982
20	ADOBE INC	9,599,654	20,117,871
21	VERIZON COMMUNICATIONS INC	16,957,107	19,434,858
22	M3 INC	4,602,266	19,038,926
23	NVIDIA CORP	10,240,736	18,552,566
24	FERRARI NV	4,565,283	18,311,392
25	WALT DISNEY CO/THE	15,311,644	18,008,567
26	AT&T INC	20,533,398	17,931,855
27	PEPSICO INC	14,101,161	17,352,869
28	PAYPAL HOLDINGS INC	7,267,183	16,922,842
29	MERCK & CO INC	12,164,766	16,846,180
30	CISCO SYSTEMS INC	14,756,839	16,493,315
31	NETFLIX INC	9,818,816	16,128,270
32	PFIZER INC	17,195,814	15,954,026
33	BANK OF AMERICA CORP	20,394,905	15,857,568
34	EXXON MOBIL CORP	25,879,487	15,649,850
35	SALESFORCE.COM INC	9,843,035	15,332,272
36	COMCAST CORP	13,258,626	15,296,485
37	ZALANDO SE	6,545,724	14,810,205
38	MEITUAN DIANPING	7,127,376	14,459,553
39	COCA-COLA CO/THE	13,554,491	14,320,967
40	ABBVIE INC	13,528,720	14,311,048
41	WALMART INC	10,065,943	14,272,060
42	KERING SA	7,107,785	14,242,263
43	CHEVRON CORP	17,391,011	14,047,305
44	ABBOTT LABORATORIES	8,618,685	13,588,954
45	AIA GROUP LTD	8,479,683	13,404,029
46	TESLA INC	3,649,536	13,182,168
47	WIX.COM LTD	3,471,976	13,109,308
48	THERMO FISHER SCIENTIFIC INC	6,925,485	13,049,559
49	TAL EDUCATION GROUP	3,880,693	12,331,999
50	ELI LILLY AND CO	5,657,745	11,697,759

NOTE: Full listing of holdings can be obtained at
 NYC Board of Education Retirement System
 65 Court Street, 16th Floor, Brooklyn, NY 11201

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

LIST OF 50 LARGEST DEBT SECURITIES HOLDING (FIXED) FISCAL YEAR ENDED JUNE 30, 2020

	NAME OF DEBT SECURITIES	INTEREST RATE	MATURITY DATE	PAR VALUE	FAIR VALUE
1	US TREASURY N/B	2.25%	2/15/2027	\$ 59,290,000	\$ 66,231,080
2	US TREASURY N/B	3.00%	10/31/2025	44,400,000	50,650,632
3	US TREASURY N/B	3.13%	8/15/2044	30,900,000	42,134,004
4	US TREASURY N/B	2.38%	5/15/2029	33,125,000	38,228,238
5	TREASURY BILL	0.00%	7/14/2020	35,000,000	34,998,289
6	TREASURY BILL	0.00%	10/8/2020	30,000,000	29,986,689
7	FNMA TBA 30 YR 4.5	4.50%	7/14/2050	25,401,000	27,292,104
8	US TREASURY N/B	3.00%	8/15/2048	18,150,000	24,960,425
9	US TREASURY N/B	3.00%	2/15/2049	17,750,000	24,506,183
10	US TREASURY N/B	3.00%	5/15/2042	16,850,000	22,433,585
11	US TREASURY N/B	2.25%	8/15/2046	18,000,000	21,349,080
12	TREASURY BILL	0.00%	8/25/2020	20,000,000	19,995,720
13	US TREASURY N/B	2.00%	2/15/2050	16,660,000	19,079,532
14	GNMA II POOL MA6339	3.50%	12/20/2049	17,982,770	18,993,402
15	US TREASURY N/B	3.00%	2/15/2047	13,750,000	18,731,213
16	AFL CIO HOUSING INV TRUST	0.00%	VARIOUS	15,449	18,313,226
17	US TREASURY N/B	1.75%	12/31/2026	16,250,000	17,602,000
18	TREASURY BILL	0.01%	7/21/2020	16,131,000	16,129,734
19	US TREASURY N/B	1.63%	2/15/2026	15,000,000	16,046,550
20	US TREASURY N/B	1.63%	5/15/2026	14,000,000	15,003,520
21	INSTITUTIONAL SECURED	0.28%	7/1/2020	15,000,000	14,999,883
22	US TREASURY N/B	3.13%	2/15/2042	10,230,000	13,885,281
23	US TREASURY N/B	1.75%	11/30/2021	13,500,000	13,801,185
24	US TREASURY N/B	1.75%	11/15/2029	12,000,000	13,248,720
25	US TREASURY N/B	3.50%	2/15/2039	9,200,000	13,015,884
26	FNMA TBA 30 YR 2.5	2.50%	8/13/2050	12,288,000	12,790,333
27	US TREASURY N/B	2.50%	5/15/2046	9,500,000	11,782,565
28	GNMA II TBA 30 YR 3	3.00%	7/21/2050	11,048,500	11,705,775
29	TREASURY BILL	0.01%	8/4/2020	11,582,000	11,580,528
30	TSY INFL IX N/B	0.13%	1/15/2023	11,165,651	11,437,534
31	US TREASURY N/B	6.25%	5/15/2030	7,125,000	10,978,058
32	TSY INFL IX N/B	0.38%	7/15/2023	10,403,604	10,833,689
33	TSY INFL IX N/B	0.63%	1/15/2024	10,265,314	10,810,915
34	TSY INFL IX N/B	0.38%	7/15/2025	9,996,462	10,675,421
35	TSY INFL IX N/B	0.13%	7/15/2024	10,124,107	10,574,225
36	ANGLESEA FDG PLC and ANG	0.14%	7/1/2020	10,379,000	10,378,919
37	TSY INFL IX N/B	0.13%	1/15/2022	10,206,424	10,344,007
38	TSY INFL IX N/B	0.13%	7/15/2022	10,056,513	10,293,143
39	US TREASURY N/B	1.63%	8/15/2029	9,425,000	10,283,900
40	TREASURY BILL	0.00%	3/25/2021	10,000,000	9,987,069
41	US TREASURY N/B	3.00%	2/15/2048	7,250,000	9,924,888
42	US TREASURY N/B	3.38%	5/15/2044	6,925,000	9,794,582
43	TSY INFL IX N/B	0.50%	1/15/2028	8,913,959	9,771,482
44	US TREASURY N/B	2.88%	8/15/2028	8,250,000	9,770,475
45	US TREASURY N/B	2.88%	11/15/2046	7,000,000	9,308,880
46	US TREASURY N/B	0.25%	2/15/2049	8,843,657	9,303,792
47	TSY INFL IX N/B	0.13%	7/15/2027	9,057,015	9,188,613
48	TREASURY BILL	0.01%	7/14/2020	9,053,000	9,052,557
49	US TREASURY N/B	0.13%	6/30/2020	7,993,935	8,635,848
50	ANGLESEA FDG PLC and ANG	0.15%	7/1/2020	2,800,000	2,799,988

NOTE: Full listing of holdings can be obtained at
NYC Board of Education Retirement System
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NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

SCHEDULE OF INVESTMENT MANAGEMENT FEES (FIXED)

FISCAL YEAR ENDED JUNE 30, 2020

FUND MANAGER	CATEGORY	ASSET UNDER MANAGEMENT AS OF 06/30/20 (In \$)	MANAGEMENT FEES (In \$)
American Securities Partners VII, L.P.	Alternative Investment Private Equity	\$ 4,327,061	86,571
Apax Partners IX	Alternative Investment Private Equity	14,501,102	259,750
Apax Partners X	Alternative Investment Private Equity	-	138,972
Apollo Investment Fund VIII	Alternative Investment Private Equity	13,908,471	489,228
Apollo Investment Fund IX, L.P.	Alternative Investment Private Equity	7,003,623	350,746
Ares Corporate Opportunities Fund V, L.P.	Alternative Investment Private Equity	7,734,492	159,515
ASF VI B	Alternative Investment Private Equity	3,318,025	71,726
ASF VI B NYC Co-Invest L.P.	Alternative Investment Private Equity	1,651,126	6,862
ASF VII B, L.P.	Alternative Investment Private Equity	5,643,940	80,984
ASF VII B NYC Co-Invest L.P.	Alternative Investment Private Equity	4,687,219	(1,125)
ASF VIII B, L.P.	Alternative Investment Private Equity	5,081,595	228,379
ASF VIII B NYC Co-Invest L.P.	Alternative Investment Private Equity	959,258	1,107
BC European Capital X	Alternative Investment Private Equity	9,745,813	75,839
BC European Capital X Co-Investment	Alternative Investment Private Equity	5,144,210	7,782
Bridgepoint Europe V L.P.	Alternative Investment Private Equity	8,232,375	81,956
Bridgepoint Europe V Co-Investment	Alternative Investment Private Equity	3,510,795	429
Bridgepoint Europe VI L.P.	Alternative Investment Private Equity	4,118,514	169,818
Bridgepoint Europe VI Co-Investment	Alternative Investment Private Equity	1,116,394	21,777
Capital Partners Private Equity Income Fund III, L.P.	Alternative Investment Private Equity	887,332	44,756
Carlyle Partners VI, L.P.	Alternative Investment Private Equity	16,843,716	126,544
Carlyle Partners VI, L.P. (Side Car)	Alternative Investment Private Equity	1,302,760	2,060
Clearlake Capital Partners VI	Alternative Investment Private Equity	943,701	31,675
Centerbridge Capital Partners III, L.P.	Alternative Investment Private Equity	1,978,211	87,053
Crestview Partners III, L.P.	Alternative Investment Private Equity	7,894,689	640,060
Crestview Partners III (Co-Investment B), L.P.	Alternative Investment Private Equity	4,335,100	4,664
Crestview Partners IV	Alternative Investment Private Equity	2,041	12,019
Crestview Partners IV Co-Investment	Alternative Investment Private Equity	4,321	4,007
CVC Capital Partners VI	Alternative Investment Private Equity	18,332,030	114,091
CVC Capital Partners VII	Alternative Investment Private Equity	9,461,096	240,825
EQT VII, L.P.	Alternative Investment Private Equity	15,468,635	185,404
EQT VIII	Alternative Investment Private Equity	7,677,118	241,066
EQT VIII Co-Investment	Alternative Investment Private Equity	2,789,533	8,740
New York Fairview Private Equity, L.P.	Alternative Investment Private Equity	3,067,678	62,508
FTV V, LP	Alternative Investment Private Equity	3,993,828	48,840
FTV VI, LP	Alternative Investment Private Equity	706,504	28,786
Grain Communications Opportunities Fund II	Alternative Investment Private Equity	3,338,668	91,895
Green Equity Investors VII	Alternative Investment Private Equity	9,514,926	108,550
ICG Strategic Equity Fund III	Alternative Investment Private Equity	338,076	281,869
ICV Partners IV, L.P.	Alternative Investment Private Equity	841,781	51,324
KKR Americas Fund XII L.P.	Alternative Investment Private Equity	8,528,031	139,196
KKR Europe V	Alternative Investment Private Equity	1,792,816	38,579
Landmark Equity Partners XV	Alternative Investment Private Equity	7,973,605	200,780
Landmark NYC Fund I	Alternative Investment Private Equity	3,831,616	4,378
Lexington Capital Partners VIII, L.P.	Alternative Investment Private Equity	13,249,147	227,327
Lexington Capital Partners IX L.P.	Alternative Investment Private Equity	1,285,518	138,918
Lindsay Goldberg V	Alternative Investment Private Equity	482,043	17,983
Mesirow Financial Private Equity Fund III	Alternative Investment Private Equity	9,510,881	163,172
Mesirow Financial Private Equity Fund IV	Alternative Investment Private Equity	8,571,414	95,942
Mesirow Financial Private Equity Fund V	Alternative Investment Private Equity	30,984,001	325,528
Mill City Capital II	Alternative Investment Private Equity	722,439	20,378
New MainStream Capital II	Alternative Investment Private Equity	888,484	51,824
New MainStream Capital III	Alternative Investment Private Equity	591,501	36,729
Palladium Equity Partners V, L.P.	Alternative Investment Private Equity	3,541,627	227,272
Patriot Financial Partners II	Alternative Investment Private Equity	2,567,365	44,767
Patriot Financial Partners III	Alternative Investment Private Equity	1,313,464	39,894
Platinum Equity Capital Partners III, LP	Alternative Investment Private Equity	5,391,705	249,886
Platinum Equity Partners Small Cap I	Alternative Investment Private Equity	1,951,808	394,677
Platinum Equity Capital Partners IV, LP	Alternative Investment Private Equity	7,886,063	112,157
Platinum Equity Capital Partners IV - SC	Alternative Investment Private Equity	742,721	442
Raine Partners II	Alternative Investment Private Equity	3,179,727	31,608
Raine Partners III	Alternative Investment Private Equity	2,543,681	177,698
Reverence Capital Partners Opportunities Fund II, L.P.	Alternative Investment Private Equity	1,229,760	127,535
Reverence Capital Partners Opportunities Fund II (Parallel), L.P.	Alternative Investment Private Equity	620,953	4,006
Siris Partners III	Alternative Investment Private Equity	2,883,799	30,738
Siris Partners IV	Alternative Investment Private Equity	4,428,261	136,910
Stellex Capital Management LP	Alternative Investment Private Equity	2,350,249	81,334
Valor Equity III	Alternative Investment Private Equity	4,962,113	99,428
Valor Equity Partners IV	Alternative Investment Private Equity	5,199,729	72,450
Vista Equity Partners Fund V, L.P.	Alternative Investment Private Equity	24,758,526	1,876,388

(Continued)

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

SCHEDULE OF INVESTMENT MANAGEMENT FEES (FIXED)

FISCAL YEAR ENDED JUNE 30, 2020

FUND MANAGER	CATEGORY	ASSET UNDER MANAGEMENT AS OF 06/30/20 (In \$)	MANAGEMENT FEES (In \$)
Vista Equity Partners Fund VI, L.P.	Alternative Investment Private Equity	19,361,707	399,428
Vista Equity Partners VII	Alternative Investment Private Equity	4,781,947	248,304
Vistria Fund III, LP	Alternative Investment Private Equity	-	34,196
Welsh, Carson, Anderson & Stowe XII, L.P.	Alternative Investment Private Equity	8,652,199	244,350
Welsh, Carson, Anderson & Stowe XIII, L.P.	Alternative Investment Private Equity	313,211	169,201
Warburg Pincus Financial Sector Fund	Alternative Investment Private Equity	7,731,175	50,732
Warburg Pincus Private Equity XI, LP	Alternative Investment Private Equity	12,731,606	829,037
Warburg Pincus Private Equity XII, LP	Alternative Investment Private Equity	23,082,320	208,604
Warburg Pincus Global Growth, L.P.	Alternative Investment Private Equity	3,091,494	282,595
Webster Capital III	Alternative Investment Private Equity	3,142,636	21,453
Aermont Capital Real Estate Fund IV	Alternative Investment Real Estate	601,385	83,721
Almanac Realty Securities VIII, L.P.	Alternative Investment Real Estate	1,382,270	132,879
Almanac Realty Securities VIII Sidecar	Alternative Investment Real Estate	1,082,425	4,611
Artemis Income & Growth	Alternative Investment Real Estate	2,498,115	130,452
Artemis Co-Investment (Artemis Mach II, LLC)	Alternative Investment Real Estate	10,468,483	84,703
Blackstone Real Estate Partners Europe IV, L.P.	Alternative Investment Real Estate	11,224,422	682,366
Blackstone Real Estate Ptnrs VIII	Alternative Investment Real Estate	15,818,078	328,166
Blackstone Real Estate Ptnrs IX	Alternative Investment Real Estate	3,905,633	143,626
Brookfield Strategic Real Estate	Alternative Investment Real Estate	5,194,163	802,950
Brookfield Strategic Real Estate Partners III	Alternative Investment Real Estate	4,336,112	105,761
Brookfield Premier Real Estate Partners	Alternative Investment Real Estate	13,943,181	357,287
Carlyle Realty Partners VII	Alternative Investment Real Estate	10,426,213	774,009
DivcoWest Fund V	Alternative Investment Real Estate	7,193,100	178,800
DRA Growth and Income Fund IX	Alternative Investment Real Estate	8,871,586	230,853
NYC Vanborton Interborough Fund LLC (NYC Asset Investors #1 LLC)	Alternative Investment Real Estate	7,992,019	298,381
Exeter Core Industrial Club Fund II, L.P.	Alternative Investment Real Estate	10,131,553	64,961
Exeter Core Fund III	Alternative Investment Real Estate	1,242,347	4,230
Exeter Industrial Value Fund IV LP	Alternative Investment Real Estate	9,756,710	95,423
Franklin Templeton Private Real Estate Fund of Funds	Alternative Investment Real Estate	1,266,559	91,180
Harrison Street Core Property Fund, L.P.	Alternative Investment Real Estate	10,453,104	79,217
Harrison Street (HSRE) Core Co-investment, L.P.	Alternative Investment Real Estate	3,320,966	6,913
H/2 Special Opportunities III L.P.	Alternative Investment Real Estate	4,584,753	136,720
H/2 Special Opportunities IV L.P.	Alternative Investment Real Estate	6,752,866	53,040
Heitman Credit	Alternative Investment Real Estate	10,840,428	78,335
Hudson Superstorm Sandy Rebuilding Fund (NYC Asset Investor #3 LLC)	Alternative Investment Real Estate	6,444,003	45,011
Jamestown Premier Fund	Alternative Investment Real Estate	5,250,990	41,333
KKR Real Estate Credit Opp Ptnrs Agg I	Alternative Investment Real Estate	10,545,036	100,609
KKR Real Estate Partners Americas II LP	Alternative Investment Real Estate	5,533,083	97,672
Lasalle US Property Fd	Alternative Investment Real Estate	50,613,657	254,957
Clarion Lion Industrial Trust	Alternative Investment Real Estate	24,966,077	206,278
Lone Star Real Estate Fund V (U.S.), LP	Alternative Investment Real Estate	2,492,746	69,835
MetLife Core Property	Alternative Investment Real Estate	19,465,050	92,053
Pramerica Real Estate VI, LP	Alternative Investment Real Estate	5,569,407	53,481
PW Real Estate Fund III LP	Alternative Investment Real Estate	9,806,102	62,335
RFM NYCRS Sandy LLC (NYC Asset Investors #2 -Related)	Alternative Investment Real Estate	8,141,311	80,214
Tristan European Property Investors Special Opportunities 4	Alternative Investment Real Estate	9,475,407	154,609
UBS Trumbull Property Fd	Alternative Investment Real Estate	33,178,877	261,028
USAA Eagle Real Estate Fund	Alternative Investment Real Estate	21,363,682	160,716
Westbrook Real Estate Fund X Co-Investment	Alternative Investment Real Estate	5,570,029	168,234
Axiom Infrastructure Canada II (Int'l) L.P.	Alternative Investment Infrastructure	7,346,043	16,350
AxInfra US II L.P.	Alternative Investment Infrastructure	4,670,572	51,559
Actis Energy 4	Alternative Investment Infrastructure	8,255,361	218,684
Ardian Infrastructure Fund V	Alternative Investment Infrastructure	1,629,640	93,728
ASF VII Infrastructure B LP	Alternative Investment Infrastructure	5,465,272	118,654
Brookfield Infrastructure Fund II	Alternative Investment Infrastructure	9,554,767	64,328
Brookfield Infrastructure Fund III	Alternative Investment Infrastructure	5,625,237	109,501
Brookfield Infrastructure Fund III Co-Invest	Alternative Investment Infrastructure	1,976,388	199
Brookfield Infrastructure Fund IV-B	Alternative Investment Infrastructure	6,883,270	230,208
Brookfield Infrastructure Fund IV Co-Invest	Alternative Investment Infrastructure	2,061,455	1,274
EIG Energy Partners	Alternative Investment Infrastructure	3,372,039	8,293
EQT Infrastructure III	Alternative Investment Infrastructure	9,935,947	144,513
EQT Infrastructure IV (No.2) USD SCSp	Alternative Investment Infrastructure	10,044,619	411,557
Global Energy & Power Infrastructure Fund II	Alternative Investment Infrastructure	9,446,779	186,941
Global Energy & Power Infrastructure Fund III	Alternative Investment Infrastructure	2,946,929	221,017
Global Infrastructure Partners III	Alternative Investment Infrastructure	8,582,897	218,027
Global Infrastructure Partners IV-A/B, L.P.	Alternative Investment Infrastructure	-	299,560
IFM Global Infrastructure	Alternative Investment Infrastructure	21,756,821	576,388
KKR Global Infrastructure Investors II, L.P.	Alternative Investment Infrastructure	11,913,158	99,184
KKR Global Infrastructure Investors III	Alternative Investment Infrastructure	4,670,260	80,237

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NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

SCHEDULE OF INVESTMENT MANAGEMENT FEES (FIXED)
FISCAL YEAR ENDED JUNE 30, 2020

FUND MANAGER	CATEGORY	ASSET UNDER MANAGEMENT AS OF 06/30/20 (In \$)	MANAGEMENT FEES (In \$)
BlackRock US LMC R1000 Core	Domestic Equity	1,405,211,651	26,770
LEGATO-ALTRAVUE SCV	Domestic Equity	1,487,092	7,838
LEGATO-BOWLING SCV	Domestic Equity	1,445,548	7,495
LEGATO-BRIDGE CITY SCG	Domestic Equity	2,253,033	12,942
LEGATO-DEAN SCV	Domestic Equity	1,688,662	9,850
LEGATO-ESSEX SCG	Domestic Equity	1,832,214	10,064
LEGATO-LISANTI-SCG	Domestic Equity	2,149,132	7,711
SSGA Russell Top 200 Core	Domestic Equity	483,715,500	24,886
Wasatch US SCG	Domestic Equity	89,832,224	112,306
Wellington Mgmt MCC	Domestic Equity	172,185,629	1,620,505
AFL-CIO Housing Investment Trust	Fixed Income	18,313,226	56,423
Blackrock - Mortgage	Fixed Income	236,302,265	92,897
Mackay Shields High Yield	Fixed Income	199,478,155	430,768
Nomura High Yield	Fixed Income	192,692,581	510,772
Prudential - Credit	Fixed Income	136,706,342	97,158
SSGA IT Treasury 1-10Y	Fixed Income	5,540,243	533
SSGA LI Treasury	Fixed Income	585,595,214	245,490
SSGA ST Treasury 1-3Y	Fixed Income	237,367,739	22,497
SSGA TIPS Passive	Fixed Income	286,603,016	15,372
Taplin Canada - Credit	Fixed Income	118,910,556	105,722
Acadian EM	International Equity	287,478,437	968,055
Acadian WorldxUS SCC	International Equity	72,853,376	235,627
Algert EAFE SCC	International Equity	25,370,296	90,337
Baillie Gifford WorldxUS LMCG	International Equity	434,546	219,716
Baillie Gifford WorldxUS LMCG	International Equity	360,273,561	703,511
BlackRock Passive MSCI EM Core	International Equity	133,637,854	36,892
Fiera Capital - Global	International Equity	59,230,240	331,187
FIS-ATIVO EAFE	International Equity	8,395,726	29,892
FIS-AUBREY EM	International Equity	9,916,168	29,885
FIS-CHANGE GLOBAL EM	International Equity	5,670,066	21,126
FIS-DENALI EAFE	International Equity	4,518,559	17,706
FIS-DUNDAS EAFE	International Equity	9,975,033	32,270
FIS-MARTIN-EAFE	International Equity	4,964,951	16,569
FIS-METIS EAFE	International Equity	2,500,274	9,284
FIS-OSMOSIS EAFE	International Equity	8,301,664	28,551
FIS-REDWOOD INVESTMENTS	International Equity	5,820,652	18,738
FIS-TRANSITION	International Equity	2	9
Morgan Stanley - Global	International Equity	67,670,357	295,350
Sprucegrove WorldxUS LMCV	International Equity	281,880,977	649,730
Blackrock R2000 Growth	Mutual Fund Equity	19,140	1,352
Blackrock R2000 Value	Mutual Fund Equity	51,260,229	2,508
Barings Bank Loans	Mutual Fund Fixed Income	119,263,878	389,508
RBC Access MBS	Mutual Fund Mortgage	10,216,047	18,186

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED)
FISCAL YEAR ENDED JUNE 30, 2020

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID (In \$)	COMMISSION PER SHARE (In \$)
ABEL NOSER	33,193	1,651.80	0.050
ABEL NOSER CORP	32,186	1,609.30	0.050
ACTINVER CASA DE BOLSA SA DE CV	14,200	54.05	0.004
ALLEN & COMPANY LLC	55,030	1,764.95	0.032
ARQAAM CAPITAL SOUTH AFRICA (PTY)	3,258	81.04	0.025
AUTREPAT-DIV RE	30	8.54	0.285
BANCO BICE	24,613	103.24	0.004
BANCO ITAU SA	101,400	1,532.88	0.015
BANCO MODAL S.A.	1,100	10.56	0.010
BANK J.VONTOBEL UND CO. AG	1	46.64	46.640
BANK OF AMERICA CORPORATION	166,458	749.19	0.005
BANK OF AMERICA MERRILL LYNCH SECUR	59,720	490.08	0.008
BARCLAYS CAPITAL	61	8.82	0.145
BARCLAYS CAPITAL INC./LE	45,300	502.29	0.011
BARCLAYS CAPITAL LE	90,262	2,478.19	0.027
BMO CAPITAL MARKETS	29,986	960.69	0.032
BNP PARIBAS SECURITIES SERVICES	79,912	565.90	0.007
BNP PARIBAS SECURITIES SERVICES AUS	5,051	4.56	0.001
BNP PARIBAS SECURITIES SERVICES SA	91,696	1,335.03	0.015
BOFA SECURITIES, INC.	693,266	7,291.88	0.011
BRADESCO S.A. CTVM	1,400	16.45	0.012
BTIG, LLC	92,005	3,114.74	0.034
CABRERA CAPITAL MARKETS	4,500	33.75	0.008
CABRERA CAPITAL MARKETS LLC	16,840	73.17	0.004
CANACCORD ADAMS INC.	3,700	19.27	0.005
CANACCORD GENUITY INC.	40,982	1,095.58	0.027
CANTOR CLEARING SERVICES	3,577	71.54	0.020
CANTOR FITZGERALD CO.	13,867	368.16	0.027
CHINA INTERNATIONAL CAPITAL CO	68,200	431.55	0.006
CHINA INTERNATIONAL CAPITAL CORPORA	265,600	2,258.65	0.009
CITIBANK N.A	21,160	533.80	0.025
CITIBANK N.A. SPAIN	10,482	26.34	0.003
CITIBANK OF COLOMBIA	2,779	65.89	0.024
CITIGROUP GLBL MARKET KOERA SECS L	488	30.84	0.063
CITIGROUP GLOBAL MARKETS INC	88,247	1,875.53	0.021
CITIGROUP GLOBAL MARKETS LIMITED	39,300	399.71	0.010
CL SECURITIES TAIWAN COMPANY LIMITE	10,000	467.72	0.047
CLSA AUSTRALIA PTY LTD	57,608	201.82	0.004
CLSA SECURITIES KOREA LTD.	2,400	284.13	0.118
CLSA SINGAPORE PTE LTD.	199,208	3,093.58	0.016
COL FINANCIAL GROUP, INC.	181,000	197.64	0.001
COMMERCIAL BANK OF QATAR, LTD.	17,191	141.56	0.008
CORNERSTONE MACRO LLC	211,438	4,322.36	0.020
COWEN AND COMPANY, LLC	198,396	4,176.38	0.021
COWEN EXECUTION SERVICES LLC	448,605	3,317.98	0.007
CRAIG - HALLUM	4,734	188.47	0.040
CREDICORP CAPITAL COLOMBIA S.A.	5,220	33.65	0.006
CREDIT AGRICOLE CIB	1,149	8.70	0.008
CREDIT LYONNAIS SECURITIES INDIA	322,470	5,110.36	0.016

(Continued)

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED)
FISCAL YEAR ENDED JUNE 30, 2020

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID (In \$)	COMMISSION PER SHARE (In \$)
CREDIT LYONNAIS SECURITIES(ASIA)	5,070,796	8,977.68	0.002
CREDIT SUISSE SECS INDIA PRIVATE LT	5,525	57.84	0.010
CREDIT SUISSE SECURITIES (EUROPE) L	721,625	4,675.32	0.006
CREDIT SUISSE SECURITIES (USA) LLC	1,627,060	4,723.84	0.003
CREDIT SUISSE SECURITIES CANADA INC	6,700	200.62	0.030
CS FIRST BOSTON (HONG KONG) LIMITED	2,800	94.91	0.034
CUTTONE & CO. INC.	1,929	19.29	0.010
DANSKE BANK A.S.	1,180	64.80	0.055
DAVIDSON D.A. COMPANY INC.	26,617	545.16	0.020
DEUTSCHE BANK SECURITIES INC	100	0.60	0.006
DREXEL HAMILTONLLC	127,945	2,558.90	0.020
DSP MERRILL LYNCH LTD	27,567	294.08	0.011
ERSTE BANK BEFEKTETESI RT.	1,329	87.02	0.065
EVERCORE ISI	50,213	756.74	0.015
EXANE S.A.	6,437	216.05	0.034
FIDELITY CAPITAL MARKETS	2,543	50.86	0.020
FIDELITY CLEARING CANADA ULC	5,165	103.30	0.020
GOLDMAN SACHS (ASIA) LLC	374	32.00	0.086
GOLDMAN SACHS (INDIA)	21,739	283.87	0.013
GOLDMAN SACHS CO INTL.	35,458	131.68	0.004
GOLDMAN SACHS CO LLC	2,706,456	32,751.92	0.012
GOLDMAN SACHS INTERNATIONAL	6,987	182.85	0.026
GUGGENHEIM CAPITAL MARKETS LLC	2,024	65.51	0.032
HILLTOP SECURITIES INC	1,440	68.55	0.048
IM TRUST S.A. CORREDORES DE BOLSA	3,917	10.98	0.003
INDUSTRIAL&COMMERCIAL BNK OF CHNA F	2,487	49.74	0.020
INSTINET	103,068	1,585.27	0.015
INSTINET AUSTRALIA CLEARING SRVC PT	449,678	446.18	0.001
INSTINET CANADA LIMITED	1,094	21.49	0.020
INSTINET LLC	142,671	97.45	0.001
INSTINET PACIFIC LIMITED	416,462	191.33	0.000
INSTINET SINGAPORE SERVICES PT	74,122	132.97	0.002
INSTINET U.K. LTD	1,394,454	8,051.55	0.006
INVESTMENT TECHNOLOGY GROUP INC.	143,652	2,268.40	0.016
INVESTMENT TECHNOLOGY GROUP LTD	1,145,462	4,711.96	0.004
IS YATIRIM MENKUL DEGERLER AS	11,925	273.42	0.023
ITG AUSTRALIA LTD.	416,900	573.21	0.001
ITG INC.	2,936	66.27	0.023
J.P. MORGAN CLEARING CORP.	56,222	435.35	0.008
J.P. MORGAN SECURITIES LIMITED	18,701	972.12	0.052
J.P. MORGAN SECURITIES LLC	280,840	5,749.34	0.020
J.P. MORGAN SECURITIES PLC	1,609,056	7,787.12	0.005
JANNEY MONTGOMERY, SCOTT INC	10,044	200.88	0.020
JEFFERIES COMPANY INC	301,404	5,917.71	0.020
JEFFERIES HONG KONG LIMITED	19,175	85.26	0.004
JEFFERIES INDIA PRIVATE LIMITED	5,534	44.39	0.008
JEFFERIES INTERNATIONAL LTD	154,254	910.27	0.006
JMP SECURITIES	38,186	1,122.28	0.029
JOH. BERENBERG, GOSSLER & CO. KG	25,678	1,183.60	0.046

(Continued)

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED)
FISCAL YEAR ENDED JUNE 30, 2020

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID (In \$)	COMMISSION PER SHARE (In \$)
JONESTRADING INSTITUTIONAL SERVICES	170,409	2,239.67	0.013
JP MORGAN SECURITIES AUSTRALIA LTD	172,039	326.15	0.002
JPMORGAN SECURITIES(ASIA PACIFIC)LT	283,755	1,164.04	0.004
KEEFE BRUYETTE WOODS INC	11,708	335.86	0.029
KEPLER EQUITIES PARIS	2,277	237.59	0.104
KEYBANC CAPITAL MARKETS INC	11,038	420.07	0.038
KGI SECURITIES CO. LTD	154,000	381.78	0.002
LEERINK PARTNERS LLC	7,228	201.77	0.028
LIQUIDNET CANADA INC	900	24.02	0.027
LIQUIDNET EUROPE LIMITED	1	62.78	62.780
LIQUIDNET INC	304,775	4,557.98	0.015
LOOP CAPITAL MARKETS	265,489	3,036.14	0.011
MACQUARIE BANK LIMITED	1,748,950	3,115.28	0.002
MACQUARIE SECURITIES (USA) INC	4,113	153.79	0.037
MEDIOBANCA SPA	4,366	19.69	0.005
MERRILL LYNCH CANADA INC	5,380	161.40	0.030
MERRILL LYNCH EQUITIES (AUSTRALIA)	178,700	319.11	0.002
MERRILL LYNCH INTERNATIONAL	111,901	5,051.05	0.045
MERRILL LYNCH PIERCE FENNER AND S	35,517	289.72	0.008
MIRABAUD SECURITIES LLP	799	210.74	0.264
MIRAE ASSET DAEWOO CO., LTD.	60	5.87	0.098
MIRAE ASSET SEC USA	1,605	66.70	0.042
MISCHLER FINANCIAL GROUP, INC-EQUIT	6,052	167.67	0.028
MIZUHO SECURITIES USA INC	8,650	282.29	0.033
MKM PARTNERS LLC	311	6.22	0.020
MORGAN STANLEY AND CO. INTERNATIONAL	2,314,923	5,987.85	0.003
MORGAN STANLEY CO INCORPORATED	407,952	4,925.98	0.012
MOTILAL OSWAL SECURITIES LIMITED	6,000	469.13	0.078
NATIONAL FINANCIAL SERVICES CORPORA	151,170	1,603.45	0.011
NEEDHAM AND COMPANY LLC	40,411	1,168.81	0.029
NESBITT BURNS	13,757	412.71	0.030
NORDEA BANK AB (PUBL), FINNISH BRAN	1,270	55.01	0.043
NORTH SOUTH CAPITAL LLC	48,672	774.68	0.016
NORTHLAND SECURITIES INC.	1,821	70.52	0.039
NUMIS SECURITIES INC.	989	2.47	0.002
OLIVETREE USA LLC	1,085	27.55	0.025
OPPENHEIMER CO. INC.	14,218	407.92	0.029
PAREL	38,663	542.90	0.014
PAVILION GLOBAL MARKETS LTD	18,921	211.21	0.011
PENSERRA	3,523	5.08	0.001
PENSERRA SECURITIES	953,150	17,038.25	0.018
PERSHING LLC	964,263	4,045.84	0.004
PERSHING SECURITIES LIMITED	111,058	1,815.31	0.016
PICKERING ENERGY PARTNERS, INC	7,911	158.22	0.020
PIPER JAFFRAY	12,440	44.96	0.004
PIPER JAFFRAY & CO.	179,431	4,136.58	0.023
PIPER JAFFRAY & HOPWOOD	78,996	722.68	0.009
PIPER JAFFREY	2,940	111.24	0.038
PT OSK NUSADANA SECURITIES INDONESIA	1,527,700	35.66	0.000

(Continued)

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM

QUALIFIED PENSION PLAN AND TAX DEFERRED ANNUITY PROGRAM

SCHEDULE OF PAYMENTS OF COMMISSIONS TO BROKERS (FIXED)
FISCAL YEAR ENDED JUNE 30, 2020

INDIVIDUAL OR BROKERAGE FIRM	# OF SHARES	COMMISSION PAID (In \$)	COMMISSION PER SHARE (In \$)
R.B.C. DOMINION SECURITIES CORPORAT	13,277	398.31	0.030
RAYMOND JAMES AND ASSOCIATES INC	130,239	3,752.07	0.029
RAYMOND JAMES LTD	10,208	306.24	0.030
RBC CAPITAL MARKETS, LLC	173,066	2,779.73	0.016
RBC DOMINION SECURITIES INC.	2,015	45.45	0.023
REDBURN (EUROPE) LIMITED	19,092	2,453.99	0.129
REGION BROKER COMPANY LLC	171,490	543.15	0.003
RHB INVESTMENT BANK BERHAD	145,600	299.49	0.002
ROBERT W. BAIRD CO.INCORPORATED	223,955	7,088.64	0.032
ROTH CAPITAL PARTNERS LLC	134	2.68	0.020
ROYAL BANK OF CANADA EUROPE LTD	389,214	3,889.62	0.010
SANFORD C BERNSTEIN CO LLC	86,307	756.09	0.009
SBICAP SECURITIES LIMITED	13,337	264.03	0.020
SEAPORT GROUP SECURITIES, LLC	9,030	135.57	0.015
SHENYIN WANGUO SECURITIES (HK (LTD	380,500	514.02	0.001
SIDOTI COMPANY LLC	9,458	189.16	0.020
SINGER CAPITAL MARKETS LIMITED	2,179	37.88	0.017
SKANDINAVISKA ENSKILDA BANKEN	1,100	33.57	0.031
SMBC SECURITIES INC	100	2.08	0.021
SOCIETE GENERALE	12,944	64.20	0.005
SOCIETE GENERALE LONDON BRANCH	44,740	1,519.45	0.034
STATE STREET GLOBAL MARKETS, LLC	4,259	161.26	0.038
STEPHENS INC	23,697	983.02	0.041
STIFEL NICOLAUS CO INC	37,060	1,115.14	0.030
STRATEGAS SECURITIES LLC	2,090	52.26	0.025
STUART FRANKEL CO INC	1,700	17.00	0.010
SUNTRUST CAPITAL MARKETS, INC.	14,027	464.41	0.033
TELSEY ADVISORY GROUP	3,589	117.07	0.033
THE FIG GROUP, LLC	26,500	145.82	0.006
UBS AG	3,300,823	21,036.81	0.006
UBS AG (FORMERLY SWISS BANK CO) ZUR	13,290	109.98	0.008
UBS AG LONDON BRANCH	273,537	2,924.29	0.011
UBS SECURITIES ASIA LTD	1,088,544	1,227.44	0.001
UBS SECURITIES INDIA PRIVATE LTD	14,753	146.82	0.010
UBS SECURITIES LLC	210,237	3,735.10	0.018
VIRTU AMERICAS LLC	169,284	3,152.98	0.019
WALL STREET ACCESS	104,902	757.72	0.007
WEDBUSH MORGAN SECURITIES INC	1,284	25.68	0.020
WEEDEN CO.	3,383	89.26	0.026
WELLS FARGO SECURITIES LLC	51,675	1,377.00	0.027
WILLIAM BLAIR & COMPANY L.L.C	73,015	3,515.98	0.048
WILLIAMS CAPITAL GROUP LP (THE)	168,618	1,348.85	0.008

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

INVESTMENT SUMMARY (FIXED AND VARIABLE) FISCAL YEAR ENDED JUNE 30, 2020 (In thousands)

<u>Type of Investments</u>	<u>Fair Value</u>	<u>Percentages</u>
Short Term Investments	\$ 256,725	3.24 %
Debt Securities	1,954,884	24.71
Domestic Equity	3,298,510	41.69
Alternative Investments	976,076	12.34
Collective Trust Funds		
International Equity	776,286	9.81
Domestic Equity	51,279	0.65
Mortgage Debt Security	22,965	0.29
Fixed Income	119,264	1.51
Total Collective Trust Funds	969,794	12.26
Collateral From Securities Lending:	455,567	5.76
Total Investments	<u>\$ 7,911,556</u>	<u>100.00 %</u>

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**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, 2020 AND JUNE 30, 2019**

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OFFICE OF THE ACTUARY

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

SHERRY S. CHAN
CHIEF ACTUARY

December 4, 2020

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, 2020

Dear Members of the Board of Trustees:

The financial objective of the New York City Board of Education Retirement System - Qualified Pension Plan (BERS-QPP or the Plan) is to fund members' retirement benefits during their active service by establishing 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. the June 30, 2018 (Lag) actuarial valuation is used to determine the Fiscal Year 2020 Employer Contributions (Actuarial Contributions)).

The funding policy of the City of New York (the City) is to contribute statutorily-required contributions (Statutory Contributions) and these contributions are generally funded by the City within the appropriate fiscal year.

For Fiscal Year 2020, the Actuarial Contributions to BERS, are equal to those recommended by the Actuary of the New York City Retirement Systems and Pension Funds (the Actuary) and represent the Statutory Contributions.

Pursuant to the Governmental Accounting Standards Board (GASB) Statement No. 67 (GASB67) and Statement No. 68 (GASB68), on September 25, 2020, the Actuary published the "Fiscal Year 2020 GASB 67/68 Report for the City of New York and the New York City Retirement Systems" (the Fiscal Year 2020 GASB67/68 Report). Appendix C of The Fiscal Year 2020 GASB67/68 Report contains information developed in accordance with GASB67 for BERS.

Actuarial Assumptions and Methods

The assumptions and methods used for the June 30, 2018 valuation were presented in the report titled “Proposed Changes in Actuarial Assumptions and Methods Used in Determining Employer Contributions for Fiscal Years Beginning on and After July 1, 2018 for the New York City Board of Education Retirement System,” dated January 24, 2019 which was adopted by the Board of Trustees at the February 27, 2019 Board meeting. There have been no changes since the prior year with the exception of the method for determining the Actuarial Value of Assets. Details describing this change can be found later in this CAFR. These actuarial assumptions and methods meet the parameters set forth by the Actuarial Standards of Practice (ASOPs).

Benefits, Financial Information, and Census Data

The June 30, 2018 (Lag) and June 30, 2017 (Lag) actuarial valuations are based upon the census data as of those dates submitted by the Plan’s administrative staff and the employer’s payroll facilities. A summary of the census data used in the June 30, 2018 (Lag) actuarial valuation is included in this CAFR. A summary of the census data used in the June 30, 2017 (Lag) actuarial valuation of the Plan is available in the Fiscal Year 2019 CAFR.

Consistent with the Actuarial Standards of Practice, the Office of the Actuary has reviewed the census data and financial information for consistency and reasonability but has not audited it. The accuracy of the results and calculations presented are dependent on the accuracy of this census data and financial information. To the extent any such data or information provided is materially inaccurate or incomplete, the results contained herein will require revision.

A summary of the benefits available under the terms of the Plan is shown in the Financial Section of the CAFR. The benefits under the Plan are unchanged from the prior valuation.

Funded Status

The funded status of the Plan is usually expressed by the relationship of assets to liabilities.

With respect to the funded status of the Plan, included in the Actuarial Section of the CAFR is a schedule of funded status based on the Entry Age Normal cost method (Table 11).

Also included in the Actuarial Section of the CAFR is a Solvency Test (i.e. Comparative Summary of Accrued Liabilities Funded by Actuarial Value of Assets) (Table 12), 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 believed to be presented in a manner consistent with the requirements of the GFOA and, where applicable, with GASB67.

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

- Summary of Actuarial Assumptions and Methods in Effect for the June 30, 2018 (Lag) Actuarial Valuation.
- Summary of Active Member Valuation Data.
- Summary of Plan Membership Data.
- Schedule of Retirees and Beneficiaries Added to and Removed from Rolls.
- Actuarial and Statutory Contribution History.
- Funded Status Based on Entry Age Normal Cost Method.
- Comparative Summary of Accrued Liabilities Funded by Actuarial Value of Assets - Solvency Test.
- Contributions.

The following items in the Financial Section of the CAFR were also prepared by the OA:

- Membership Data.
- Net Pension Liability.
- Actuarial Assumptions and Methods.
- Schedule of Changes in Employers' Net Pension Liability and Related Ratios.
- Schedule of Employer Contributions.

If you have any questions about the information in this Actuarial Section or the actuarial information presented elsewhere in this CAFR, please do not hesitate to contact Mr. Michael J. Samet, Mr. Edward Hue, or me.

Acknowledgment of Qualification

I, Sherry S. Chan, am the Chief Actuary for, and independent of, the New York City Retirement Systems and Pension Funds. I am a Fellow of the Society of Actuaries, an Enrolled Actuary under the Employee Retirement Income and Security Act of 1974, a Member of the American Academy of Actuaries, and a Fellow of the Conference of Consulting 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,



Sherry S. Chan, FSA, EA, MAAA, FCA
Chief Actuary

SSC/eh

Att.

cc: Mr. Craig Chu – New York City Office of the Actuary
Mr. Edward Hue – New York City Office of the Actuary
Mr. Michael Hunter – New York City Office of the Actuary
Mr. Sanford Rich – New York City Board of Education Retirement System
Mr. Michael Samet – New York City Office of the Actuary
Keith Snow, Esq. – New York City Office of the Actuary
Ms. Chithra Subramaniam – New York City Board of Education Retirement System

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (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.

Also, in accordance with the Administrative Code of the City of New York (ACCNY), 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 on the most recent actuarial experience study and recommendations prepared by Bolton, Inc. in their 10-year experience study ending on June 30, 2017, the Actuary issued a Report entitled “Proposed Changes in Actuarial Assumptions and Methods Used in Determining Employer Contributions for Fiscal Years Beginning on and after July 1, 2018 for the New York City Board of Education Retirement System,” dated January 24, 2019. The actuarial assumptions and methods described in that report were adopted by the Board of Trustees at the February 27, 2019 Board meeting and are referred to as the “2019 A&M.” These actuarial assumptions and methods are effective beginning with Fiscal Year 2019.

2. The Actuarial Interest Rate (AIR) assumption is 7.0% per annum, net of investment expenses (4.0% per annum for benefits payable under the Variable Annuity Program).
3. Active service tables are used to estimate various withdrawals from active service. Probabilities are shown in Table 1 for members withdrawing from active service for service retirement, Table 2 for members terminating from active service, and Tables 3 and 4 for members withdrawing from active service due to disability or death, respectively.
4. The service retiree mortality, disabled retiree mortality, and beneficiary mortality base tables are projected from 2012 using mortality improvement scale MP-2018. The base tables are also multiplied by adjustment factors to convert from lives-weighted to amounts-weighted tables to reflect socioeconomic effects on mortality. Base table probabilities for service and disability pensioners are shown in Tables 5a and 5b respectively, and for beneficiaries in Table 5c.
5. A salary scale is used to estimate salaries at termination, retirement, or death. Percentage increases are shown in Table 6. The salary scale includes a General Wage Increase (GWI) assumption of 3.0% per annum.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

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 assumption is 1.5% per annum for Auto COLA and 2.5% per annum for escalation.
7. The valuation assumes a closed group of members.
8. Beginning with the June 30, 2012 (Lag) actuarial valuation, the Actuarial Asset Valuation Method (AAVM) recognizes investment returns greater or less than expected over a period of six years.

In accordance with this AAVM, the Unexpected Investment Returns (UIR) are phased into the Actuarial Value of Assets (AVA) 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 AVA is further constrained to be within a corridor of 80% to 120% of the Market Value of Assets.

Beginning with the June 30, 2018 (Lag) actuarial valuation, the Actuarial Value of Assets is determined by re-characterizing the interest credited on TDA Fixed Fund account balances as investment income instead of as a cash disbursement.

9. The Entry Age Normal (EAN) cost method of funding is used by the Plan's Actuary to calculate Employer Contributions.

Under this method, the Present Value (PV) of Future Benefits (PVFB) 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 the assumed exit age(s). The employer portion of this PVFB allocated to a valuation year is the Normal Cost. The portion of this PVFB not provided for at a valuation date by the PV of Future Employer Normal Costs or future member contributions is the Accrued Liability (AL).

The excess, if any, of the AL over the Actuarial Value of Assets (AVA) is the Unfunded Accrued Liability (UAL).

Under this method, actuarial gains and losses, as they occur, reduce and increase the UAL, respectively, and are explicitly identified and amortized.

Increases or decreases in obligations due to benefit changes, actuarial assumption changes, and actuarial method changes are also explicitly identified and amortized.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

The explicit UALs that are developed each year under EAN are generally financed over fixed periods. Ideally, these periods are reasonably consistent with the expected future working lifetimes of all active participants.

Under EAN, the Normal Cost as a percentage of pay remains constant by individual and changes gradually over time for the entire plan as the characteristics of the group changes (e.g. more Tier 6 active members decrease the average Normal Cost as a percentage of pay). A cost is added to each year's Normal Cost for providing a guaranteed 8.25% return on the TDA Fixed Fund for non-UFT members.

10. The Employer Contribution for a fiscal year is increased by the interest-adjusted amount of administrative expenses paid from BERS during the second prior fiscal year.
11. Obligations attributable to the WTC Disability Benefits Law and to the WTC Death Benefits Law are determined through the use of explicit assumptions in the 2019 A&M, and through estimation techniques for post-retirement reclassifications.
12. One-Year Lag Methodology (OYLM) uses a June 30, XX-2 valuation date to determine Fiscal Year XX employer contributions.

This methodology requires adjustments to certain components used to determine Fiscal Year XX employer contributions as follows:

a. Normal Cost

The normal cost as of June 30, XX-2 is rolled forward with the assumed AIR of 7.0% to derive the normal cost as of December 31, XX-1.

b. UAL Payments

For determining the UAL payments for Fiscal Year XX, and to be consistent with the OYLM, the UAL as of June 30, XX-2 is adjusted by the discounted value of the employer normal cost and UAL payments paid during Fiscal Year XX-1 and the discounted value of Administrative Expenses reimbursed during Fiscal Years XX-1 and XX.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

<p style="text-align: center;">Table 1</p> <p style="text-align: center;">PROBABILITIES OF SERVICE RETIREMENT</p>					
Age	Reduced Service Retirement	Unreduced Service Retirement Probabilities For Members Who Did Not Elect an Improved Retirement Program		Unreduced Service Retirement Probabilities For Members Who Elected an Improved Retirement Program	
		Year 1	Ultimate	Year 1	Ultimate
55	2.50%	15.00%	0.00%	35.00%	0.00%
56	2.50%	15.00%	6.50%	35.00%	12.00%
57	2.50%	15.00%	6.50%	35.00%	12.00%
58	2.50%	15.00%	6.50%	35.00%	12.00%
59	3.75%	15.00%	6.50%	35.00%	12.00%
60	5.00%	15.00%	6.50%	35.00%	12.00%
61	6.25%	15.00%	10.00%	35.00%	12.00%
62	7.50% ¹	20.00%/15.00% ²	10.00%	50.00%	20.00%
63	0.00%	15.00%/20.00% ³	10.00%	35.00%	15.00%
64	0.00%	15.00%	10.00%	35.00%	15.00%
65	0.00%	20.00%	15.00%	50.00%	20.00%
66	0.00%	15.00%	10.00%	35.00%	15.00%
67	0.00%	15.00%	10.00%	35.00%	15.00%
68	0.00%	15.00%	10.00%	35.00%	15.00%
69	0.00%	15.00%	10.00%	35.00%	15.00%
70	0.00%	20.00%	20.00%	35.00%	15.00%
71	0.00%	20.00%	20.00%	35.00%	15.00%
72	0.00%	20.00%	20.00%	35.00%	15.00%
73	0.00%	20.00%	20.00%	35.00%	15.00%
74	0.00%	20.00%	20.00%	35.00%	15.00%
75	0.00%	20.00%	20.00%	35.00%	15.00%
76	0.00%	20.00%	20.00%	35.00%	15.00%
77	0.00%	20.00%	20.00%	35.00%	15.00%
78	0.00%	20.00%	20.00%	35.00%	15.00%
79	0.00%	20.00%	20.00%	35.00%	15.00%
80+	NA	100.00%	100.00%	100.00%	100.00%

¹ 7.50% only applies to Tier 6 members; 0.00% otherwise.

² 20.00% for Tier 1, 2, & 4 members and 15.00% for Tier 6 members.

³ 15.00% for Tier 1, 2, & 4 members and 20.00% for Tier 6 members.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

<p style="text-align: center;">Table 2</p> <p style="text-align: center;">PROBABILITIES OF TERMINATION</p>		
Years of Service	Males	Females
0	8.40%	5.60%
1	7.70%	5.30%
2	7.20%	5.00%
3	6.70%	4.70%
4	6.20%	4.50%
5	5.70%	4.20%
6	5.20%	3.90%
7	4.70%	3.60%
8	4.30%	3.30%
9	3.90%	3.00%
10	3.50%	2.80%
11	3.20%	2.60%
12	2.90%	2.50%
13	2.60%	2.40%
14	2.30%	2.20%
15	2.10%	2.10%
16	1.90%	1.90%
17	1.80%	1.80%
18	1.70%	1.70%
19	1.50%	1.50%
20+	1.40%	1.40%

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 3				
PROBABILITIES OF DISABILITY RETIREMENT				
	Ordinary Disability		Accidental Disability	
Age	Males	Females	Males	Females
15	0.20%	0.20%	0.030%	0.025%
16	0.20%	0.20%	0.030%	0.025%
17	0.20%	0.20%	0.030%	0.025%
18	0.20%	0.20%	0.030%	0.025%
19	0.20%	0.20%	0.030%	0.025%
20	0.20%	0.20%	0.030%	0.025%
21	0.20%	0.20%	0.030%	0.025%
22	0.20%	0.20%	0.030%	0.025%
23	0.20%	0.20%	0.030%	0.025%
24	0.20%	0.20%	0.030%	0.025%
25	0.20%	0.20%	0.030%	0.025%
26	0.20%	0.20%	0.030%	0.025%
27	0.20%	0.20%	0.030%	0.025%
28	0.20%	0.20%	0.030%	0.025%
29	0.20%	0.20%	0.030%	0.025%
30	0.20%	0.20%	0.030%	0.025%
31	0.22%	0.20%	0.030%	0.025%
32	0.24%	0.20%	0.030%	0.025%
33	0.26%	0.20%	0.030%	0.025%
34	0.28%	0.20%	0.030%	0.025%
35	0.30%	0.20%	0.030%	0.025%
36	0.32%	0.21%	0.030%	0.025%
37	0.34%	0.22%	0.030%	0.025%
38	0.36%	0.23%	0.030%	0.025%
39	0.38%	0.24%	0.030%	0.025%
40	0.40%	0.25%	0.030%	0.025%
41	0.42%	0.26%	0.030%	0.025%
42	0.44%	0.27%	0.030%	0.025%
43	0.46%	0.28%	0.030%	0.025%
44	0.48%	0.29%	0.030%	0.025%
45	0.50%	0.30%	0.030%	0.025%
46	0.52%	0.34%	0.030%	0.025%
47	0.54%	0.38%	0.030%	0.025%
48	0.56%	0.42%	0.030%	0.025%
49	0.58%	0.46%	0.030%	0.025%
50	0.60%	0.50%	0.030%	0.025%
51	0.62%	0.54%	0.030%	0.025%
52	0.64%	0.58%	0.030%	0.025%
53	0.66%	0.62%	0.030%	0.025%
54	0.68%	0.66%	0.030%	0.025%
55	0.70%	0.70%	0.030%	0.025%
56	0.70%	0.70%	0.030%	0.025%
57	0.70%	0.70%	0.030%	0.025%
58	0.70%	0.70%	0.030%	0.025%
59	0.70%	0.70%	0.030%	0.025%
60	0.70%	0.70%	0.030%	0.025%
61	0.70%	0.70%	0.030%	0.025%
62	0.70%	0.70%	0.030%	0.025%
63	0.70%	0.70%	0.030%	0.025%
64	0.70%	0.70%	0.030%	0.025%
65	0.70%	0.70%	0.030%	0.025%
66	0.70%	0.70%	0.030%	0.025%
67	0.70%	0.70%	0.030%	0.025%
68	0.70%	0.70%	0.030%	0.025%
69	0.70%	0.70%	0.030%	0.025%
70	0.70%	0.70%	0.030%	0.025%
71	0.70%	0.70%	0.030%	0.025%
72	0.70%	0.70%	0.030%	0.025%
73	0.70%	0.70%	0.030%	0.025%
74	0.70%	0.70%	0.030%	0.025%
75	0.70%	0.70%	0.030%	0.025%
76	0.70%	0.70%	0.030%	0.025%
77	0.70%	0.70%	0.030%	0.025%
78	0.70%	0.70%	0.030%	0.025%
79	0.70%	0.70%	0.030%	0.025%
80+	NA	NA	NA	NA

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SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 4 PROBABILITIES OF ACTIVE MEMBER MORTALITY			
	Ordinary Death		Accidental Death
Age	Males	Females	
15	0.027%	0.020%	0.000%
16	0.027%	0.020%	0.000%
17	0.027%	0.020%	0.000%
18	0.027%	0.020%	0.000%
19	0.027%	0.020%	0.000%
20	0.027%	0.020%	0.000%
21	0.027%	0.020%	0.000%
22	0.027%	0.020%	0.000%
23	0.027%	0.020%	0.000%
24	0.027%	0.020%	0.000%
25	0.027%	0.020%	0.000%
26	0.029%	0.021%	0.000%
27	0.032%	0.023%	0.000%
28	0.035%	0.024%	0.000%
29	0.037%	0.025%	0.000%
30	0.040%	0.027%	0.000%
31	0.043%	0.028%	0.000%
32	0.045%	0.029%	0.000%
33	0.048%	0.031%	0.000%
34	0.051%	0.032%	0.000%
35	0.053%	0.033%	0.000%
36	0.056%	0.035%	0.000%
37	0.059%	0.036%	0.000%
38	0.061%	0.037%	0.000%
39	0.064%	0.039%	0.000%
40	0.067%	0.040%	0.000%
41	0.073%	0.045%	0.000%
42	0.080%	0.051%	0.000%
43	0.087%	0.056%	0.000%
44	0.093%	0.061%	0.000%
45	0.100%	0.067%	0.000%
46	0.107%	0.073%	0.000%
47	0.113%	0.080%	0.000%
48	0.120%	0.087%	0.000%
49	0.127%	0.093%	0.000%
50	0.133%	0.100%	0.000%
51	0.147%	0.107%	0.000%
52	0.160%	0.113%	0.000%
53	0.173%	0.120%	0.000%
54	0.187%	0.127%	0.000%
55	0.200%	0.133%	0.000%
56	0.213%	0.140%	0.000%
57	0.227%	0.147%	0.000%
58	0.240%	0.153%	0.000%
59	0.253%	0.160%	0.000%
60	0.267%	0.167%	0.000%
61	0.280%	0.173%	0.000%
62	0.293%	0.180%	0.000%
63	0.307%	0.187%	0.000%
64	0.320%	0.193%	0.000%
65	0.333%	0.200%	0.000%
66	0.360%	0.213%	0.000%
67	0.387%	0.227%	0.000%
68	0.413%	0.240%	0.000%
69	0.440%	0.253%	0.000%
70	0.500%	0.300%	0.000%
71	0.580%	0.350%	0.000%
72	0.660%	0.400%	0.000%
73	0.740%	0.450%	0.000%
74	0.820%	0.500%	0.000%
75	0.900%	0.550%	0.000%
76	1.020%	0.640%	0.000%
77	1.140%	0.730%	0.000%
78	1.260%	0.820%	0.000%
79	1.380%	1.000%	0.000%
80+	NA	NA	NA

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SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 5a PROBABILITIES OF MORTALITY FOR SERVICE RETIREES BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0105%	0.0090%	68	1.6659%	0.9362%
16	0.0142%	0.0110%	69	1.7932%	1.0193%
17	0.0191%	0.0120%	70	1.9258%	1.1035%
18	0.0222%	0.0130%	71	2.0702%	1.2437%
19	0.0240%	0.0140%	72	2.2162%	1.3853%
20	0.0251%	0.0142%	73	2.3643%	1.5280%
21	0.0268%	0.0150%	74	2.5141%	1.6727%
22	0.0284%	0.0158%	75	2.6665%	1.8182%
23	0.0301%	0.0168%	76	3.0461%	2.0628%
24	0.0315%	0.0179%	77	3.4300%	2.3088%
25	0.0327%	0.0191%	78	3.8175%	2.5551%
26	0.0342%	0.0204%	79	4.2104%	2.8024%
27	0.0354%	0.0217%	80	4.6069%	3.0489%
28	0.0371%	0.0231%	81	5.1554%	3.4450%
29	0.0394%	0.0247%	82	5.7232%	3.8502%
30	0.0427%	0.0265%	83	6.3098%	4.2655%
31	0.0495%	0.0316%	84	6.9124%	4.6895%
32	0.0562%	0.0360%	85	7.5337%	5.1258%
33	0.0625%	0.0398%	86	8.3597%	5.8556%
34	0.0682%	0.0427%	87	9.1919%	6.5878%
35	0.0743%	0.0455%	88	10.0369%	7.3277%
36	0.0780%	0.0474%	89	10.8896%	8.0720%
37	0.0818%	0.0497%	90	11.7567%	8.8218%
38	0.0861%	0.0521%	91	13.4856%	10.1869%
39	0.0917%	0.0551%	92	15.2819%	11.5772%
40	0.0997%	0.0588%	93	17.1377%	13.0290%
41	0.1422%	0.0633%	94	19.0983%	14.4884%
42	0.1848%	0.0702%	95	21.2134%	16.0080%
43	0.2279%	0.0792%	96	23.2990%	17.8232%
44	0.2725%	0.0907%	97	25.4356%	19.4807%
45	0.3194%	0.1052%	98	27.7079%	20.8097%
46	0.3686%	0.1228%	99	29.9402%	21.7553%
47	0.4207%	0.1427%	100	32.1584%	22.1859%
48	0.4752%	0.1652%	101	33.7521%	23.0680%
49	0.5320%	0.1896%	102	35.1259%	24.0803%
50	0.5908%	0.2151%	103	36.3671%	25.2770%
51	0.6563%	0.2401%	104	37.3834%	26.6309%
52	0.7203%	0.2647%	105	38.1051%	28.0912%
53	0.7821%	0.2889%	106	38.4698%	29.6244%
54	0.8405%	0.3120%	107	38.6325%	31.1943%
55	0.8938%	0.3338%	108	38.8076%	32.7579%
56	0.9368%	0.3689%	109	38.9794%	34.2712%
57	0.9718%	0.4030%	110	50.0000%	50.0000%
58	0.9982%	0.4360%	111	50.0000%	50.0000%
59	1.0164%	0.4677%	112	50.0000%	50.0000%
60	1.0277%	0.4987%	113	50.0000%	50.0000%
61	1.0989%	0.5398%	114	50.0000%	50.0000%
62	1.1606%	0.5722%	115	50.0000%	50.0000%
63	1.2158%	0.6041%	116	50.0000%	50.0000%
64	1.2656%	0.6395%	117	50.0000%	50.0000%
65	1.3111%	0.6785%	118	50.0000%	50.0000%
66	1.4252%	0.7529%	119	50.0000%	50.0000%
67	1.5432%	0.8397%	120	100.0000%	100.0000%

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SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 5b PROBABILITIES OF MORTALITY FOR DISABLED RETIREES BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.3309%	0.3302%	68	2.8866%	2.3870%
16	0.4477%	0.4467%	69	2.9926%	2.4723%
17	0.6034%	0.6020%	70	3.1133%	2.5721%
18	0.7007%	0.6521%	71	3.2494%	2.6887%
19	0.7591%	0.7023%	72	3.4007%	2.8231%
20	0.7745%	0.7242%	73	3.5688%	2.9757%
21	0.8177%	0.7766%	74	3.7535%	3.1493%
22	0.8636%	0.8321%	75	3.9565%	3.3428%
23	0.9115%	0.8806%	76	4.1960%	3.5573%
24	0.9623%	0.9414%	77	4.4576%	3.7722%
25	1.0128%	0.9950%	78	4.7400%	4.0056%
26	1.0629%	1.0450%	79	5.0460%	4.2512%
27	1.1121%	1.1039%	80	5.3741%	4.5399%
28	1.1590%	1.1437%	81	5.7241%	4.8505%
29	1.2025%	1.1849%	82	6.0991%	5.1822%
30	1.2403%	1.2276%	83	6.5012%	5.5379%
31	1.2721%	1.2719%	84	6.9293%	5.9081%
32	1.2964%	1.2906%	85	7.5490%	6.6447%
33	1.3125%	1.3095%	86	8.3752%	7.3415%
34	1.3230%	1.3220%	87	9.2076%	8.0805%
35	1.3497%	1.3314%	88	10.0528%	8.8285%
36	1.3769%	1.3388%	89	10.9057%	10.1243%
37	1.4047%	1.3459%	90	11.7730%	11.4944%
38	1.4330%	1.3555%	91	13.5023%	12.9995%
39	1.4619%	1.3700%	92	15.2987%	14.4425%
40	1.4914%	1.3831%	93	17.1548%	15.8488%
41	1.5215%	1.3968%	94	19.1157%	17.6512%
42	1.5522%	1.4199%	95	21.2311%	19.4304%
43	1.5835%	1.4535%	96	23.3168%	20.7560%
44	1.6154%	1.4910%	97	25.4537%	21.5692%
45	1.6480%	1.5473%	98	27.7263%	22.0007%
46	1.6812%	1.6100%	99	29.9589%	23.0087%
47	1.7151%	1.6774%	100	32.1584%	23.1230%
48	1.7497%	1.7359%	101	33.7521%	23.6022%
49	1.7850%	1.7789%	102	35.1259%	24.0803%
50	1.8210%	1.8069%	103	36.3671%	25.2770%
51	1.8577%	1.8265%	104	37.3834%	26.6309%
52	1.8952%	1.8400%	105	38.1051%	28.0912%
53	1.9838%	1.8414%	106	38.4698%	29.6244%
54	2.0700%	1.8419%	107	38.6325%	31.1943%
55	2.1499%	1.8425%	108	38.8076%	32.7579%
56	2.2301%	1.8428%	109	38.9794%	34.2712%
57	2.2996%	1.8478%	110	50.0000%	50.0000%
58	2.3571%	1.8725%	111	50.0000%	50.0000%
59	2.4033%	1.9054%	112	50.0000%	50.0000%
60	2.4415%	1.9416%	113	50.0000%	50.0000%
61	2.4758%	1.9833%	114	50.0000%	50.0000%
62	2.5090%	2.0209%	115	50.0000%	50.0000%
63	2.5475%	2.0671%	116	50.0000%	50.0000%
64	2.5926%	2.1353%	117	50.0000%	50.0000%
65	2.6476%	2.2013%	118	50.0000%	50.0000%
66	2.7148%	2.2603%	119	50.0000%	50.0000%
67	2.7940%	2.3165%	120	100.0000%	100.0000%

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SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 5c PROBABILITIES OF BENEFICIARY MORTALITY BASE TABLE					
Age	Males	Females	Age	Males	Females
15	0.0105%	0.0092%	68	1.8256%	1.3605%
16	0.0142%	0.0112%	69	1.9386%	1.4332%
17	0.0191%	0.0122%	70	2.0542%	1.5007%
18	0.0222%	0.0133%	71	2.2359%	1.6745%
19	0.0240%	0.0143%	72	2.4230%	1.8463%
20	0.0251%	0.0145%	73	2.6165%	2.0157%
21	0.0268%	0.0153%	74	2.8157%	2.1838%
22	0.0284%	0.0161%	75	3.0220%	2.3492%
23	0.0301%	0.0171%	76	3.4928%	2.6652%
24	0.0315%	0.0183%	77	3.9787%	2.9831%
25	0.0327%	0.0195%	78	4.4792%	3.3011%
26	0.0342%	0.0208%	79	4.9963%	3.6207%
27	0.0354%	0.0221%	80	5.5282%	3.9391%
28	0.0371%	0.0236%	81	6.1051%	4.4386%
29	0.0394%	0.0252%	82	6.6894%	4.9473%
30	0.0427%	0.0270%	83	7.2805%	5.4665%
31	0.0495%	0.0330%	84	7.8749%	5.9942%
32	0.0562%	0.0384%	85	8.4753%	6.5354%
33	0.0625%	0.0431%	86	9.6136%	7.4659%
34	0.0682%	0.0471%	87	10.8005%	8.3995%
35	0.0743%	0.0511%	88	12.0443%	9.3428%
36	0.0780%	0.0542%	89	13.3397%	10.2918%
37	0.0818%	0.0579%	90	14.6958%	11.2477%
38	0.0861%	0.0618%	91	16.4185%	12.8868%
39	0.0917%	0.0666%	92	18.1416%	14.4887%
40	0.0997%	0.0719%	93	19.8574%	16.0801%
41	0.1394%	0.0775%	94	21.6187%	17.5854%
42	0.1774%	0.0859%	95	23.5884%	19.0626%
43	0.2143%	0.0968%	96	25.4266%	20.2474%
44	0.2507%	0.1111%	97	27.2119%	21.2937%
45	0.2875%	0.1287%	98	29.0202%	22.0663%
46	0.3207%	0.1501%	99	30.6654%	22.5443%
47	0.3534%	0.1748%	100	32.1584%	22.6473%
48	0.3849%	0.2022%	101	33.7521%	23.5294%
49	0.4150%	0.2319%	102	35.1259%	24.5619%
50	0.4431%	0.2633%	103	36.3671%	25.7825%
51	0.5156%	0.2999%	104	37.3834%	27.1635%
52	0.5928%	0.3376%	105	38.1051%	28.6530%
53	0.6740%	0.3762%	106	38.4698%	30.2169%
54	0.7583%	0.4151%	107	38.6325%	31.8182%
55	0.8440%	0.4540%	108	38.8076%	33.4131%
56	0.9048%	0.5132%	109	38.9794%	34.9566%
57	0.9604%	0.5735%	110	50.0000%	50.0000%
58	1.0101%	0.6353%	111	50.0000%	50.0000%
59	1.0536%	0.6981%	112	50.0000%	50.0000%
60	1.0919%	0.7631%	113	50.0000%	50.0000%
61	1.1835%	0.8329%	114	50.0000%	50.0000%
62	1.2676%	0.8908%	115	50.0000%	50.0000%
63	1.3473%	0.9493%	116	50.0000%	50.0000%
64	1.4238%	1.0146%	117	50.0000%	50.0000%
65	1.4985%	1.0876%	118	50.0000%	50.0000%
66	1.6059%	1.1681%	119	50.0000%	50.0000%
67	1.7146%	1.2609%	120	100.0000%	100.0000%

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTUARIAL ASSUMPTIONS AND METHODS IN EFFECT FOR THE JUNE 30, 2018 (LAG) ACTUARIAL VALUATION (Cont'd)

Table 6 ANNUAL RATES OF MERIT AND SALARY INCREASE		
Years of Service	Merit Increase	Salary Increase ¹
0	6.00%	9.00%
1	5.00%	8.00%
2	4.00%	7.00%
3	3.00%	6.00%
4	2.50%	5.50%
5	2.00%	5.00%
6	1.90%	4.90%
7	1.80%	4.80%
8	1.70%	4.70%
9	1.60%	4.60%
10	1.50%	4.50%
11	1.50%	4.50%
12	1.50%	4.50%
13	1.50%	4.50%
14	1.50%	4.50%
15	1.50%	4.50%
16	1.45%	4.45%
17	1.40%	4.40%
18	1.35%	4.35%
19	1.30%	4.30%
20	1.25%	4.25%
21	1.20%	4.20%
22	1.15%	4.15%
23	1.10%	4.10%
24	1.05%	4.05%
25+	1.00%	4.00%

¹ Salary increase is the General Wage Increase of 3% plus the Merit Increase.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTIVE MEMBER VALUATION DATA

<p style="text-align: center;">Table 7</p> <p style="text-align: center;">ACTIVE MEMBER VALUATION DATA</p>				
June 30 (Lag) Actuarial Valuation	Number	Annual Salary	Average Annual Salary	Percentage Increase/ (Decrease) In Avg. Salary
2009	23,303	\$910,609,483	\$39,077	4.2%
2010	23,324	912,290,136	39,114	0.1%
2011	23,131	920,369,154	39,789	1.7%
2012	27,840	1,018,895,365	36,598	(8.0%)
2013	25,848	1,051,571,168	40,683	11.2%
2014	25,182	1,045,187,738	41,505	2.0%
2015	24,903	1,093,962,316	43,929	5.8%
2016	25,864	1,149,019,892	44,425	1.1%
2017	25,794	1,201,925,550	46,597	4.9%
2018	25,864	1,280,302,470	49,501	6.2%

Salaries reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF PLAN MEMBERSHIP DATA

As of the June 30, 2018 (Lag) and June 30, 2017 (Lag) actuarial valuations, the Plan's Membership consisted of:

<p style="text-align: center;">Table 8</p> <p style="text-align: center;">SUMMARY OF PLAN MEMBERSHIP</p>		
Group	June 30, 2018 (Lag)	June 30, 2017 (Lag)
Active members	25,864	25,794
Active Off Payroll ¹	10,525	2,618
Terminated vested members not yet receiving benefits	1,934	1,528
Retirees and beneficiaries currently receiving benefits	<u>18,041</u>	<u>17,425</u>
Total	56,364	47,365

¹ Represents members who are no longer on payroll but not otherwise classified.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ROLLS

<p style="text-align: center;">Table 9</p> <p style="text-align: center;">SCHEDULE OF RETIREES AND BENEFICIARIES ADDED TO AND REMOVED FROM THE ROLLS</p>								
June 30 (Lag) Actuarial Valuation	Added to Rolls		Removed from Rolls		End of Year Rolls		% Increase in Annual Allowances	Average Annual Allowances
	Number	Annual Allowances ¹	Number	Annual Allowances	Number	Annual Allowances ²		
2009	936	\$10,879,798	491	\$4,135,086	13,641	\$159,865,610	4.4%	\$11,719
2010	850	10,705,737	522	4,700,094	13,969	165,871,253	3.8%	11,874
2011	901	14,977,636	471	4,325,573	14,399	176,523,316	6.4%	12,259
2012	1,053	16,201,746	578	6,211,198	14,874	186,513,864	5.7%	12,540
2013	1,110	16,977,455	529	4,957,022	15,455	198,534,297	6.4%	12,846
2014	1,094	13,701,890	554	5,306,812	15,995	206,929,375	4.2%	12,937
2015	1,002	16,482,509	559	4,979,621	16,438	218,432,263	5.6%	13,288
2016	1,075	14,412,852	576	5,776,541	16,937	227,068,574	4.0%	13,407
2017	1,061	17,321,922	573	6,234,174	17,425	238,156,322	4.9%	13,668
2018	1,179	20,878,837	563	5,613,557	18,041	253,421,602	6.4%	14,047

¹ Amounts shown include changes due to benefit finalization, changes in benefit type (e.g. Service to Accidental Disability), COLA increases, and other changes.

² Amounts shown are those used in the actuarial valuation as of the Year End Date and are not adjusted for anticipated changes due to finalization of benefit calculations or contract settlements.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

ACTUARIAL AND STATUTORY CONTRIBUTION HISTORY

<p style="text-align: center;">Table 10</p> <p style="text-align: center;">ACTUARIAL AND STATUTORY CONTRIBUTION HISTORY</p>			
Fiscal Year Ended June 30	Actuarial Contribution Certified	Statutory Contribution Contributed¹	Employer Rate of Contribution²
2011	\$180,191,397	\$180,191,397	20.5%
2012	213,650,880	213,650,880	24.3%
2013	196,245,777	196,245,777	22.1%
2014	214,589,565	214,589,565	21.7%
2015	258,099,327	258,099,327	25.4%
2016	265,532,032	265,532,032	26.3%
2017	288,233,217	288,233,217	27.4%
2018	318,643,334	318,643,334	28.9%
2019	269,636,601	269,636,601	22.8%
2020	257,503,447	257,503,447	20.5%

¹ Represents total employer contributions accrued for fiscal year.

² 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 adjusted, where applicable, to be consistent with collective bargaining agreements estimated to be achieved.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

FUNDED STATUS BASED ON ENTRY AGE NORMAL COST METHOD

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

The funding status and funding progress information provided in the schedule below has been prepared using the Entry Age Normal (EAN) cost method where the Present Value (PV) of any obligations of the Plan not provided by the PV of Future Contributions (Employer and Employee), as determined under the EAN cost method, equals the Accrued Liability (AL). Under the EAN cost method, the UAL equals the AL minus the Actuarial Value of Assets.

Table 11 FUNDED STATUS BASED ON ENTRY AGE NORMAL COST METHOD (\$ Thousands)						
June 30 (Lag) Valuation Date	(1) Actuarial Value of Assets (AVA)	(2) Accrued Liability (AL)	(3) Unfunded AL (UAL) (2) - (1)	(4) Funded Ratio (1) / (2)	(5) Covered Payroll	(6) UAL as a % of Covered Payroll (3) / (5)
2009	\$1,963,719	\$2,858,115	\$894,396	68.7%	\$910,609	98.2%
2010	2,056,452	3,558,251	1,501,799	57.8%	912,290	164.6%
2011	2,323,629	3,681,694	1,358,065	63.1%	920,369	147.6%
2012	2,371,613	3,763,130	1,391,517	63.0%	1,018,895	136.6%
2013	2,277,791	4,015,080	1,737,289	56.7%	1,051,571	165.2%
2014	2,632,922	4,335,746	1,702,824	60.7%	1,045,188	162.9%
2015	2,772,466	4,585,781	1,813,315	60.5%	1,093,962	165.8%
2016	2,858,737	4,767,760	1,909,023	60.0%	1,149,020	166.1%
2017	3,289,191	4,743,881	1,454,690	69.3%	1,201,926	121.0%
2018	3,908,833	5,103,583	1,194,750	76.6%	1,280,302	93.3%

Effective June 30, 2010, AL is based on the Entry Age Normal cost method. Previously, the Frozen Initial Liability cost method was used. Salaries reflect the impact of recent labor contract settlements and certain non-union salary increases with retroactive effective dates, if any.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

COMPARATIVE SUMMARY OF ACCRUED LIABILITIES FUNDED BY ACTUARIAL VALUE OF ASSETS

Table 12							
COMPARATIVE SUMMARY OF ACCRUED LIABILITIES FUNDED BY ACTUARIAL VALUE OF ASSETS							
SOLVENCY TEST							
(\$ Thousands)							
June 30 (Lag) Valuation Date	Accrued Liabilities for			Actuarial Value of Assets (D)	Percentage of Accrued Liabilities Funded by Actuarial Value of Assets		
	Accumulated Member Contributions (A)	Current Retirees and Beneficiaries (B)	Active Members’ Employer-Financed Portion (C)		(A)	(B)	(C)
2009	\$359,122	\$1,303,453	\$965,681	\$1,963,719	100%	100%	31%
2010	388,082	1,627,094	1,306,868	2,056,452	100	100	3
2011	409,625	1,714,099	1,319,938	2,323,629	100	100	15
2012	434,215	1,804,626	1,283,582	2,371,613	100	100	10
2013	469,312	1,918,824	1,372,542	2,277,791	100	94	0
2014	504,619	2,080,400	1,475,008	2,632,922	100	100	3
2015	527,781	2,200,281	1,569,097	2,772,466	100	100	3
2016	557,473	2,273,411	1,638,262	2,858,737	100	100	2
2017	593,952	2,364,059	1,433,790	3,289,191	100	100	23
2018	619,602	2,541,989	1,591,961	3,908,833	100	100	47

See following "SOLVENCY TEST – NOTES."

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

COMPARATIVE SUMMARY OF ACCRUED LIABILITIES FUNDED BY ACTUARIAL VALUE OF ASSETS (Cont'd)

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 Accrued Liabilities for:

- a. Accumulated Member Contributions;
- b. Current Retirees and Beneficiaries; and
- c. Active Members' Employer-Financed Portion.

The Accrued Liabilities are the PV of projected benefits produced by the projected benefit attribution approach prorated on service. The Accrued Liabilities were calculated in accordance with Governmental Accounting Standards Board Statement No. 5 (GASB5).

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

The values in the table are dependent upon census data, benefit levels (which have changed over the past years), and the actuarial assumptions and methods employed at each valuation date.

To fully evaluate trends in financial soundness, changes in assumptions need to be evaluated. 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. Prior to the June 30, 2010 (Lag) actuarial valuation, the Actuarial Interest Rate assumption was 8.0% per annum, gross of expenses. The two most recent changes in assumptions and methods occurred in the June 30, 2017 (Lag) valuation used to compute the Employer Contributions for Fiscal Year 2019 and in the June 30, 2014 (Lag) valuation used to compute the Employer Contributions for Fiscal Year 2016.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

CONTRIBUTIONS

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

A. MEMBER CONTRIBUTIONS

Tier 1 and Tier 2

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 or she elects his or her plan. The normal contribution rate, which is dependent upon the member's age and plan, as well as the tables in effect for such purpose at the time he or she became a member, is determined to provide approximately one-third of the benefit on account of the first 25 years of service.

For Tier 1 and Tier 2 plans which permit retirement for service at age 55, the normal contribution rate is calculated to provide an annuity equal to 1.0% of final salary for each year of service at the earliest age for service retirement. For such plans, the normal 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. Upon retirement, the amount to his or 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.

Beginning July 1, 1960, on a year to year basis, the normal contribution rates of Tier 1 and Tier 2 members who joined before July 27, 1976 were reduced by an increased-take-home-pay rate of 2.5%, and of 5.0% beginning July 1, 1961. Between July 1, 1968 and December 31, 1975, an increased-take-home-pay rate of 4.0% was effective for all members. On January 1, 1976, an increased-take-home-pay rate of 2.0% 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
07/01/60 – 06/30/61	2.5%
07/01/61 – 06/30/68	5.0%
07/01/68 – 12/31/75	4.0%
01/01/76 and after	2.0%

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

CONTRIBUTIONS (Cont'd)

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.

Tier 4

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, most Tier 4 members are not required to make contributions after the 10th anniversary of their membership date or completion of ten years of credited service, whichever is earlier. Tier 4 members of the Chapter 504 55/27 plan contribute Basic Member Contributions (BMC) for 27 years of service. For those who elected or were mandated into an Optional Retirement Plan or Special Officers Plan, Additional Member Contributions (AMC) are required.

Tier 6

A member who joins BERS on or after April 1, 2012 (Tier 6) 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 also contribute AMC.

B. EMPLOYER CONTRIBUTIONS

The Entry Age Normal cost method of funding is utilized by the Plan's Actuary to calculate the contributions required of the employers.

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



**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, 2020 AND JUNE 30, 2019**

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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 nine-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
- (F) All pensioners 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

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

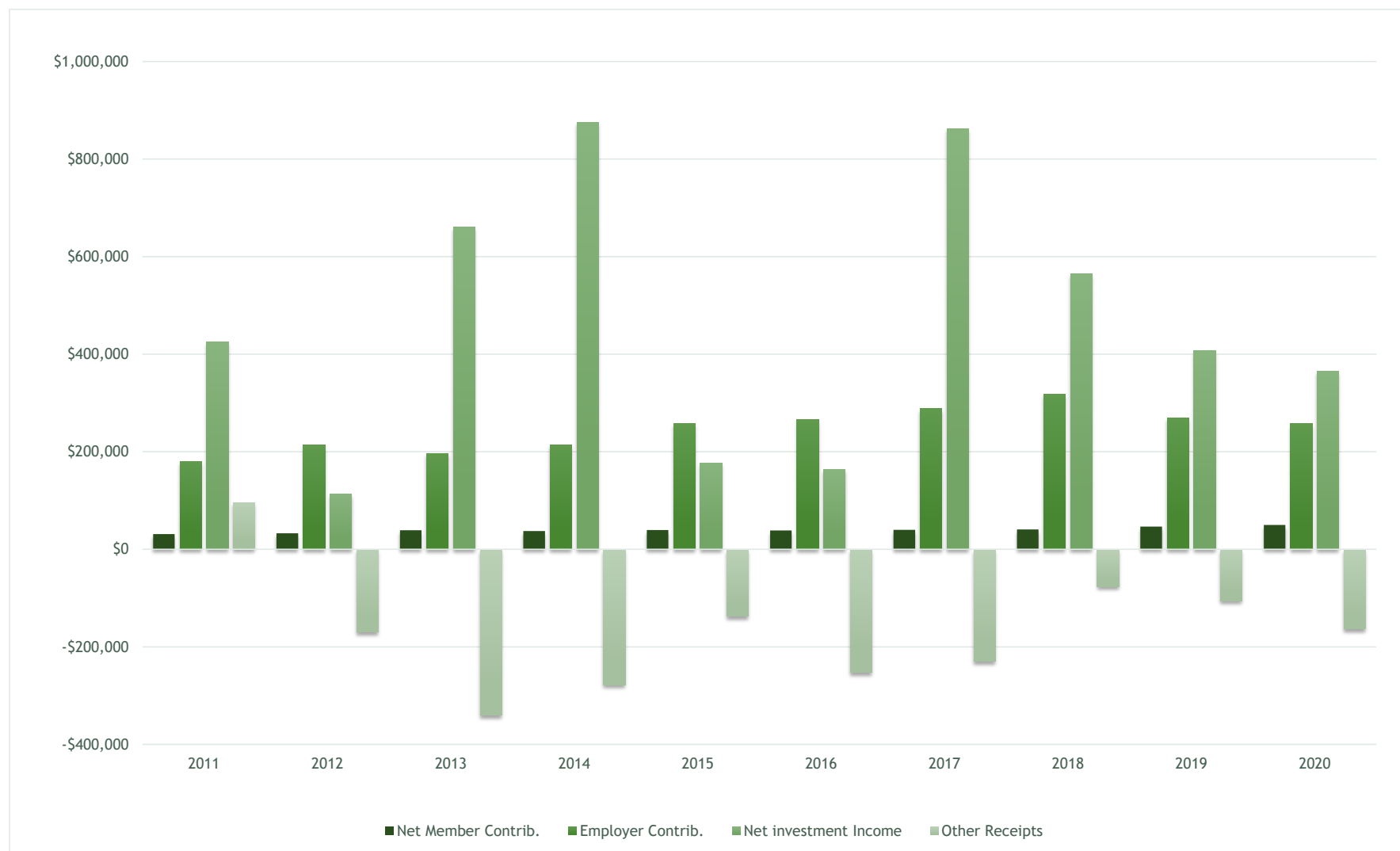
REVENUE BY SOURCE (In thousands)

Fiscal Year Ended June 30	Net Member Contributions	Employer Contributions	Net Investment Income	Net Receipts	Total	Employer Contributions as % of Payroll
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	(\$137,125)	\$337,704	24.5
2016	\$38,581	\$265,532	\$164,144	(\$252,288)	\$215,969	25.4
2017	\$39,821	\$288,233	\$862,510	(\$229,508)	\$961,056	26.3
2018	\$40,846	\$318,643	\$565,577	(\$76,948)	\$848,118	27.7
2019	\$46,304	\$269,637	\$406,879	(\$106,071)	\$616,749	22.4
2020	\$49,766	\$257,503	\$365,767	(\$163,724)	\$509,312	20.1

The table offers a horizontal comparison base for the revenue sources of the Plan for the past 10 years.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

REVENUE BY SOURCE (in thousands)



NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

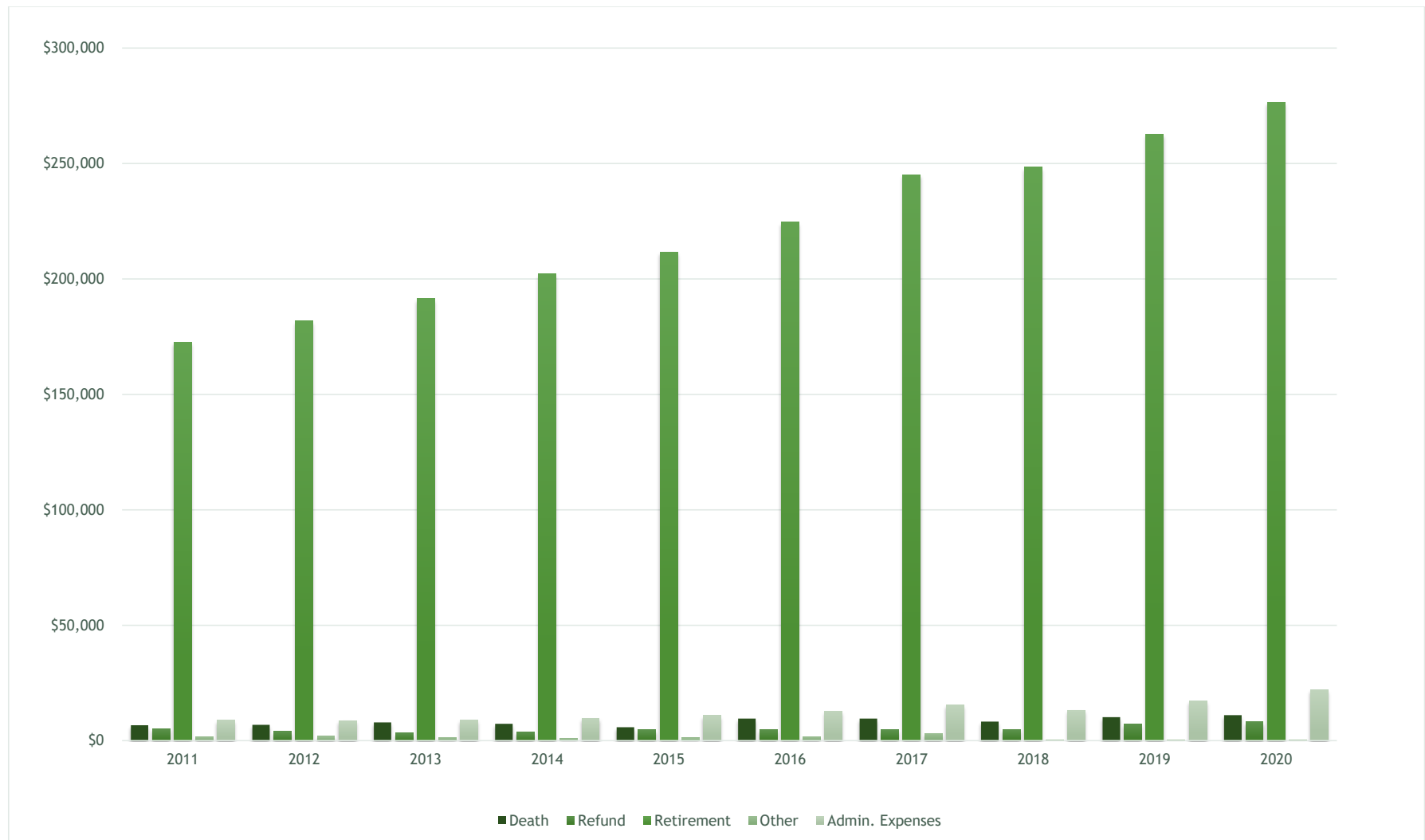
EXPENSES BY TYPE (In thousands)

Fiscal Year Ended June 30	Benefit Payments				Administrative Expenses	Total
	Death	Refunds	Retirement	Other		
2011	\$6,686	\$5,237	\$172,680	\$1,663	\$8,892	\$195,158
2012	\$6,827	\$4,009	\$181,735	\$1,936	\$8,687	\$203,194
2013	\$7,858	\$3,360	\$191,463	\$1,412	\$8,927	\$213,020
2014	\$7,274	\$3,827	\$202,233	\$981	\$9,776	\$224,091
2015	\$5,765	\$4,614	\$211,693	\$1,172	\$10,956	\$234,200
2016	\$9,580	\$4,750	\$224,639	\$1,758	\$12,818	\$253,545
2017	\$9,570	\$4,687	\$245,066	\$3,109	\$15,486	\$277,918
2018	\$8,208	\$4,808	\$248,429	\$129	\$13,212	\$274,786
2019	\$10,161	\$7,231	\$262,804	\$267	\$17,357	\$297,820
2020	\$11,016	\$8,174	\$276,614	\$243	\$22,207	\$318,254

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

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

EXPENSES BY TYPE (In thousands)



NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

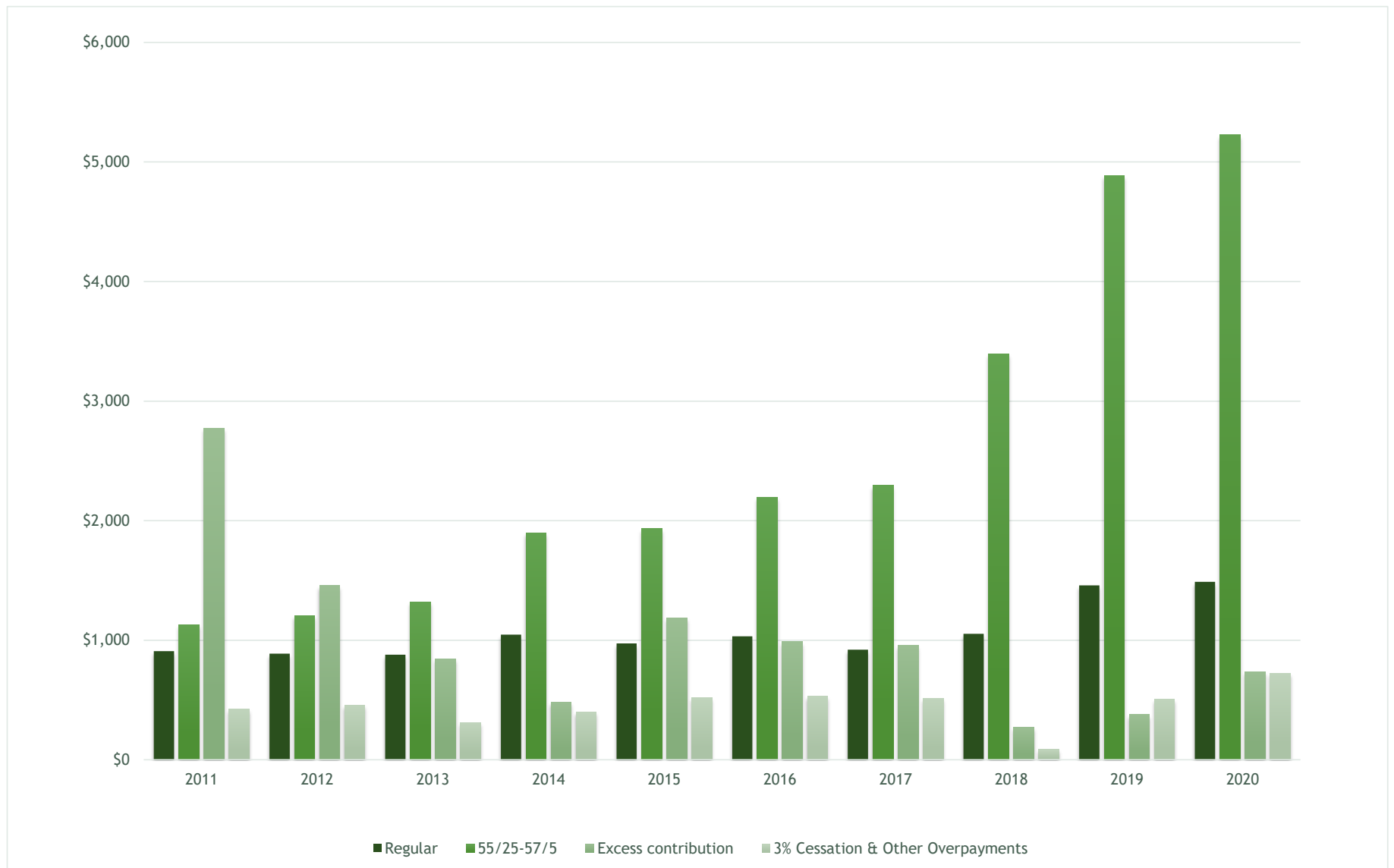
REFUNDS BY TYPE (In thousands)

Fiscal Year Ended June 30	Refunds				
	Regular Resignation	Add. Pension 55/25-57/5	Excess Contribution	3% Cessation & Other Overpayments	Total
2011	\$909	\$1,129	\$2,772	\$427	\$5,237
2012	\$888	\$1,206	\$1,456	\$459	\$4,009
2013	\$880	\$1,322	\$846	\$312	\$3,360
2014	\$1,047	\$1,899	\$484	\$397	\$3,827
2015	\$973	\$1,933	\$1,186	\$522	\$4,614
2016	\$1,033	\$2,198	\$986	\$533	\$4,750
2017	\$920	\$2,295	\$957	\$515	\$4,687
2018	\$1,053	\$3,397	\$271	\$87	\$4,808
2019	\$1,459	\$4,887	\$378	\$507	\$7,231
2020	\$1,489	\$5,227	\$735	\$723	\$8,174

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.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

REFUNDS BY TYPE (In thousands)



**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
QUALIFIED PENSION PLAN**

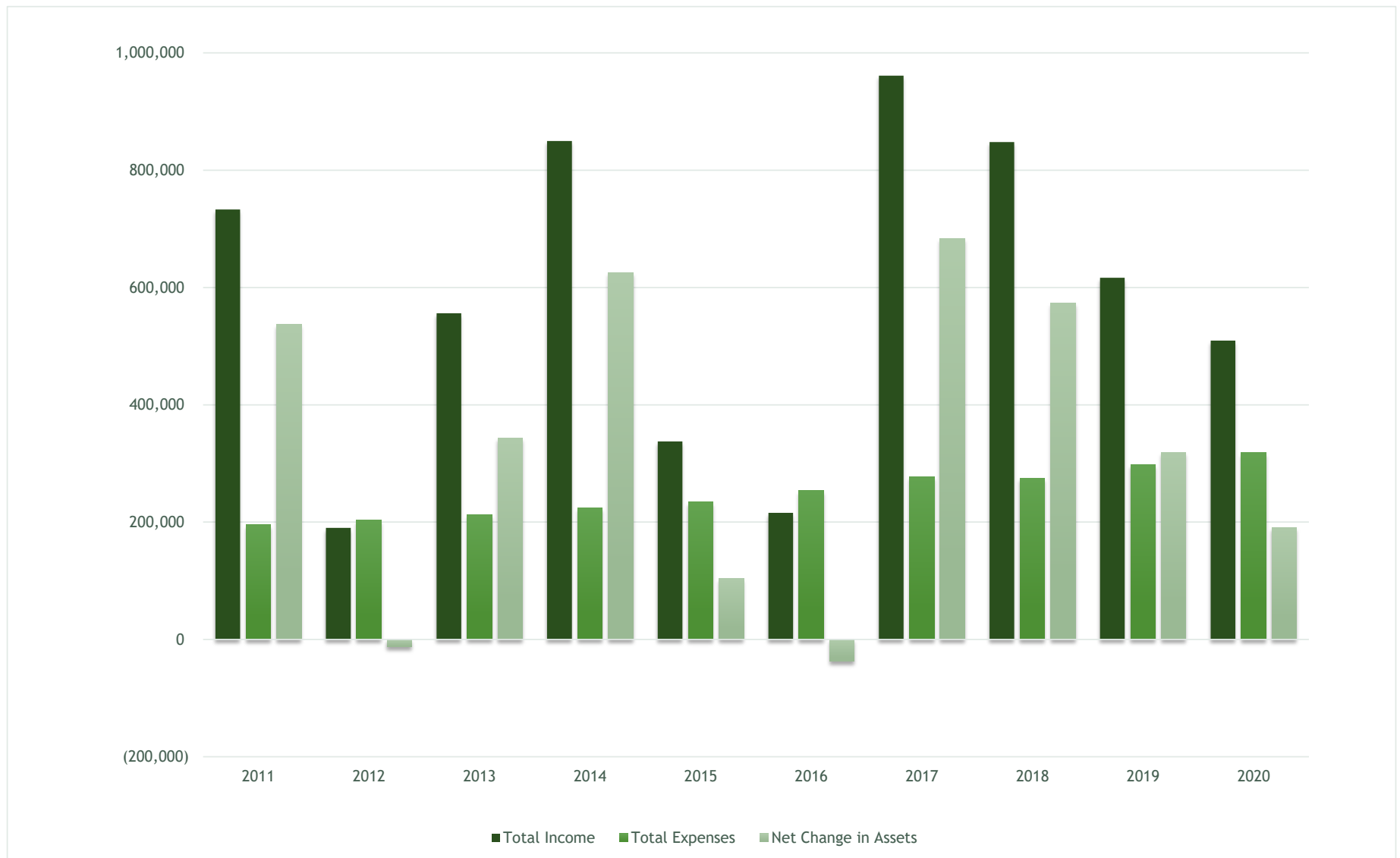
**SCHEDULE OF CHANGES IN NET POSITION
(In thousands)**

Year Ended	Member Contributions	Employer Contributions	Net Investment Income	Other Receipts	Total Income	Benefit Payments				Administrative Expenses	Total Expenses	Change in Net Position
						Death	Refund	Retirement	Other			
2011	\$31,008	\$180,191	\$425,690	\$95,958	\$732,847	\$6,686	\$5,237	\$172,680	\$1,663	\$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	(\$137,125)	\$337,704	\$5,765	\$4,614	\$211,693	\$1,172	\$10,956	\$234,200	\$103,504
2016	\$38,581	\$265,532	\$164,144	(\$252,288)	\$215,969	\$9,580	\$4,750	\$224,639	\$1,758	\$12,818	\$253,545	(\$37,576)
2017	\$39,821	\$288,233	\$862,510	(\$229,508)	\$961,056	\$9,570	\$4,687	\$245,066	\$3,109	\$15,486	\$277,918	\$683,138
2018	\$40,846	\$318,643	\$565,577	(\$76,948)	\$848,118	\$8,208	\$4,808	\$248,429	\$129	\$13,212	\$274,786	\$573,332
2019	\$46,304	\$269,637	\$406,879	(\$106,071)	\$616,749	\$10,161	\$7,231	\$262,804	\$267	\$17,357	\$297,820	\$318,929
2020	\$49,766	\$257,503	\$365,767	(\$163,724)	\$509,312	\$11,016	\$8,174	\$276,614	\$243	\$22,207	\$318,254	\$191,058

The table offers a 10 year horizontal comparison base for the operations of the BERS.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SCHEDULE OF CHANGES IN NET POSITION (In thousands)



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

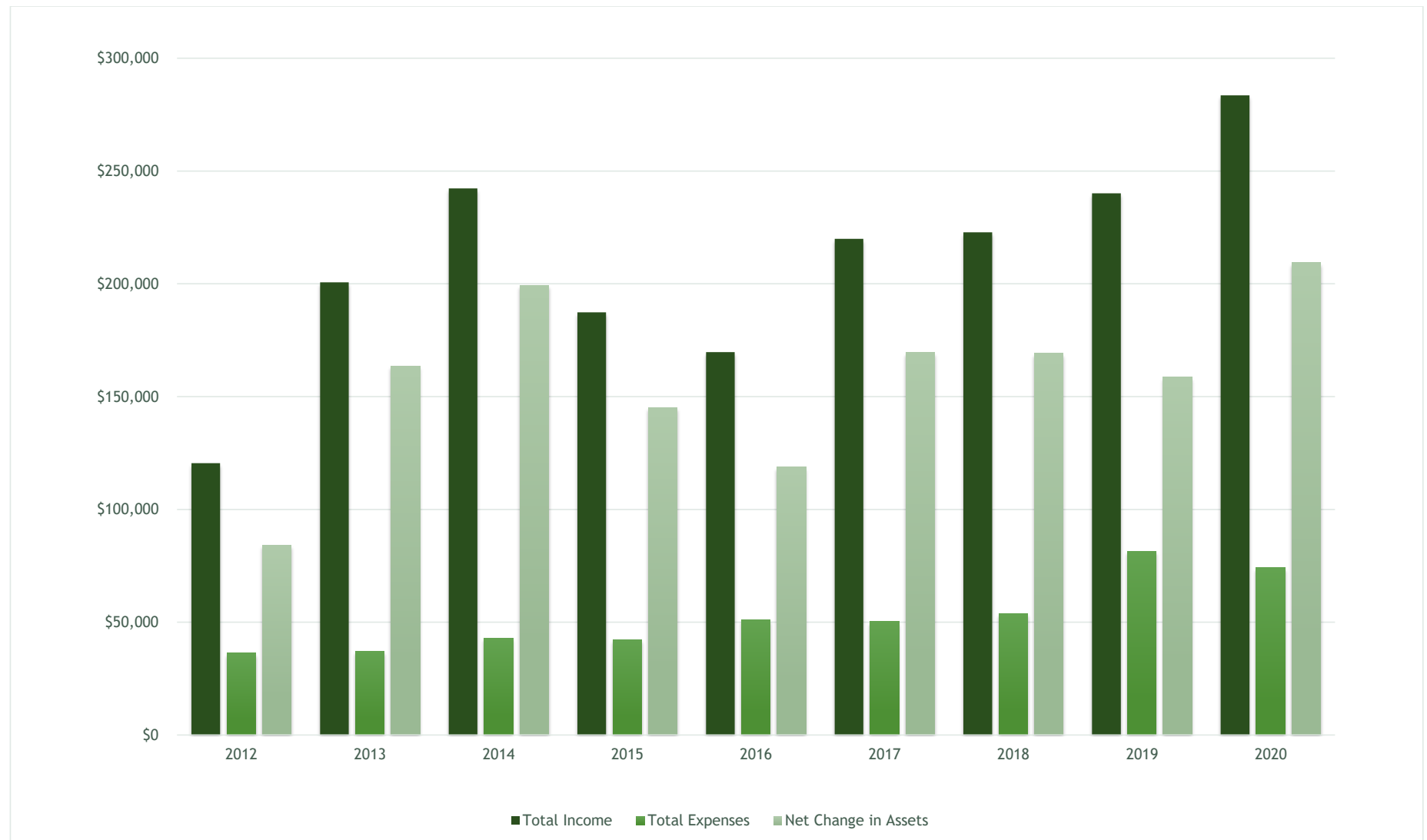
**SCHEDULE OF CHANGES IN NET POSITION
(In thousands)**

Year Ended	Participant Contributions	Net Investment Income	Other Receipts	Transfer of Investment Income	Total Income	Benefit Payments				Administrative Expenses	Total Expenses	Change in Net Position
						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	\$4,448	\$85,104	\$187,392	\$4,133	\$34,707	\$370	\$12	\$3,033	\$42,255	\$145,137
2016	\$77,459	\$1,049	(\$3,541)	\$94,789	\$169,756	\$13,292	\$36,467	\$351	\$79	\$850	\$51,039	\$118,717
2017	\$85,765	\$75,739	(\$48,113)	\$106,554	\$219,945	\$9,415	\$40,371	\$323	\$99	\$125	\$50,333	\$169,612
2018	\$89,972	\$59,168	(\$54,240)	\$127,972	\$222,872	\$10,851	\$42,427	\$338	\$52	\$84	\$53,752	\$169,120
2019	\$102,203	\$40,087	(\$43,842)	\$141,695	\$240,143	\$25,490	\$55,492	\$336	\$96	\$119	\$81,533	\$158,610
2020	\$109,944	\$14,912	\$2,945	\$155,749	\$283,550	\$20,695	\$52,877	\$352	\$127	\$167	\$74,218	\$209,332

The table offers a 9 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)



NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

BENEFIT EXPENSES BY TYPE (In thousands)

FISCAL YEAR ENDED JUNE 30	AGE AND SERVICE RETIREMENT BENEFITS	DISABILITY RETIREMENT BENEFITS		LUMP SUM PAYMENTS		TOTAL
				DEATH IN SERVICE	SURVIVORS	
		DUTY	NON-DUTY			
2011	\$165,580	\$2,291	\$4,810	\$5,328	\$1,357	\$179,366
2012	\$174,099	\$2,464	\$5,173	\$5,035	\$1,791	\$188,562
2013	\$183,250	\$2,649	\$5,564	\$5,890	\$1,968	\$199,321
2014	\$193,400	\$2,849	\$5,984	\$4,768	\$2,506	\$209,507
2015	\$202,193	\$3,065	\$6,435	\$3,642	\$2,124	\$217,459
2016	\$214,422	\$3,296	\$6,921	\$7,094	\$2,486	\$234,219
2017	\$234,057	\$3,551	\$7,458	\$6,571	\$2,999	\$254,636
2018	\$236,588	\$3,820	\$8,021	\$5,165	\$3,043	\$256,637
2019	\$250,070	\$4,108	\$8,626	\$9,720	\$441	\$272,965
2020	\$262,918	\$4,418	\$9,278	\$10,927	\$89	\$287,630

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.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
QUALIFIED PENSION PLAN**

RETIRED MEMBERS BY TYPE OF BENEFIT

AGE AND SERVICE RETIREMENT

AGE	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	0	\$0	1	\$2,522
50 - 54	7	48,681	3	20,106
55 - 59	86	38,607	220	10,968
60 - 64	297	31,751	1,128	12,657
65 - 69	641	30,703	2,540	12,321
70 - 74	660	28,702	2,881	11,251
75 - 79	532	29,768	2,305	10,085
80 - 84	407	26,530	1,631	8,800
85 - 89	267	25,262	1,157	8,541
90 & OVER	200	23,029	1,016	8,136
TOTALS	3,097	\$28,964	12,882	\$10,574

ORDINARY DISABILITY (NON-DUTY) RETIREMENT

AGE	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	4	\$15,298	9	\$15,299
50 - 54	12	15,802	42	12,787
55 - 59	36	18,983	116	12,500
60 - 64	60	17,196	178	11,577
65 - 69	55	16,855	180	10,747
70 - 74	39	17,459	164	9,841
75 - 79	26	12,502	96	9,788
80 - 84	9	16,458	33	9,146
85 - 89	3	11,951	13	7,695
90 & OVER	6	16,819	4	7,991
TOTALS	250	\$16,736	835	\$10,907

NOTE: This schedule is based on 2018 data (LAG)

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
QUALIFIED PENSION PLAN**

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

ACCIDENTAL DISABILITY (DUTY) RETIREMENT

AGE	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	2	\$11,103	7	\$11,244
50 - 54	1	40,367	5	11,388
55 - 59	11	20,265	20	9,682
60 - 64	8	21,774	26	11,021
65 - 69	12	14,228	33	11,197
70 - 74	7	20,323	25	8,248
75 - 79	5	19,277	14	7,851
80 - 84	4	36,040	16	7,665
85 - 89	0	0	4	7,810
90 & OVER	5	27,690	4	8,790
TOTALS	55	\$20,939	154	\$9,678

ACCIDENTAL DEATH (DUTY) RETIREMENT

AGE	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	0	\$0	0	\$0
50 - 54	0	0	0	0
55 - 59	1	6,102	0	0
60 - 64	0	0	0	0
65 - 69	0	0	0	0
70 - 74	0	0	0	0
75 - 79	0	0	0	0
80 - 84	1	9,493	0	0
85 - 89	0	0	0	0
90 & OVER	0	0	0	0
TOTALS	2	\$7,798	0	\$0

NOTE: This schedule is based on 2018 data (LAG)

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
QUALIFIED PENSION PLAN**

RETIRED MEMBERS BY TYPE OF BENEFIT

(CONT'D)

OTHER BENEFICIARIES

AGE OF RETIRANTS	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	22	\$8,080	34	\$8,599
50 - 54	8	3,057	22	5,228
55 - 59	15	4,306	28	9,910
60 - 64	15	7,968	32	14,371
65 - 69	15	8,586	45	15,339
70 - 74	26	6,639	67	14,209
75 - 79	19	7,052	79	22,492
80 - 84	20	7,052	104	21,778
85 - 89	16	14,098	93	20,062
90 & OVER	14	8,552	92	16,962
TOTALS	170	\$7,695	596	\$17,206

ALL PENSIONERS AND BENEFICIARIES

AGE OF RETIRANTS	MEN		WOMEN	
	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE	NUMBER OF RETIRANTS	AVERAGE ANNUAL ALLOWANCE
49 & UNDER	28	\$9,327	51	\$10,025
50 - 54	28	21,258	72	10,685
55 - 59	149	28,840	384	11,287
60 - 64	380	28,304	1,364	12,525
65 - 69	723	28,918	2,798	12,255
70 - 74	732	27,239	3,137	11,217
75 - 79	582	28,165	2,494	10,454
80 - 84	441	25,489	1,784	9,553
85 - 89	286	24,498	1,267	9,376
90 & OVER	225	22,066	1,116	8,865
TOTALS	3,574	\$26,961	14,467	\$10,857

NOTE: This schedule is based on 2018 data (LAG)

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTIVES - BY AGE AND SERVICE: MALE

Data Used In The June 30, 2018 (LAG) Actuarial Valuation
For Determining Fiscal Year 2020 Employer Contributions

AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
NUMBER:										
UNDER 20	5	0	0	0	0	0	0	0	0	5
20 TO 24	39	0	0	0	0	0	0	0	0	39
25 TO 29	240	23	0	0	0	0	0	0	0	263
30 TO 34	396	162	21	0	0	0	0	0	0	579
35 TO 39	292	227	100	20	0	0	0	0	0	639
40 TO 44	294	232	180	75	12	1	0	0	0	794
45 TO 49	248	223	234	130	42	14	0	0	0	891
50 TO 54	235	214	226	165	112	59	15	1	0	1,027
55 TO 59	236	214	166	157	130	100	54	6	0	1,063
60 TO 64	122	163	124	110	97	91	74	14	7	802
65 TO 69	38	67	74	48	36	35	12	9	9	328
70 & UP	23	29	49	28	21	5	7	4	6	172
TOTAL	2,168	1,554	1,174	733	450	305	162	34	22	6,602

SALARIES (IN THOUSANDS):

UNDER 20	250	0	0	0	0	0	0	0	0	250
20 TO 24	1,394	0	0	0	0	0	0	0	0	1,394
25 TO 29	11,010	1,064	0	0	0	0	0	0	0	12,074
30 TO 34	22,174	8,613	1,461	0	0	0	0	0	0	32,248
35 TO 39	17,784	13,700	7,784	1,274	0	0	0	0	0	40,542
40 TO 44	18,015	15,330	14,872	6,018	1,046	65	0	0	0	55,347
45 TO 49	15,170	12,990	19,890	11,488	3,552	1,278	0	0	0	64,368
50 TO 54	13,865	11,787	19,418	14,533	9,981	4,897	1,300	102	0	75,883
55 TO 59	12,924	11,052	12,999	12,252	12,042	9,423	5,068	644	0	76,405
60 TO 64	7,049	8,041	9,262	8,693	7,717	8,616	7,404	1,546	643	58,972
65 TO 69	1,591	3,277	4,832	3,448	3,031	3,088	1,359	1,129	666	22,422
70 & UP	924	875	2,817	1,815	1,944	455	750	370	676	10,625
TOTAL *	122,150	86,729	93,335	59,522	39,313	27,822	15,882	3,791	1,986	450,529

AVERAGE SALARIES: **

UNDER 20	50,074	0	0	0	0	0	0	0	0	50,074
20 TO 24	35,747	0	0	0	0	0	0	0	0	35,747
25 TO 29	45,876	46,254	0	0	0	0	0	0	0	45,909
30 TO 34	55,994	53,166	69,590	0	0	0	0	0	0	55,696
35 TO 39	60,903	60,353	77,841	63,706	0	0	0	0	0	63,446
40 TO 44	61,277	66,078	82,623	80,244	87,127	65,116	0	0	0	69,706
45 TO 49	61,167	58,253	85,000	88,370	84,577	91,267	0	0	0	72,242
50 TO 54	59,000	55,078	85,919	88,077	89,120	83,003	86,674	102,240	0	73,888
55 TO 59	54,763	51,646	78,309	78,037	92,628	94,234	93,857	107,319	0	71,876
60 TO 64	57,778	49,332	74,692	79,029	79,559	94,685	100,061	110,412	91,902	73,532
65 TO 69	41,876	48,914	65,293	71,844	84,186	88,214	113,276	125,434	74,051	68,358
70 & UP	40,156	30,158	57,483	64,832	92,578	90,986	107,119	92,428	112,661	61,772
TOTAL	56,342	55,810	79,501	81,203	87,362	91,220	98,037	111,486	90,261	68,241

Note: Age is nearest birthday. Service is nearest year.

* Total may not add up due to rounding.

** Average based on unrounded salary.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

SUMMARY OF ACTIVES- BY AGE AND SERVICE : FEMALE

Data Used In The June 30, 2018 (LAG) Actuarial Valuation
For Determining Fiscal Year 2020 Employer Contributions

AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
NUMBER:										
UNDER 20	1	0	0	0	0	0	0	0	0	1
20 TO 24	58	1	0	0	0	0	0	0	0	59
25 TO 29	511	21	0	0	0	0	0	0	0	532
30 TO 34	803	248	14	1	0	0	0	0	0	1,066
35 TO 39	743	420	197	27	2	0	0	0	0	1,389
40 TO 44	824	507	382	129	18	1	0	0	0	1,861
45 TO 49	904	680	408	252	67	12	1	0	0	2,324
50 TO 54	980	986	636	407	146	71	30	4	0	3,260
55 TO 59	740	960	891	657	251	104	61	28	0	3,692
60 TO 64	380	663	783	675	311	147	54	34	7	3,054
65 TO 69	145	280	380	294	168	59	29	9	12	1,376
70 & UP	47	115	176	141	103	42	13	7	4	648
TOTAL	6,136	4,881	3,867	2,583	1,066	436	188	82	23	19,262

SALARIES (IN THOUSANDS):

UNDER 20	29	0	0	0	0	0	0	0	0	29
20 TO 24	2,035	33	0	0	0	0	0	0	0	2,068
25 TO 29	27,653	1,072	0	0	0	0	0	0	0	28,725
30 TO 34	45,202	17,001	829	97	0	0	0	0	0	63,129
35 TO 39	35,165	27,489	14,338	1,673	148	0	0	0	0	78,813
40 TO 44	32,309	27,552	27,207	9,204	1,370	113	0	0	0	97,754
45 TO 49	29,452	29,274	22,975	16,024	4,929	881	99	0	0	103,634
50 TO 54	29,849	35,192	26,888	19,044	9,013	5,140	2,414	367	0	127,907
55 TO 59	21,682	31,221	33,947	27,907	13,202	6,572	4,220	2,264	0	141,015
60 TO 64	10,684	22,119	27,320	27,509	14,281	7,637	4,093	2,469	454	116,565
65 TO 69	4,365	7,957	12,282	11,713	7,241	2,938	1,816	725	858	49,895
70 & UP	1,150	3,246	4,477	4,469	3,701	1,983	572	406	236	20,240
TOTAL *	239,574	202,155	170,263	117,640	53,884	25,264	13,214	6,230	1,548	829,773

AVERAGE SALARIES: **

UNDER 20	28,580	0	0	0	0	0	0	0	0	28,580
20 TO 24	35,089	32,895	0	0	0	0	0	0	0	35,052
25 TO 29	54,115	51,037	0	0	0	0	0	0	0	53,994
30 TO 34	56,291	68,551	59,221	97,158	0	0	0	0	0	59,220
35 TO 39	47,328	65,451	72,781	61,967	73,885	0	0	0	0	56,741
40 TO 44	39,210	54,343	71,222	71,348	76,100	113,000	0	0	0	52,528
45 TO 49	32,580	43,050	56,311	63,589	73,561	73,432	99,260	0	0	44,593
50 TO 54	30,458	35,692	42,277	46,790	61,734	72,397	80,480	91,639	0	39,235
55 TO 59	29,301	32,522	38,100	42,477	52,598	63,190	69,172	80,851	0	38,195
60 TO 64	28,115	33,361	34,892	40,754	45,918	51,954	75,793	72,616	64,864	38,168
65 TO 69	30,104	28,417	32,322	39,839	43,101	49,794	62,632	80,536	71,471	36,261
70 & UP	24,458	28,229	25,435	31,697	35,928	47,220	43,986	58,029	59,115	31,235
TOTAL	39,044	41,417	44,030	45,544	50,548	57,946	70,288	75,980	67,312	43,078

Note: Age is nearest birthday. Service is nearest year.

* Total may not add up due to rounding.

** Average based on unrounded salary.

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

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

Data Used In The June 30, 2018 (LAG) Actuarial Valuation
For Determining Fiscal Year 2020 Employer Contributions

AGE \ SVC	UNDER 5	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40 & UP	ALL YEARS
NUMBER:										
UNDER 20	6	0	0	0	0	0	0	0	0	6
20 TO 24	97	1	0	0	0	0	0	0	0	98
25 TO 29	751	44	0	0	0	0	0	0	0	795
30 TO 34	1,199	410	35	1	0	0	0	0	0	1,645
35 TO 39	1,035	647	297	47	2	0	0	0	0	2,028
40 TO 44	1,118	739	562	204	30	2	0	0	0	2,655
45 TO 49	1,152	903	642	382	109	26	1	0	0	3,215
50 TO 54	1,215	1,200	862	572	258	130	45	5	0	4,287
55 TO 59	976	1,174	1,057	814	381	204	115	34	0	4,755
60 TO 64	502	826	907	785	408	238	128	48	14	3,856
65 TO 69	183	347	454	342	204	94	41	18	21	1,704
70 & UP	70	144	225	169	124	47	20	11	10	820
TOTAL	8,304	6,435	5,041	3,316	1,516	741	350	116	45	25,864

SALARIES (IN THOUSANDS):

UNDER 20	279	0	0	0	0	0	0	0	0	279
20 TO 24	3,429	33	0	0	0	0	0	0	0	3,462
25 TO 29	38,663	2,136	0	0	0	0	0	0	0	40,799
30 TO 34	67,375	25,614	2,290	97	0	0	0	0	0	95,376
35 TO 39	52,949	41,190	22,122	2,947	148	0	0	0	0	119,355
40 TO 44	50,324	42,882	42,079	15,222	2,415	178	0	0	0	153,101
45 TO 49	44,621	42,264	42,865	27,513	8,481	2,159	99	0	0	168,002
50 TO 54	43,714	46,979	46,306	33,576	18,995	10,037	3,715	469	0	203,790
55 TO 59	34,606	42,273	46,947	40,159	25,244	15,995	9,288	2,908	0	217,420
60 TO 64	17,733	30,160	36,582	36,202	21,998	16,254	11,497	4,015	1,097	175,537
65 TO 69	5,956	11,234	17,114	15,161	10,272	6,025	3,176	1,854	1,524	72,316
70 & UP	2,073	4,121	7,293	6,285	5,645	2,438	1,322	776	912	30,865
TOTAL *	361,724	288,884	263,598	177,162	93,197	53,087	29,096	10,021	3,534	1,280,302

AVERAGE SALARIES: **

UNDER 20	46,492	0	0	0	0	0	0	0	0	46,492
20 TO 24	35,354	32,895	0	0	0	0	0	0	0	35,329
25 TO 29	51,482	48,537	0	0	0	0	0	0	0	51,319
30 TO 34	56,193	62,472	65,442	97,158	0	0	0	0	0	57,980
35 TO 39	51,158	63,662	74,485	62,707	73,885	0	0	0	0	58,854
40 TO 44	45,013	58,027	74,873	74,619	80,511	89,058	0	0	0	57,665
45 TO 49	38,734	46,804	66,768	72,022	77,806	83,035	99,260	0	0	52,256
50 TO 54	35,979	39,149	53,719	58,700	73,622	77,210	82,545	93,759	0	47,537
55 TO 59	35,457	36,008	44,415	49,335	66,257	78,408	80,763	85,522	0	45,724
60 TO 64	35,324	36,513	40,333	46,117	53,916	68,293	89,823	83,639	78,383	45,523
65 TO 69	32,549	32,374	37,696	44,331	50,352	64,099	77,454	102,985	72,577	42,439
70 & UP	29,616	28,617	32,415	37,187	45,522	51,876	66,082	70,538	91,243	37,640
TOTAL	43,560	44,893	52,291	53,426	61,475	71,642	83,132	86,387	78,531	49,501

Note: Age is nearest birthday. Service is nearest year.

* Total may not add up due to rounding.

** Average based on unrounded salary.

**NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM
QUALIFIED PENSION PLAN**

ANNUAL AVERAGE BENEFIT PAYMENT AMOUNTS

FISCAL YEAR ENDED JUNE 30	SERVICE RETIREMENT BENEFITS			ORDINARY (NON-DUTY) DISABILITY BENEFITS			ACCIDENTAL (DUTY) DISABILITY BENEFITS			SURVIVOR BENEFITS		
	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
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
2014(Lag)	14,150	\$12,932	\$1,078	853	\$11,680	\$973	156	\$12,268	\$1,022	836	\$14,435	\$1,203
2015(Lag)	14,572	\$13,303	\$1,109	890	\$12,208	\$1,017	159	\$12,341	\$1,028	817	\$14,391	\$1,199
2016(Lag)	15,034	\$13,420	\$1,118	937	\$11,957	\$996	168	\$13,377	\$1,115	798	\$14,869	\$1,239
2017(Lag)	15,454	\$13,722	\$1,144	999	\$11,960	\$997	182	\$12,585	\$1,049	790	\$15,010	\$1,251
2018(Lag)	15,979	\$14,138	\$1,178	1085	\$12,250	\$1,021	209	\$12,642	\$1,054	768	\$15,076	\$1,256

NEW YORK CITY BOARD OF EDUCATION RETIREMENT SYSTEM QUALIFIED PENSION PLAN

PARTICIPATING EMPLOYERS AS OF JUNE 30, 2018 (LAG)

Employer	As of June 30, 2018 (Lag)		As of June 30, 2009	
	Number of Employees	Annual Payroll	Number of Employees	Annual Payroll
NYC Department of Education¹	25,184	\$ 1,208,311,994	22,771	\$ 861,651,145
NYC Schools Construction Authority	666	71,410,862	514	48,075,180
Charter Schools				
Beginning with Children ²	0	-	4	102,589
KIPP Academy	0	-	1	100,000
Renaissance	14	579,614	13	680,569
TOTAL	25,864	\$ 1,280,302,470	23,303	\$ 910,609,483

¹ A limited (de minimis) 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.



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