

Financial Statements and Supplementary Schedules
June 30, 2019

(With Independent Auditors' Report Thereon)

Financial Statements and Supplementary Schedules
June 30, 2019

Table of Contents

		Page
Indeper	ndent Auditors' Report	1
Manage	ement's Discussion and Analysis (Unaudited)	3
Basic F	inancial Statements:	
	tement of Fiduciary Net Position – Fiduciary Funds	11
	mbining Statement of Fiduciary Net Position – Fiduciary Funds – Pension Trust Funds and Other Postemployment Benefit (OPEB) Plan	12
	tement of Changes in Fiduciary Net Position – Fiduciary Funds	13
	mbining Statement of Changes in Fiduciary Net Position – Fiduciary Funds – Pension	
	Trust Funds and Other Postemployment Benefit Plan es to Financial Statements	14 15
INOL	es to Financial Statements	15
Suppler	mentary Schedules:	
Red	quired Supplementary Information (Unaudited)	
Def	ined Benefit Pension Plans:	
1	Schedule of Changes in Net Pension Liability and Related Ratios	56
2 3	Schedule of Employer Contributions Schedule of Investment Returns – Annual Money-Weighted Rate of Return, Net of	63
3	Investment Expense	67
Def	ined Benefit Other Postemployment Benefit Plan:	•
4	Schedule of Changes in Net OPEB Liability and Related Ratios	68
5	Schedule of Investment Returns – OPEB Plan – Annual Money-Weighted Rate of	69
	Return, Net of Investment Expense	09
Sup	oplementary Information	
6	Schedule of Administrative Expenses	70
7	Schedule of Investment Expenses	71
8	Schedule of Expenses for Consultants	72
9	Combining Schedule of Fiduciary Net Position Information – Fiduciary Funds – Select Pension Trust Funds	73
10	Combining Schedule of Changes in Fiduciary Net Position Information – Fiduciary	73
	Funds – Select Pension Trust Funds	74

Financial Statements and Supplementary Schedules
June 30, 2019

Table of Contents

		Page
Sup	pplementary Information, continued	
11 12	Combining Schedule of Balance Sheet Information – Fiduciary Funds – Agency Funds Combining Schedule of Changes in Fiduciary Net Position Information – Fiduciary	75
12	Funds – Agency Funds	76
13	5 ,	
	Program Fund	77
14	Combining Schedule of Changes in Fiduciary Net Position Information – Agency Fund – Dental Expense Program Fund	78
15	Schedule of Changes in Assets and Liabilities Information – Agency Fund – Alternate Benefit Program Fund	79
16	Schedule of Changes in Assets and Liabilities Information – Agency Fund – Pension Adjustment Fund	80
17	Schedule of Changes in Assets and Liabilities Information – Agency Fund – Dental	
	Expense Program Fund – Total	81
18	3,	
	Expense Program Fund – State	82
19	Schedule of Changes in Assets and Liabilities Information – Agency Fund – Dental Expense Program Fund – Local	83



KPMG LLP New Jersey Headquarters 51 John F. Kennedy Parkway Short Hills, NJ 07078-2702

Independent Auditors' Report

The Treasurer State of New Jersey:

We have audited the accompanying financial statements of the fiduciary activities of the State of New Jersey, Division of Pensions and Benefits (the Division), as of and for the year ended June 30, 2019, and the related notes to the financial statements, which collectively comprise the Division's basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express an opinion on these 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 financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. 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 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 financial statements referred to above present fairly, in all material respects, the financial position of the fiduciary activities of the State of New Jersey, Division of Pensions and Benefits, as of June 30, 2019, and the respective changes in financial position for the year then ended in accordance with U.S. generally accepted accounting principles.



Emphasis of Matter

Reporting Entity

As discussed in note 2(a) to the financial statements, the financial statements referred to above are intended to present the financial position and the changes in financial position of the fiduciary funds administered by the Division. As a result, these financial statements do not purport to, and do not, present fairly the financial position of the State of New Jersey as of June 30, 2019 and the changes in its financial position, or, where applicable, its cash flows thereof for the year then ended in conformity with U.S. generally accepted accounting principles. Our opinion is not modified with respect to this matter.

Other Matters

Required Supplementary Information

U.S. generally accepted accounting principles require that the management's discussion and analysis and the schedules included under Required Supplementary Information in the accompanying table of contents be presented to supplement the basic financial statements. Such information, although not a part of the basic financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the basic financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic 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.

Supplementary Information

Our audit was conducted for the purpose of forming an opinion on the financial statements that collectively comprise the Division's basic financial statements. The schedules included under Supplementary Information in the accompanying table of contents (the Schedules) are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The Schedules are the responsibility of management and were derived from and relate directly to the underlying accounting and other records used to prepare the basic financial statements. Such information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Schedules are fairly stated, in all material respects, in relation to the basic financial statements as a whole.

KPMG LLP

Short Hills, New Jersey March 27, 2020

Management's Discussion and Analysis
(Unaudited)
June 30, 2019

Our discussion and analysis of the financial performance of the fiduciary funds (the Funds) administered by the Division of Pensions & Benefits (the Division) provides an overview of the Funds' financial activities for the State fiscal year ended June 30, 2019. Please read it in conjunction with the basic financial statements which follow this discussion.

Financial Highlights

Fiduciary Funds - Pension Trust Funds and Other Postemployment Benefit (OPEB) Plan

- Fiduciary net position increased by \$0.9 billion as a result of this year's operations from \$86.4 billion to \$87.3 billion.
- Additions for the year are \$13.2 billion, which are comprised of member, employer, nonemployer, and employer specific and other pension contributions of \$8.2 billion and net investment income of \$5.0 billion.
- Deductions for the year are \$12.3 billion, which are comprised of benefits, refund payments, and transfers of \$12.3 billion and administrative expenses of \$53.1 million.

Overview of the Financial Statements

This discussion and analysis is intended to serve as an introduction to the basic financial statements. The basic financial statements are comprised of two components: 1) fiduciary fund financial statements and 2) notes to the financial statements. This report also contains required and other supplementary information in addition to the basic financial statements.

Fund Financial Statements

A fund is a grouping of related accounts that is used to maintain control over resources that have been segregated for specific activities or objectives. The Division uses fund accounting to ensure and demonstrate compliance with finance-related legal requirements.

Fiduciary Funds

Fiduciary funds are used to account for the assets that the Division holds on behalf of others as their agent. Agency funds are custodial in nature and do not involve measurement of results of operations.

The Division administers fourteen fiduciary funds: ten pension trust funds, one OPEB plan, and three agency funds.

The statement of fiduciary net position presents the Division's assets and liabilities by major categories and may serve over time as a useful indicator of the Division's financial position. The difference between assets and liabilities represents the net position restricted for pension and other postemployment benefits.

Management's Discussion and Analysis
(Unaudited)
June 30, 2019

The statement of changes in fiduciary net position provides information on the change in the Division's net position during the current year. Additions are comprised of investment income and member, employer, nonemployer, and employer specific and other contributions. Deductions include retirement and health benefit payments, refunds of contributions, and administrative expenses.

Notes to the Financial Statements

The notes to the financial statements provide additional information that is essential to a full understanding of the data provided in the basic financial statements and includes a description of the fiduciary funds.

Other Information

In addition to the basic financial statements and accompanying notes, this report also presents certain required supplementary information, which includes the schedules of changes in net pension liability and related ratios, the schedules of employer contributions, and schedule of investment returns for the pension trust funds as well as the schedule of changes in net OPEB liability and related ratios and the schedule of investment returns for the OPEB plan.

Financial Analysis

Summary of Fiduciary Net Position Pension Trust Funds and Other Postemployment Benefit Plan

	_	2019	2018	Increase/ (Decrease)
Assets:				
Cash and cash equivalents	\$	24,558,213	923,522,162	(898,963,949)
Receivables		2,601,722,359	2,592,511,428	9,210,931
Investments		83,617,350,788	81,792,443,010	1,824,907,778
Securities lending collateral		1,009,702,674	839,926,356	169,776,318
Members' loans and mortgages	_	2,339,329,814	2,308,198,797	31,131,017
Total assets	_	89,592,663,848	88,456,601,753	1,136,062,095
Liabilities:				
Accounts payable and accrued expenses		293,069,149	269,894,272	23,174,877
Retirement benefits payable		963,572,944	930,488,730	33,084,214
Noncontributory group life insurance				
premiums payable		15,712,054	20,186,135	(4,474,081)
Administrative expense payable		6,773,517	3,922,068	2,851,449
Securities lending collateral and				
rebates payable	_	1,008,482,091	839,902,523	168,579,568
Total liabilities	_	2,287,609,755	2,064,393,728	223,216,027
Net position	\$	87,305,054,093	86,392,208,025	912,846,068

4

Management's Discussion and Analysis
(Unaudited)
June 30, 2019

Assets of the pension trust funds and OPEB plan consist of cash and cash equivalents, investments, contributions due from members and participating employers, accrued interest and dividends on investments, other receivables, securities lending collateral, and members' loans and mortgages. Between State fiscal years 2018 and 2019, total assets increased by \$1.1 billion or 1.3%. This is primarily attributable to an increase of \$1.8 billion in investments due to larger State pension contributions and strong returns from public equities, real estate, and private equity as explained more thoroughly below and an increase of \$0.2 billion in various receivables, securities lending collateral, and members' loans and mortgages, offset by a decrease of \$0.9 billion in cash and cash equivalents, which is related to the timing of the funding of the July 1, 2019 standard payroll.

Liabilities of the pension trust funds and OPEB plan consist of retirement benefits payable to retirees and beneficiaries, noncontributory group life insurance (NCGI) premiums payable to the Funds' insurance provider, securities lending collateral and rebates payable, administrative expense payable, and, classified under accounts payable and accrued expenses, outstanding medical claims payable to the medical providers under the OPEB plan. Also included within accounts payable and accrued expenses are liabilities of the pension trust funds for unclaimed member accounts and checks issued to members that have not been negotiated by the members, but remain due and payable. Total liabilities increased by \$223.2 million or 10.8%. This is due to an increase in securities lending collateral and rebates payable of \$168.6 million and a net increase of \$54.6 million in retirement benefits and other payables.

Net position restricted for pension and other postemployment benefits increased by \$0.9 billion or 1.1%.

Summary of Fiduciary Net Position Agency Funds

	_	2019	2018	Increase
Assets	\$	100,501,527	92,435,481	8,066,046
Liabilities	_	100,501,527	92,435,481	8,066,046
Net position	\$			

Assets of the agency funds consist of cash and cash equivalents, investments, contributions due from the State and local employers and other receivables. Between State fiscal years 2018 and 2019, total assets increased by \$8.1 million or 8.7%. This is attributable to the increased amount invested in the Cash Management Fund (CMF) of \$2.4 million, an increase in receivables of \$4.0 million, and an increase of cash and cash equivalents of \$1.7 million.

Liabilities in the agency funds vary according to each plan. In the Alternate Benefit Program (ABP), they include reimbursements to state and county colleges, reimbursement to the State of New Jersey general fund of any unused appropriations, and NCGI benefits payable. In the Dental Expense Program (DEP), they include claims payable, and in the Pension Adjustment Fund (PAF), they include liabilities for payroll and amounts due to the State of New Jersey general fund and other pension trust funds. Between State fiscal years 2018 and 2019, total liabilities increased by \$8.1 million or 8.7%. This was comprised of a \$6.7 million increase in accounts payable and a \$1.4 million increase in amounts due to the State of New Jersey.

Management's Discussion and Analysis
(Unaudited)
June 30, 2019

Summary of Changes in Fiduciary Net Position Pension Trust Funds and Other Postemployment Benefit Plan

		2019	2018	Increase/ (Decrease)
Additions:	-	_		
Member contributions	\$	2,449,311,731	2,342,536,213	106,775,518
Employer contributions		3,545,865,979	3,330,118,429	215,747,550
Nonemployer contributions		2,194,331,868	1,677,137,908	517,193,960
Employer specific and other contributions		16,398,082	13,948,732	2,449,350
Net investment income		5,009,303,471	7,129,937,947	(2,120,634,476)
Transfers	-	28,924,693	26,977,641	1,947,052
Total additions	_	13,244,135,824	14,520,656,870	(1,276,521,046)
Deductions:				
Benefits		12,044,481,718	11,602,782,838	441,698,880
Refunds of contributions		204,000,194	189,053,148	14,947,046
Transfers		29,714,557	28,034,716	1,679,841
Administrative expenses	_	53,093,287	48,274,736	4,818,551
Total deductions	_	12,331,289,756	11,868,145,438	463,144,318
Change in net position	\$	912,846,068	2,652,511,432	(1,739,665,364)

Additions to the pension trust funds and OPEB plan consist of member, employer, nonemployer, employer specific and other contributions, transfers, and earnings from investment activities. There was a decrease of \$1.3 billion or 8.7% in total additions mainly attributable to a decrease in net investment income of \$2.1 billion.

Member contributions increased by \$106.8 million mainly due to the annual rate increases for the Teachers' Pension and Annuity Fund (TPAF), Public Employees' Retirement System (PERS), and the Judicial Retirement System (JRS) as required in P.L. 2011, C. 78.

The State contributed \$3,280.9 million to the pension trust funds in State fiscal year 2019. It was composed of \$388.8 million of normal cost and \$2,892.1 million of accrued liability. The contributions were as follows: \$1,974.4 million to TPAF, \$860.3 million to PERS, \$321.2 million to the Police & Firemen's Retirement System (PFRS), \$29.0 million to JRS, and \$96.0 million to the State Police Retirement System (SPRS).

State NCGI contributions for the State fiscal year totaling \$85.9 million were as follows: \$41.1 million for TPAF, \$36.6 million for PERS, \$5.3 million for PFRS, \$0.7 million for JRS, and \$2.2 million for SPRS. Between State fiscal years 2018 and 2019, the State's contribution toward NCGI increased by \$10.8 million due to higher claims activity. State NCGI benefits are funded on a pay-as-you-go basis. The local contributions for PERS and PFRS are included in the annual billings to local employers.

Management's Discussion and Analysis
(Unaudited)
June 30, 2019

The annual local employer pension appropriation billings increased per the actuarial valuation as of July 1, 2017. For PERS, the amount accrued in State fiscal year 2018 for normal contribution, accrued liability, and NCGI was \$994.7 million and was due on April 1, 2019. For State fiscal year 2019, the total amount accrued was \$972.7 million and is due April 1, 2020. For PFRS, the total amount accrued in State fiscal year 2018 for normal contributions, accrued liability, and NCGI was \$977.7 million and was due April 1, 2019. For State fiscal year 2019, the total amount accrued was \$1,010.2 million and is due April 1, 2020.

For the OPEB plan, employer contributions decreased by \$84.5 million, which is primarily attributable to changes in the Medicare Advantage contract and favorable prescription drug experience. The pension trust funds and the OPEB plan earned net investment income of \$5.0 billion in fiscal year 2019, which is a decrease of \$2.1 billion from the prior year.

During fiscal year 2019, the Pension Funds returned 6.27%, with all asset classes realizing positive returns. The year was characterized by heightened volatility, as weakness during the first half was offset by strong returns during the last six months of the fiscal year.

Bond yields declined sharply in fiscal year 2019, following two consecutive years of negative returns for U.S. Treasuries. The Bloomberg Barclays U.S. Aggregate Bond Index had its strongest performance year since fiscal year 2010. In this environment, fixed income outperformed global equities.

Investment grade credit was the best performing asset class for the Pension Funds as credit spreads narrowed modestly. Private markets broadly outperformed, with strong returns in private equity and real estate. U.S. stocks led global equities as performance was bolstered by accommodative monetary policy, lower U.S. corporate tax rates, and capital inflows due to increased economic uncertainty abroad.

Notwithstanding favorable absolute returns in the domestic equity portfolio, relative performance was adversely impacted by a more value-oriented and small cap emphasis as growth-oriented and large cap equities outperformed.

Style diversification within the emerging market portfolio proved beneficial as value-oriented equities outperformed during the first half of the fiscal year and growth-oriented equities outperformed during the second half of the year.

Private equity continued to realize strong returns. Investment in non-core and opportunistic strategies and public real estate investment trusts (REITs) drove performance in the real estate portfolio.

Management's Discussion and Analysis
(Unaudited)
June 30, 2019

In reference to Schedule of Investment Returns – Annual Money-Weighted Rate of Return, Net of Investment Expense (see Required Supplementary Information Schedule 3), the State fiscal year 2019 rate was 6.17% compared to 9.11% in the prior year for JRS, SPRS, TPAF, PFRS, and PERS. It was based on Governmental Accounting Standards Board (GASB) Statement No. 67, *Financial Reporting for Pension Plans – an Amendment of GASB Statement No. 25* (GASB 67).

Deductions to the pension trust funds and OPEB plan are mainly comprised of pension benefit payments to retirees and beneficiaries, refunds of contributions to former members, transfers, and administrative costs incurred by the Funds to operate the pension trust funds and the OPEB plan. Also included are claim charges for the self-insured health and prescription drug benefit programs and premiums paid to the health insurance carriers for the insured plans. Between State fiscal years 2018 and 2019, benefit payments increased by \$441.7 million or 3.8% due to an increase in the number of retirees receiving retirement and other benefits.

The change in net position of \$1.7 billion was mainly attributable to the decrease in net investment income of \$2.1 billion and the increase in benefit expense of \$0.4 billion offset by the increase of \$0.8 billion in member, employer, and nonemployer contributions.

Investment Performance

The rates of return (i.e. investment performance, which includes income and changes in the fair value of investments) for JRS, Prison Officers' Pension Fund (POPF), SPRS, Consolidated Police and Firemen's Pension Fund (CPFPF), TPAF, PFRS, and PERS, collectively the Pension Funds, and various market indices are as follows:

Management's Discussion and Analysis (Unaudited) June 30, 2019

_	Year ended June 30	
	2019	2018
Risk Mitigation	5.04	5.04
T-Bill + 300 BP	5.39	4.44
Total Short Term and Cash ¹	3.11	1.81
91 Day Treasury Bill (Daily)	2.31	1.36
Governments	6.72	(0.77)
Custom Government Benchmark	7.24	(0.65)
Total Liquidity	4.35	0.26
Liquidity Benchmark	4.04	0.66
Investment Grade Credit	10.07	(0.68)
Custom Investment Grade Credit Benchmark	9.42	(0.73)
Public High Yield	6.75	2.78
Bloomberg Barclays Corp High Yield	7.48	2.62
Global Diversified Credit	5.79	9.46
Bloomberg Barclays Corp High Yield	7.48	2.62
Credit-Oriented Hedge Funds	(1.56)	6.88
50% HFRI DR 50% HFRI CA (1 month lag)	3.01	5.29
Debt Related Private Equity	2.61	14.97
Bloomberg Barclays Corp HY (Qtr lag) + 300 bps	9.12	6.93
Debt Related Real Estate	6.83	8.29
Bloomberg Barclays CMBS 2.0 Baa (Quarter lag) + 100bps	11.63	9.16
Total Income	7.35	4.07
Income Benchmark	8.41	2.01
Real Return Real Assets and Commodities	0.48	12.70
Custom Cambridge Real Asset Index	0.43	5.82
Equity Related Real Estate	8.69	12.59
Real Estate Index	6.55	7.11
Total Real Return	5.84	12.64
Real Return Benchmark	4.85	6.75
US Equity	7.85	12.78
S&P 1500 Super Composite (Daily)	9.32	14.50
Non-US Equity Developed Markets Equity	1.16	8.19
Custom International Developed Markets Benchmark ²	1.40	6.86
Emerging Markets Equity	2.38	5.40
Custom International Emerging Markets Benchmark ²	1.30	7.99

9

Management's Discussion and Analysis
(Unaudited)
June 30, 2019

	Year ended June 30		
	2019	2018	
Equity Oriented Hedge Funds	(2.63)	1.34	
50% HFRI EH 50% HFRI ED ACTIVIST (1 month lag)	(3.73)	5.93	
Buyouts-Venture Capital	10.03	17.94	
Custom Cambridge Blend	12.29	20.42	
Total Global Growth	6.27	11.56	
Global Growth Benchmark	7.28	13.14	
Opportunistic Investments	(3.90)	11.83	
Total Pension Funds	6.27	9.06	
Pension Fund Policy Index	7.07	8.65	

- 1 The cash aggregate comprises the Common Pension Funds D and E cash accounts, in addition to JRS, POPF, SPRS, CPFPF, TPAF, PFRS and PERS cash accounts.
- 2 Source: MSCI. The MSCI data is comprised of a custom index calculated by MSCI for, and as requested by the Division of Investment. These benchmarks exclude those securities deemed ineligible for investment under the State statutes governing investments in Iran, Sudan and companies that boycott Israel.

Overall Financial Condition of the Funds

Based on GASB 67 and actuaries' GASB 67 disclosures for State fiscal year 2019, for the defined benefit pension trust funds, the combined state and local ratios of plan fiduciary net position as a percentage of the total pension liability was 39.73% and the net pension liability as a percentage of covered payroll was 471.27%. For the prior year, the combined state and local ratios of plan fiduciary net position as a percentage of the total pension liability was 38.41% and the net pension liability as a percentage of covered payroll was 499.78%.

For the OPEB plan, total expenses incurred exceeded total revenues recognized by \$41.3 million, decreasing the surplus at the beginning of the year from \$314.5 million to \$273.2 million at year-end.

For the New Jersey State Employees Deferred Compensation Plan and the Supplemental Annuity Collective Trust, members are 100% vested in the present value of their contributions and the funds have sufficient assets to meet future benefit obligations.

Contacting System Financial Management

This financial report is designed to provide our members, beneficiaries, investors, and other interested parties with a general overview of the Funds' finances and to show the Funds' accountability for the money it receives. This report is available on the Division of Pensions and Benefits website at www.state.nj.us/treasury/pensions. If you have any questions about this report or need additional financial information, contact the Division of Pensions and Benefits, P.O. Box 295, Trenton, NJ 08625-0295.

Statement of Fiduciary Net Position Fiduciary Funds

June 30, 2019

		Pension est Funds and Other Postemployment Benefit Plan	Agency Funds
Assets:	Φ.	04.550.040	0.705.004
Cash and cash equivalents Receivables: Contributions:	\$	24,558,213	2,795,921
Members		226,790,649	_
Employers		2,335,248,718	102,629
Accrued interest and dividends		4,574,827	_
Other		35,108,165	44,812,231
Total receivables		2,601,722,359	44,914,860
Investments, at fair value: Cash Management Fund		1,638,049,338	52,790,746
Common Pension Fund D		52,293,222,131	_
Common Pension Fund E		24,952,938,876	_
Domestic equities Fixed income mutual funds		796,970,015 484,041,502	_
Equity mutual funds		3,452,128,926	_
Total investments		83,617,350,788	52,790,746
Securities lending collateral		1,009,702,674	_
Members' loans and mortgages		2,339,329,814	
Total assets		89,592,663,848	100,501,527
Liabilities:			
Accounts payable and accrued expenses		293,069,149	95,587,022
Retirement benefits payable		963,572,944	_
Noncontributory group life insurance premiums payable Administrative expense payable		15,712,054 6,773,517	_
Assets held for local contributing employers		0,773,317	1,990,368
Pension adjustment payroll payable		_	83,960
Due to State of New Jersey		_	2,715,502
Due to other funds		_	124,675
Securities lending collateral and rebates payable		1,008,482,091	
Total liabilities		2,287,609,755	100,501,527
Net position:			
Restricted for pension and other postemployment benefits	\$	87,305,054,093	

Combining Statement of Fiduciary Net Position
Fiduciary Funds – Pension Trust Funds and Other Postemployment Benefit Plan

June 30, 2019

Other

					efit Pension Plans				Defined Contribution	on Pension Plans	Postemployment Benefit Plan	
	Judicial Retirement System	Prison Officers' Pension Fund	State Police Retirement System	Consolidated Police and Firemen's Pension Fund	Teachers' Pension and Annuity Fund	Police and Firemen's Retirement System	Public Employees' Retirement System	Central Pension Fund	New Jersey State Employees Deferred Compensation Plan	Supplemental Annuity Collective Trust	State Health Benefits Local Government Retired Employees Plan	Total
Assets: Cash and cash equivalents	\$ 720,054	118,112	985,575	10,992	6,180,296	3,616,695	5,767,776	15,581	15,331	1,097,030	6,030,771	24,558,213
Receivables: Contributions: Members Employers Accrued interest and dividends Other	826,413 30,475 998 886,293	— — 54 32,292	2,314,582 151,066 3,964 98,472	— — 71 181,943	84,097,036 123,713,405 82,302 3,653,862	58,868,315 1,116,253,564 3,727,503 3,949,920	79,589,589 1,091,157,332 73,514 8,030,435	 	— — 513,661 30,000	446,276 — 172,737 —	648,438 3,942,876 — 18,244,948	226,790,649 2,335,248,718 4,574,827 35,108,165
Total receivables	1,744,179	32,346	2,568,084	182,014	211,546,605	1,182,799,302	1,178,850,870	23	543,661	619,013	22,836,262	2,601,722,359
Investments, at fair value: Cash Management Fund Common Pension Fund D Common Pension Fund E Domestic equities Fixed income mutual funds Equity mutual funds Total investments Securities lending collateral Members' loans and mortgages Total assets	9,966,380 101,650,624 48,506,951 — — — — — — — — — — — — — — — — — — —	4,847,579 — — — — — — — — — — — — — — — — — — —	40,048,799 1,188,543,171 567,135,128 — — — — — — — — — — — — — — — — — — —	1,287,986 ————————————————————————————————————	530,787,273 15,001,060,665 7,158,359,748 — — — — 22,690,207,686 289,647,691 270,804,824 23,468,387,102	304,621,976 16,929,310,898 8,078,001,134 — — — — — — — — 25,311,934,008 326,879,274 1,527,112,724 28,352,342,003	445,915,628 19,072,656,773 9,100,935,915 ————————————————————————————————————	25,840 — — — — — — — — — — — — — — 41,444	3,629,274 — — 568,508,741 484,041,502 3,452,128,926 4,508,308,443 — — 4,508,867,435	1,242,439 — — 228,461,274 — — 229,703,713 — — 231,419,756	295,676,164 ————————————————————————————————————	1,638,049,338 52,293,222,131 24,952,938,876 796,970,015 484,041,502 3,452,128,926 83,617,350,788 1,009,702,674 2,339,329,814 89,592,663,848
Liabilities: Accounts payable and accrued expenses Retirement benefits payable Noncontributory group life insurance premiums payable Administrative expense payable Securities lending collateral and rebates payable	46 4,962,702 30,475 71,518 1,960,347	814 70,742 — 549	171,006 18,580,605 100,081 358,621 22,921,221	93,442 ———————————————————————————————————	101,535,010 377,193,446 3,135,963 490,857 289,297,550	6,840,887 217,743,295 3,591,393 5,261,359 326,484,124	132,504,142 344,618,701 8,854,142 — 367,818,849	12,150 29,294 — —	984,207 — — — —	241,785 280,717 — —	50,779,102 — — — 590,613	293,069,149 963,572,944 15,712,054 6,773,517 1,008,482,091
Total liabilities	7,025,088	72,105	42,131,534	93,442	771,652,826	559,921,058	853,795,834	41,444	984,207	522,502	51,369,715	2,287,609,755
Net position: Restricted for pension and other postemployment benefits	\$157,864,193_	4,925,932	1,791,789,567	1,387,550	22,696,734,276	27,792,420,945	29,847,977,666		4,507,883,228	230,897,254	273,173,482	87,305,054,093

Statement of Changes in Fiduciary Net Position Fiduciary Funds

Year ended June 30, 2019

		Pension st Funds and Other Postemployment Benefit Plan
Additions: Contributions:		
Members Employers Nonemployer Employer specific and other	\$ 	2,449,311,731 3,545,865,979 2,194,331,868 16,398,082
Total contributions		8,205,907,660
Investment income: Net increase in fair value of investments Interest and Dividends		3,125,248,189 1,904,884,461 5,030,132,650
Less investment expense		20,829,179
Net investment income		5,009,303,471
Transfers		28,924,693
Total additions		13,244,135,824
Deductions: Benefits Refunds of contributions Transfer Administrative and miscellaneous expenses	_	12,044,481,718 204,000,194 29,714,557 53,093,287
Total deductions		12,331,289,756
Change in net position		912,846,068
Net position restricted for pension and other postemployment benefits: Beginning of year		86,392,208,025
End of year	\$	87,305,054,093

Combining Statement of Changes In Fiduciary Net Position Fiduciary Funds – Pension Trust Funds and Other Postemployment Benefit Plan

Year ended June 30, 2019

					real ended	June 30, 2019						
				Dofined Bo	nefit Pension Plans				Defined Contribut	ion Pansion Plans	Other Postemployment Benefit Plan	
	Judicial	Prison Officers'	State Police	Consolidated Police and Firemen's	Teachers' Pension and	Police and Firemen's	Public Employees'	Central	New Jersey State Employees Deferred	Supplemental Annuity	State Health Benefits Local Government	
	Retirement System	Pension Fund	Retirement System	Pension Fund	Annuity Fund	Retirement System	Retirement System	Pension Fund	Compensation Plan	Collective Trust	Retired Employees Plan	Total
Additions: Contributions:												
Members Employers Nonemployer	\$ 9,688,270 29,702,700 —		24,183,990 98,182,956 —	_ _ _	846,166,328 2,050,414 2,013,446,234	410,943,242 1,206,535,544 130,202,000	909,191,554 1,862,706,649 6,829,134	272,660 —	199,862,898 — —	6,025,497 — —	43,249,952 346,415,056 43,854,500	2,449,311,731 3,545,865,979 2,194,331,868
Employer specific and other		412,250		631,757	300,112	7,868,386	7,163,363	22,214				16,398,082
Total contributions	39,390,970	412,250	122,366,946	631,757	2,861,963,088	1,755,549,172	2,785,890,700	294,874	199,862,898	6,025,497	433,519,508	8,205,907,660
Investment income: Net increase in fair value of investments	5,975,125	_	13,926,924	_	857,404,310	950,672,825	1,074,808,322	_	214,829,470	7,631,213	_	3,125,248,189
Interest and Dividends	3,343,538	113,247	92,035,843	29,837	510,827,741	602,252,484	676,503,294	2,481	10,534,680	4,414,380	4,826,936	1,904,884,461
	9,318,663	113,247	105,962,767	29,837	1,368,232,051	1,552,925,309	1,751,311,616	2,481	225,364,150	12,045,593	4,826,936	5,030,132,650
Less investment expense	87,962	1,834	266,627	1,319	6,450,756	3,786,476	10,014,729		219,476			20,829,179
Net investment income	9,230,701	111,413	105,696,140	28,518	1,361,781,295	1,549,138,833	1,741,296,887	2,481	225,144,674	12,045,593	4,826,936	5,009,303,471
Transfers	1,310,118		110,843		15,148,965	3,765,634	8,589,133					28,924,693
Total additions	49,931,789	523,663	228,173,929	660,275	4,238,893,348	3,308,453,639	4,535,776,720	297,355	425,007,572	18,071,090	438,346,444	13,244,135,824
Deductions: Benefits	59,549,879	816,972	225,500,433	1,033,175	4,449,370,247	2,599,463,535	3,983,480,571	301,704	233,812,585	20,973,004	470,179,613	12,044,481,718
Refunds of contributions Transfers	41,727	, <u> </u>	181,797 150,677	, , , _	61,489,992 8,493,288	7,400,176 525,865	134,890,851 20,544,727	(4,349)	, , , _ 	, , , _	, , <u> </u>	204,000,194 29,714,557
Administrative and miscellaneous expenses	200,338	4,215	596,137	3,013	13,922,385	7,199,218	21,257,441		432,105		9,478,435	53,093,287
Total deductions	59,791,944	821,187	226,429,044	1,036,188	4,533,275,912	2,614,588,794	4,160,173,590	297,355	234,244,690	20,973,004	479,658,048	12,331,289,756
Change in net position	(9,860,155)	(297,524)	1,744,885	(375,913)	(294,382,564)	693,864,845	375,603,130	_	190,762,882	(2,901,914)	(41,311,604)	912,846,068
Net position restricted for pension and other postemployment benefits:												
Beginning of year	167,724,348	5,223,456	1,790,044,682	1,763,463	22,991,116,840	27,098,556,100	29,472,374,536		4,317,120,346	233,799,168	314,485,086	86,392,208,025
End of year	\$157,864,193	4,925,932	1,791,789,567	1,387,550	22,696,734,276	27,792,420,945	29,847,977,666	_	4,507,883,228	230,897,254	273,173,482	87,305,054,093

Notes to Financial Statements
June 30, 2019

(1) Description of the Plans

(a) Organization

The State of New Jersey, Division of Pensions and Benefits (the Division) was created and exists pursuant to N.J.S.A. 52:18A to oversee and administer the pension trust funds and the other postemployment benefit (OPEB) plan sponsored by the State of New Jersey (the State). The following is a list of the benefit plans, which have been included in the basic financial statements of the Division, collectively referred to as the Plans:

Plan Name	Type of Plan			
Defined benefit pension plans:				
Judicial Retirement System (JRS)	Single-employer			
Prison Officers' Pension Fund (POPF)	Single-employer			
State Police Retirement System (SPRS)	Single-employer			
Consolidated Police and Firemen's Pension Fund (CPFPF)	Cost-sharing multiple-employer with special funding situation			
Teachers' Pension and Annuity Fund (TPAF)	Cost-sharing multiple-employer with special funding situation			
Police and Firemen's Retirement System (PFRS)	Cost-sharing multiple-employer with special funding situation			
Public Employees' Retirement System (PERS)	Cost-sharing multiple-employer			
Central Pension Fund (CPF)	Single-employer			
Defined contribution pension plans:				
New Jersey State Employees Deferred Compensation Plan (NJSEDCP)	Single-employer			
Supplemental Annuity Collective Trust (SACT)	Multiple-employer			
Defined benefit other postemployment benefit plan:				
State Health Benefits Local Government Retired Employees Plan	Cost-sharing multiple-employer with special funding situation			

The Division oversees the following agency funds:

Agency Fund

Pension Adjustment Fund (PAF) Alternate Benefit Program (ABP) Dental Expense Program Fund (DEP)

Notes to Financial Statements
June 30, 2019

(b) Defined Benefit Pension Plans

Each defined benefit pension plan's designated purpose is to provide retirement, death, and disability benefits to its members. Below is a summary description of each defined benefit pension plan administered by the Division:

Plan	Established as of	Legislation	Membership
JRS	June 1, 1973	N.J.S.A. 43:6A	All members of the State Judiciary.
POPF*	January 1, 1941	N.J.S.A. 43:7	Various employees in the state penal institutions appointed prior to January 1, 1960.
SPRS	July 1, 1965	N.J.S.A. 53:5A	All uniformed officers and troopers of the Division of State Police.
CPFPF*	January 1, 1952	N.J.S.A. 43:16	County and municipal police and firemen appointed prior to July 1, 1944.
TPAF	January 1, 1955	N.J.S.A. 18A:66	Substantially all teachers or members of the professional staff certified by the State Board of Examiners and employees of the Department of Education, who have titles that are unclassified, professional and certified.
PFRS	July 1, 1944	N.J.S.A. 43:16A	Substantially all full-time county and municipal police or firemen and state firemen or officer employees with police powers appointed after June 30, 1944.
PERS	January 1, 1955	N.J.S.A. 43:15A	Substantially all full-time employees of the State of New Jersey or any county, municipality, school district or public agency, provided the employee is not required to be a member of another state-administered retirement system or other state pension fund or local jurisdiction's pension fund.
CPF*	Various	Various	The CPF is a "pay-as-you-go" benefit plan. The CPF's designated purpose is to provide retirement allow ances under the following series of noncontributory pension acts: Veterans Act Pensioners (N.J.S.A. 43:4-1 to 4-6); Health Pension Act (N.J.S.A. 43:5-1 to 5-4); Pension to Widows of Governors (N.J.S.A. 43:8-2); Disabled Veterans Pension, Surviving Spouse of Veterans (N.J.S.A. 38:18-1 to 18-2 and N.J.S.A. 38:18A-1) and Special Act (N.J.S.A. 43:5A to 5A-1).

^{*} Represents a closed plan.

Notes to Financial Statements

June 30, 2019

The authority to amend the provisions of the above plans rests with legislation passed by the State of New Jersey. Pension reforms enacted pursuant to P.L. 2011, C. 78 included provisions creating special Pension Plan Design Committees for JRS, SPRS, TPAF, PFRS, and PERS, once a Target Funded Ratio (TFR) is met. These Pension Plan Design Committees will have the discretionary authority to modify certain plan design features, including member contribution rate; formula for calculation of final compensation or final salary; fraction used to calculate a retirement allowance; age at which a member may be eligible and the benefits for service or early retirement; and benefits provided for disability retirement. The committees will also have the authority to reactivate the cost of living adjustment (COLA) on pensions. However, modifications can only be made to the extent that the resulting impact does not cause the funded ratio to drop below the TFR in any one year of a 30-year projection period.

Plan Membership and Contributing Employers

Membership and contributing employers of the defined benefit pension plans consisted of the following at June 30, 2019:

	JRS	POPF	SPRS	CPFPF	TPAF*	PFRS	PERS	CPF
Inactive plan members or beneficiaries currently receiving benefits Inactive plan members entitled to but not yet	614	71	3,404	62	104,703	44,567	178,748	16
receiving benefits	4	_	_	_	219	42	609	_
Active plan members	453		2,713		155,496	42,295	252,598	
Total	1,071	71	6,117	62	260,418	86,904	431,955	16
Contributing employers	1	1	1	28	24	584	1,697	1
Contributing nonemployers	_	_	_	1	1	1	1	_

^{*} In addition to the State, who is the sole payer of regular employer contributions to the fund, TPAF's contributing employers include boards of education, who elected to participate in the Early Retirement Incentive Program and continue to pay towards their incurred liability.

Notes to Financial Statements
June 30, 2019

Pension Plans' Boards and Composition

The table below represents the composition and source of selection for the Plan's boards:

	SPRS	TPAF	PFRS	PERS
Appointments by:				
Governor	2	2	5	2
Treasurer	1	1	1	1
Superintendent of the				
State Police	2	_	_	_
Elected by Board or Members		4	5	6
Total	5	7	11	9

POPF, CPFPF and CPF are managed by the Division. General responsibility for JRS is vested with the State House Commission.

Contribution Requirements and Benefit Provisions

Significant Legislation

The State Legislature adopted L. 2018, c. 55 in July 2018, which transferred management of PFRS from the New Jersey Department of the Treasury, Division of Pensions and Benefits to a newly constituted twelve-member PFRS Board of Trustees. The new PFRS Board, which was established in February 2019 per the legislation, has more powers and authority as compared to the former PFRS Board of Trustees. In addition to overseeing the management of PFRS, the new PFRS Board will also have the authority to direct investment decisions, to adjust current benefit levels and to change member and employer contribution rates. With regard to changes to current benefit provisions, such changes can only be made with the approval of a supermajority of eight (8) of the twelve (12) members of the new PFRS Board. Also, benefit enhancement can only be made if an independent actuary certifies that the benefit enhancements will not jeopardize the long-term viability of PFRS. Under prior law, benefit enhancements, including the reinstatement of COLA for retirees, could only be considered when the funded level of the pension fund reaches 80%. An actuarial certification was also required that the funded levels would remain at or above 80% over a 30-year period following the benefit enhancement.

In accordance with L. 2018, c. 55, the new PFRS Board will also have the authority to formulate investment policies and direct the investment activities of the assets of the PFRS. The PFRS Board has proposed regulations for adoption governing the methods, practices, and procedures for investment or reinvestments of money of PFRS.

P.L. 2009, C. 19, effective March 17, 2009, provided an option for local employers of PFRS and PERS to contribute 50% of the normal and accrued liability contribution amounts certified for payments due in State fiscal year 2009. Such an employer will be credited with the full payment and any such amounts will not be included in their unfunded liability. The actuaries will determine the unfunded liability of those retirement systems, by employer, for the reduced normal and accrued liability contributions provided under this law. This unfunded liability is paid by the employer in level annual payments over a period of 15 years beginning

Notes to Financial Statements
June 30, 2019

with fiscal year ended June 30, 2012 and will be adjusted by the rate of return on the actuarial value of assets.

Pursuant to the provisions of P.L. 2011, C. 78, COLA increases were suspended for all current and future retirees of all retirement systems.

In accordance with the Lottery Enterprise Contribution Act, L. 2018, c. 98 (LECA), the net proceeds from the New Jersey State Lottery are contributed to the TPAF, PFRS, and PERS beginning in State fiscal year 2018. For the purpose of depositing the lottery contribution made to the eligible pension plans, LECA established Common Pension Fund L within the Division of Investment. The net lottery proceeds are contributed to the respective pension plans based upon percentages detailed in LECA on a periodic basis through Common Pension Fund L. The Common Pension Fund L investment account is managed and invested by the Director of the Division of Investment, subject to the oversight of the State Investment Council. The Director of the Division of Investment has full discretion to distribute proceeds and all investments thereof and investment earnings thereon from the investment account into investment vehicles managed by the Division of Investment on behalf of the retirement systems. During fiscal year 2019, \$1.105 billion was contributed to Common Pension Fund L and has been included as employer contributions in TPAF, PFRS, and PERS in the accompanying financial statements.

The following are specific contribution requirements and benefit provisions related to each defined benefit plan:

JRS

The contribution policy is set by N.J.S.A. 43:6A and requires contributions by active members and the State of New Jersey. Members enrolled on January 1, 1996 or after, contribute on their entire base salary. Contributions by active members enrolled prior to January 1, 1996 are based on the difference between their current salary and the salary of the position on January 18, 1982. Pursuant to the provisions of P.L. 2011, C. 78, the member contribution rate was 12% in State fiscal year 2019. The State's contribution is based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 43:6A. JRS provides retirement benefits as well as death and disability benefits. Retirement is mandatory at age 70. Service retirement benefits are available to members who have reached certain ages and various years of service. Benefits of 75% of final salary are available to members at age 70 with 10 years or more of judicial service; members between ages 65-69 with 15 years or more of judicial service or between ages 60-64 with 20 years or more of judicial service. Benefits of 50% of final salary are available to those with both judicial service and non-judicial service for which five or more consecutive years are judicial service. These benefits are available at age 65 or older with 15 years or more of aggregate service or age 60 or older with 20 years or more of aggregate service. Benefits of 2% of final salary for each year of public service up to 25 years plus 1% of final salary for each year in excess of 25 years are available at age 60 with five consecutive years of judicial service plus 15 years in the aggregate of public service or at age 60 while serving as a judge.

Early retirement benefits of 2% of final salary for each year of service up to 25 years and 1% of final salary for each year over 25 years is available to members who retire before age 60, have 5 or more consecutive years of judicial service, and 25 years or more in aggregate public service. The amount of benefits is actuarially reduced for the number of months remaining until the member reaches age 60.

Notes to Financial Statements
June 30, 2019

POPF

There are no active members in POPF. Additionally, based on the recent actuarial valuation, there was no normal cost or unfunded accrued liability contribution required by the State for the fiscal year ended June 30, 2019. The vesting and benefit provisions were set by N.J.S.A. 43:7.

SPRS

The contribution policy is set by N.J.S.A. 53:5A and requires contributions by active members and the State of New Jersey. Pursuant to the provisions of P.L. 2011, C. 78, the active member contribution rate was 9% in State fiscal year 2019. The State's contribution is based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 53:5A. SPRS provides retirement benefits as well as death and disability benefits. All benefits vest after ten years of service, and members are always fully vested in their contributions. Mandatory retirement is at age 55. Voluntary retirement is prior to age 55 with 20 years of credited service. The benefit is an annual retirement allowance equal to the greater of (a), (b), or (c), as follows: (a) 50% of final compensation; (b) for members retiring with 25 years or more of service, 65% of final compensation, plus 1% for each year of service in excess of 25 years, to a maximum of 70% of final compensation; or (c) for members as of August 29, 1985 who would not have 20 years of service by age 55, benefit as defined in (a) above. For members as of August 29, 1985, who would have 20 years of service, but would not have 25 years of service at age 55, benefit is as defined in (a) above plus 3% for each year of service.

CPFPF

There are no active members in CPFPF. Additionally, based on the recent actuarial valuation, the State made no contribution towards the normal cost or unfunded accrued liability during the fiscal year ended June 30, 2019. The vesting and benefit provisions were set by N.J.S.A. 43:16.

TPAF

The contribution policy is set by N.J.S.A. 18A:66 and requires contributions by active members and contributing employers. Pursuant to the provisions of P.L. 2011, C. 78, the member contribution rate was 7.50% in State fiscal year 2019. The State's contribution is based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 18A:66. TPAF provides retirement, death, and disability benefits. All benefits vest after ten years of service. Members are always fully vested for their own contributions and, after three years of service credit, become vested for 2% of related interest earned on the contributions. In the case of death before retirement, members' beneficiaries are entitled to full interest credited to the members' accounts.

Notes to Financial Statements
June 30, 2019

The following represents the membership tiers for TPAF:

Tier	Definition
1	Members who were enrolled prior to July 1, 2007
2	Members who were eligible to enroll on or after July 1, 2007 and prior to November 2, 2008
3	Members who were eligible to enroll on or after November 2, 2008 and prior to May 22, 2010
4	Members who were eligible to enroll on or after May 22, 2010 and prior to June 28, 2011
5	Members who were eligible to enroll on or after June 28, 2011

Service retirement benefits of 1/55th of final average salary for each year of service credit is available to tiers 1 and 2 members upon reaching age 60 and to tier 3 members upon reaching age 62. Service retirement benefits of 1/60th of final average salary for each year of service credit is available to tier 4 members upon reaching age 62 and tier 5 members upon reaching age 65. Early retirement benefits are available to tiers 1 and 2 members before reaching age 60, tiers 3 and 4 with 25 years or more of service credit before age 62, and tier 5 before age 65 with 30 years or more of service credit. Benefits are reduced by a fraction of a percent for each month that a member retires prior to the retirement age for his/her respective tier. Deferred retirement is available to members who have at least 10 years of service credit and have not reached the service retirement age for the respective tier.

PFRS

The contribution policy is set by N.J.S.A. 43:16A and requires contributions by active members and contributing employers. Pursuant to the provisions of P.L. 2011, C. 78, the active member contribution rate was 10.0% in State fiscal year 2019. Employers' contributions are based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 43:16A. PFRS provides retirement as well as death and disability benefits. All benefits vest after ten years of service, except disability benefits, which vest after four years of service.

The following represents the membership tiers for PFRS:

Tier	<u>Definition</u>
1	Members who were enrolled prior to May 22, 2010
2	Members who were eligible to enroll on or after May 22, 2010 and prior to June 28, 2011
3	Members who were eligible to enroll on or after June 28, 2011

Service retirement benefits are available at age 55 and are generally determined to be 2% of final compensation for each year of creditable service up to 30 years plus 1% for each year of service in excess of 30 years. Members may seek special retirement after achieving 25 years of creditable service, in which benefits would equal 65% (tiers 1 and 2 members) and 60% (tier 3 members) of final compensation plus 1% for each year of creditable service over 25 years, but not to exceed 30 years. Members may elect deferred retirement benefits after achieving ten years of service, in which case benefits would begin at age 55 equal to 2% of final compensation for each year of service.

21

Notes to Financial Statements
June 30, 2019

PERS

The contribution policy is set by N.J.S.A. 43:15A and requires contributions by active members and contributing employers. Pursuant to the provisions of P.L. 2011, C. 78, the member contribution rate was 7.50% in State fiscal year 2019. The rate for members who are eligible for the Prosecutors Part of PERS (P.L. 2001, C. 366) was 10.0% in State fiscal year 2019. Employers' contributions are based on an actuarially determined amount, which includes the normal cost and unfunded accrued liability.

The vesting and benefit provisions are set by N.J.S.A. 43:15A. PERS provides retirement, death, and disability benefits. All benefits vest after ten years of service.

The following represents the membership tiers for PERS:

Tier	Definition
1	Members who were enrolled prior to July 1, 2007
2	Members who were eligible to enroll on or after July 1, 2007 and prior to November 2, 2008
3	Members who were eligible to enroll on or after November 2, 2008 and prior to May 22, 2010
4	Members who were eligible to enroll on or after May 22, 2010 and prior to June 28, 2011
5	Members who were eligible to enroll on or after June 28, 2011

Service retirement benefits of 1/55th of final average salary for each year of service credit is available to tiers 1 and 2 members upon reaching age 60 and to tier 3 members upon reaching age 62. Service retirement benefits of 1/60th of final average salary for each year of service credit is available to tier 4 members upon reaching age 62 and tier 5 members upon reaching age 65. Early retirement benefits are available to tiers 1 and 2 members before reaching age 60, tiers 3 and 4 with 25 years or more of service credit before age 62, and tier 5 with 30 years or more of service credit before age 65. Benefits are reduced by a fraction of a percent for each month that a member retires prior to the age at which a member can receive full early retirement benefits in accordance with their respective tier. Tier 1 members can receive an unreduced benefit from age 55 to age 60 if they have at least 25 years of service. Deferred retirement is available to members who have at least 10 years of service credit and have not reached the service retirement age for the respective tier.

CPF

The State of New Jersey makes an annual appropriation payment to CPF to pay current year benefits. The contribution requirements were established by the statutes mentioned in the previous table and are not actuarially determined.

Benefits are payable under various State of New Jersey legislation in an amount equal to one-half of the compensation received by the participant for his/her service.

Notes to Financial Statements
June 30, 2019

(c) Defined Contribution Pension Plans

The Division administers the following defined contribution plans to certain members as further discussed below:

Plan	Established as of	Legislation	Membership
NJSEDCP	June 19, 1978	Chapter 39, P.L. 1978, amended by Chapter 449, P.L. 1985, effective January 14, 1986, and further amended by Chapter 116, P.L. 1997, effective June 6, 1997	Any state employee w ho is a member of a state-administered retirement system or an employee of an eligible state agency, authority, commission or instrumentality of state government provided the employee has at least 12 continuous months of employment, and any individual employed through a Governor's appointment.
SACT	1963	Chapter 123, P.L. 1963, amended by Chapter 90, P.L. 1965	Active members of several state-administered retirement systems to provide specific benefits to supplement the guaranteed benefits that are provided by their basic retirement system.

Plan Membership

At June 30, 2019, membership in the defined contribution pension plans consisted of the following:

Plan	Members
NJSEDCP	56,299
SACT	2,971

Contribution Requirements and Benefit Provisions

NJSEDCP

Participants may defer between 1% and 100% of their salary, less any Internal Revenue Code (IRC) Section 414(h) reductions, or \$19,000 annually. Under the limited "catch-up" provision, a participant may be eligible to defer up to a maximum of twice the annual maximum in the three years immediately preceding the retirement age at which no reduction in benefits would be applicable.

There are no employer or nonemployer entities that are required to contribute to the plan.

Assets in the plan are held in trust for the exclusive benefit of plan members and their beneficiaries in accordance with Governmental Accounting Standards Board (GASB) Statement No. 32, Accounting and Financial Reporting for Internal Revenue Code Section 457 Deferred Compensation Plans. Plan members are fully vested for the current valuation of their account from the date of enrollment in the plan. Benefits are payable upon separation from service with the State of New Jersey.

Notes to Financial Statements
June 30, 2019

SACT

Participants contribute through payroll deductions and may contribute from 1% to 100% of their base salary. Contributions are voluntary and may be suspended at the beginning of any quarter. Contributions under the Tax Sheltered Supplemental Annuity Plan are subject to Federal law limitations and qualify for tax-sheltered treatment permitted under Section 403(b) of the IRC. Participants are always fully vested for the accumulated units in their accounts.

Upon retirement, a participant receives a life annuity benefit or may elect to receive a benefit paid as a single cash payment or various forms of monthly annuity payments with a beneficiary provision based on the value of the participant's account in the month of retirement. Upon the death of a participant, the designated beneficiary may elect to receive a lump sum equal to the account value or an annuity under any of the settlement options, which a retiree could elect under SACT. Upon termination of employment and withdrawal from the basic retirement systems, a participant must also withdraw his/her account under SACT as a lump-sum settlement.

(d) Other Postemployment Benefit Plan

The Division administers the State Health Benefits Local Government Retired Employees plan. The plan was established in 1961 under Title 52 Article 14 – 17.25 et. seq. and offers medical and prescription coverage to qualified local government public retirees and their spouses. Local employers must adopt a resolution to participate. The OPEB plan is overseen by the State Health Benefits Commission (the Commission), which was established by NJSA 52:14-17.27. The Commission reviews any member appeals related to member eligibility, benefit or claim denial, and benefit payments for the medical and prescription drug claims. They also have contracting authority for vendors to administer the medical and prescription drug programs as well as the health benefit consultant and actuary. Further, they approve the premiums for the various plans on an annual basis. The Commission is comprised of one representative each from the Office of the Treasurer, Department of Banking and Insurance, Civil Service Commission, State Employee Union, and Local Employee Union.

Notes to Financial Statements
June 30, 2019

Plan Membership and Contributing Employers

Membership and contributing employers/nonemployers of the defined benefit OPEB plan consisted of the following at June 30, 2019:

Inactive plan members or beneficiaries currently receiving benefits	27,871
Inactive plan members entitled to but not yet receiving benefits	_
Active plan members	63,032
Total	90,903
Contributing employers	590
Contributing nonemployers	1

Contribution Requirements and Benefit Provisions

The funding policy for the OPEB plan is pay-as-you-go; therefore, there is no prefunding of the liability. However, due to premium rates being set prior to each calendar year, there is a minimal amount of net position available to cover benefits in future years. Contributions to pay for the health benefit premiums of participating employees in the OPEB plan are collected from the State of New Jersey, participating local employers, and retired members. The State of New Jersey makes contributions to cover those employees eligible under P.L. 1997, C. 330 as disclosed below. Local employers remit employer contributions on a monthly basis. Retired member contributions are generally received on a monthly basis.

The employers participating in the OPEB plan made a contribution of \$346.4 million and the State of New Jersey, as the nonemployer contributing entity, contributed \$43.9 million for fiscal year 2019.

Pursuant to P.L, 2011, C. 78, future retirees eligible for postretirement medical coverage who have less than 20 years of creditable service on June 28, 2011 will be required to pay a percentage of the cost of their health care coverage in retirement provided they retire with 25 or more years of pension service credit. The percentage of the premium for which the retiree will be responsible will be determined based on the retiree's annual retirement benefit and level of coverage.

The State provides partially funded benefits to certain local police officers and firefighters who retire with 25 years of service or on disability from an employer who does not provide coverage under the provisions of P.L. 1997, C. 330. To be eligible for Chapter 330 postretirement medical benefits, the employee must have retired from an employer who does not provide any payment toward health insurance at retirement.

Notes to Financial Statements
June 30, 2019

(e) Agency Funds

The Division oversees PAF, ABP and DEP as agency funds. For PAF, the Division utilizes the annual appropriation payment from the State to pay COLA benefits to retirees and beneficiaries of POPF, CPFPF and CPF. For ABP, the Division collects from the State, the contributions related to the employer portion of the plan and remits it to the pension providers (insurance and mutual fund companies) on behalf of the participating employees at the State and county colleges. For DEP, the Division receives employer contributions from the State and local employers and from active and retired employees to pay premiums to the plan.

(2) Summary of Significant Accounting Policies

(a) Reporting Entity

The financial statements include all funds, which are administered by the Division over which operating controls are with the individual Plan's governing Boards and/or the State of New Jersey. The financial statements of the Plans and the agency funds are included in the financial statements of the State of New Jersey; however, the accompanying financial statements are intended to present solely the funds listed above, which are administered by the Division and not the State of New Jersey as a whole.

(b) Measurement Focus and Basis of Accounting

The accompanying financial statements were prepared in accordance with U.S. generally accepted accounting principles as applicable to governmental organizations. In doing so, the Division adheres to reporting requirements established by GASB.

The accrual basis of accounting is used for measuring financial position and changes in net position of the pension trust funds, other postemployment benefit plan, and agency funds. Under this method, contributions are recorded in the accounting period in which they are legally due from the employer or plan member, and deductions are recorded at the time the liabilities are due and payable in accordance with the terms of each plan. The accounts of the Division are organized and operated on the basis of funds. All funds are accounted for using an economic resources measurement focus.

Fiduciary Funds

The Division reports the following types of funds:

Pension trust funds and other postemployment benefit plan – Account for monies received for, expenses incurred by and the net position available for plan benefits of the various public employee retirement systems and an OPEB plan. The pension trust funds include JRS, POPF, SPRS, CPFPF, TPAF, PFRS, PERS, CPF, NJSEDCP, and SACT.

Agency funds – Agency funds are used to account for the assets that the Division holds on behalf of others as their agent. Agency funds are custodial in nature and do not involve measurement of results of operations.

Notes to Financial Statements
June 30, 2019

(c) Receivables

Receivables consist primarily of member and employer contributions and other amounts that are legally required to be due to the Plans.

(d) Capital Assets

Capital assets utilized by the Division include equipment, which is owned and paid for by the State of New Jersey.

(e) Investments

The Division of Investment, Department of the Treasury, State of New Jersey (Division of Investment) manages and invests certain assets of seven of the defined benefit pension plans (JRS, POPF, SPRS, CPFPF, TPAF, PFRS and PERS) and two defined contribution pension plans (SACT and certain accounts in NJSEDCP). Accounts managed by the Division of Investment included in the accompanying statement of fiduciary net position are: Common Pension Fund D and Common Pension Fund E (collectively known as the Common Pension Funds), SACT and certain accounts in NJSEDCP. Common Pension Fund D invests primarily in global equity and fixed income securities. Common Pension Fund E invests primarily in global diversified credit funds and alternative investments, which includes private equity, real estate, real asset, and absolute return strategy funds.

In addition, the Division of Investment manages the State of New Jersey Cash Management Fund (CMF), which is available on a voluntary basis for investment by State and certain non-State participants. CMF is considered to be an investment trust fund as defined in GASB Statement No. 31, *Certain Investments and External Investment Pools*. Units of ownership in CMF may be purchased or redeemed on any given business day (excluding State holidays) at the unit cost or value of \$1.00. Participant shares are valued on a fair value basis. For additional information about CMF, refer to the audited financial statements, which can be obtained at http://www.state.nj.us/treasury/doinvest/cmf/ FinancialStatementsFiscal2019.pdf.

Prudential Retirement is the third-party administrator for the NJSEDCP. Prudential Retirement provides recordkeeping, administrative services and access to 22 investment options through a combination of their separate account product offerings and retail branded mutual funds. The four state-managed investments options (NJSEDCP Fixed Income Fund, NJSEDCP Equity Fund, NJSEDCP Small Capitalization Equity Fund, and NJSEDCP Cash Management Fund) were closed to new contributions on December 31, 2005. On August 1, 2014, the NJSEDCP Fixed Income Fund and the NJSEDCP Cash Management Fund were closed. On December 15, 2014, the NJSEDCP Equity Fund and the NJSEDCP Small Capitalization Fund were opened to new contributions. The Board of the NJSEDCP is the fiduciary for the investments of the Plan. The Division of Pensions and Benefits maintains its administrative oversight functions for the Plan.

Investment transactions are accounted for on a trade or investment date basis. Interest and dividend income is recorded on the accrual basis, with dividends accruing on the ex-dividend date. The net increase in the fair value of investments includes the net realized and unrealized gains or losses on investments.

(f) Members' Loans

Members of JRS, SPRS, TPAF, PFRS, and PERS who have at least three years of service in these plans may borrow up to 50% of their accumulated member contributions. Repayment of loan balances is deducted from payroll checks and bears a commercially reasonable interest rate as set by the State

Notes to Financial Statements
June 30, 2019

Treasurer. For 2019, the interest rate was 7.75%. There was a \$15 processing fee per loan. Members who retire with an outstanding loan have the option of paying the loan in full prior to receiving any benefits or continuing their monthly loan payment schedule into retirement.

(g) Administrative Expenses

Administrative expenses are paid by the plans to the State of New Jersey, Department of the Treasury and are included in the accompanying financial statements.

In certain funds (JRS, SPRS, TPAF, PFRS and PERS) miscellaneous expenses and reimbursements from the fund that comprise various adjustments to member and employer accounts are incorporated into the administrative expense amounts included in the accompanying financial statements.

(h) Income Tax Status

Based on Internal Revenue Service (IRS) determination letters received in January 2012 for JRS, POPF, SPRS, TPAF, and PERS and in June 2012 for CPFPF and PFRS, the seven pension funds comply with the qualification requirements of the Internal Revenue Code (IRC).

NJSEDCP and SACT are eligible plans as described in Section 457 and Section 401(a) of the IRC, respectively.

(i) Commitments

Common Pension Fund E is obligated, under certain private equity, real estate, real asset, absolute return strategy, and global diversified credit fund agreements to make additional capital contributions up to contractual levels over the investment period specified for each investment. As of June 30, 2019, Common Pension Fund E had unfunded commitments totaling approximately \$10.1 billion.

(i) Use of Estimates

The preparation of financial statements in conformity with U.S. generally accepted accounting principles requires management to make significant estimates and assumptions that affect the reported amounts of assets and liabilities and disclosures of contingent assets and liabilities at the date of the financial statements, as well as the reported amounts of revenue and expenses during the reporting period. Actual results could differ from those estimates.

Notes to Financial Statements
June 30, 2019

(3) Employers' Net Pension Liability (Asset) - Defined Benefit Plans

Components of Net Pension Liability (Asset)

The components of the net pension liability (asset) of the participating employers for the defined benefit plans at June 30, 2019 are as follows:

	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS
Total pension liability Plan fiduciary net	\$ 1,110,222,40	06 4,725,031	4,619,851,586	4,291,213	84,215,846,719	46,164,302,326	71,004,230,141
position Net pension	157,864,19	93 4,925,932	1,791,789,567	1,387,550	22,696,734,276	27,792,420,945	29,847,977,666
liability (asset)	\$ 952,358,2	(200,901)	2,828,062,019	2,903,663	61,519,112,443	18,371,881,381	41,156,252,475
Plan fiduciary net position as a percentage of the total pension liability	14.22%	104.25%	38.78%	32.33%	26.95%	60.20%	42.04%

The total pension liability was determined by actuarial valuations as of July 1, 2018, which was rolled forward to June 30, 2019, using the following actuarial assumptions, applied to all periods in the measurement:

	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS
Inflation rate:							
Price	2.75%	N/A	2.75%	N/A	2.75%	2.75%	2.75%
Wage	3.25%	N/A	3.25%	N/A	3.25%	3.25%	3.25%
Salary increases:							
Initial fiscal year applied							
through	2025	NΑ	2025	N/A	2026	All future years	2026
	.,				1.55% - 4.45%	3.25 - 15.25%	2.00 - 6.00%
Rate	Varies	N/A	2.95%	N/A	based on years	based on years	based on years
	through 2025				of service	of service	of service
					2.75% - 5.65%		3.00 - 7.00%
Thereafter	2.75%	N/A	3.95%	N/A	based on years	Not Applicable	based on years
					of service		of service
Long-term expected rate of return	7.00%	2.00%	7.00%	2.00%	7.00%	7.00%	7.00%
Period of actuarial experience	July 1, 2014 -	NΑ	July 1, 2014 -	N/A	July 1, 2015 -	July 1, 2013 -	July 1, 2014 -
study upon w hich actuarial assumptions w ere based	June 30, 2018		June 30, 2018		June 30, 2018	June 30, 2018	June 30, 2018

N/A - This is a closed plan, therefore there are no active employees.

Notes to Financial Statements
June 30, 2019

The following table represents the mortality table and improvement assumptions used:

Plan	Pre-retirement mortality	Post-retirement mortality	Disability
JRS	The Pub-2010 Teachers Above-Median Income Employee mortality table, unadjusted, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 Teachers Above-Median Income Employee mortality table, unadjusted, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 Non-Safety Disabled Retiree mortality table, unadjusted, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.
POPF	Not applicable as there are no active members.	Pub-2010 Safety Healthy Retiree mortality tables for healthy retirees and PUB-2010 General Healthy Retiree mortality tables for beneficiaries, with future improvements from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	PUB-2010 Safety Disabled Retiree mortality tables with future improvements from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.
SPRS	The Pub-2010 Public Safety Above-Median Income Employee mortality table, unadjusted, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 Public Safety Above-Median Income Healthy Retiree mortality table for healthy retirees (Healthy Annuitants) and PUB-2010 General Above-Median Income Healthy Retiree mortality table for beneficiaries (Contingent annuitants), unadjusted, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 Public Safety Disabled Retiree mortality table, unadjusted, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.
CPFPF	Not applicable as there are no active members.	Pub-2010 Safety Healthy Retiree mortality tables for healthy retirees and PUB-2010 General Healthy Retiree mortality tables for beneficiaries, with future improvements from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	Not applicable as there are no disabled members.

Notes to Financial Statements June 30, 2019

Plan	Pre-retirement mortality	Post-retirement mortality	Disability
TPAF	The Pub-2010 Teachers Above-Median Income Employee mortality table with a 93.9% adjustment for males and 85.3% adjustment for females, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 Teachers Above-Median Income Healthy Retiree mortality table with a 114.7% adjustment for males and 99.6% adjustment for females, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 Non-Safety Disabled Retiree mortality table with a 106.3% adjustment for males and 100.3% adjustment for females, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.
PFRS	The Pub-2010 Safety Employee mortality table with a 105.6% adjustment for males and 102.5% adjustment for females, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 Safety Retiree Below-Median Income Weighted mortality table with a 96.7% adjustment for males and 96.0% adjustment for females, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019. Beneficiaries (Contingent Annuitants): The Pub-2010 General Retiree Below-Median Income Weighted mortality table, unadjusted, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 Safety Disabled Retiree mortality table with a 152.0% adjustment for males and 109.3% adjustment for females, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.
PERS	The Pub-2010 General Below-Median Income Employee mortality table with a 82.2% adjustment for males and 101.4% adjustment for females, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 General Below-Median Income Healthy Retiree mortality table with a 91.4% adjustment for males and 99.7% adjustment for females, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.	The Pub-2010 Non-Safety Disabled Retiree mortality table with a 127.7% adjustment for males and 117.2% adjustment for females, and with future improvement from the base year of 2010 on a generational basis. Mortality improvement is based on Scale MP-2019.

Notes to Financial Statements
June 30, 2019

Long-Term Expected Rate of Return

The long-term expected rate of return on pension plan investments was determined using a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plans' investment expense 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 future real rates of return by the target asset allocation percentage and by adding expected inflation. Best estimates of arithmetic real rates of return for each major asset class included in the pension plans' target asset allocation as of June 30, 2019 are summarized in the following table:

	JRS, SPRS, TPAF, PFRS	POPF &
Asset Class	and PERS	CPFPF
Risk Mitigation Strategies	4.67%	_
Cash Equivalents	2.00%	2.00%
U.S. Treasuries	2.68%	
Investment Grade Credit	4.25%	
High Yield	5.37%	_
Private Credit	7.92%	
Real Assets	9.31%	_ _ _
Real Estate	8.33%	
US Equity	8.26%	
Non-U.S. Developed Markets Equity	9.00%	
Emerging Markets Equity	11.37%	
Private Equity	10.85%	_

Discount Rate

The discount rates used to measure the total pension liabilities of the plans were as follows:

Plan	Discount Rate
JRS	4.07%
POPF	3.50%
SPRS	5.51%
CPFPF	3.50%
TPAF	5.60%
PFRS	6.85%
PERS	6.28%

Notes to Financial Statements
June 30, 2019

The following table represents the crossover period, if applicable, for each defined benefit plan:

	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS
Period of projected benefit payments for which the following rates were applied: Long-term expected	Through	Not	Through	Not	Through	Through	Through
rate of return	June 30, 2030	applicable	June 30, 2051	applicable	June 30, 2054	June 30, 2076	June 30, 2057
Municipal Bond rate*	From July 1, 2030 and thereafter	All periods	From July 1, 2051 and thereafter	All periods	From July 1, 2054 and thereafter	From July 1, 2076 and thereafter	From July 1, 2057 and thereafter

^{*} The municipal bond return rate used is 3.50%. The source is the Bond Buyer Go 20-Bond Municipal Bond Index, which includes tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher.

Sensitivity of Net Pension Liability

The following presents the net pension liability of each plan calculated using the discount rates as disclosed above as well as what each plan's net pension liability (asset) would be if it were calculated using a discount rate that is 1-percentage point lower or 1-percentage-point higher than the current rate:

Pension Plan (rates used)	<u> </u>	At 1% decrease	At current discount rate	At 1% increase
JRS (3.07%, 4.07%, 5.07%)	\$	1,079,043,478	952,358,213	845,620,938
POPF (2.50%, 3.50%, 4.50%)		32,390	(200,901)	(412,014)
SPRS (4.51%, 5.51%, 6.51%)		3,485,236,159	2,828,062,019	2,296,038,312
CPFPF (2.50%, 3.50%, 4.50%)		3,086,213	2,903,663	2,737,893
TPAF (4.60%, 5.60%, 6.60%)		72,544,649,801	61,519,112,443	52,371,397,951
PFRS (5.85%, 6.85%, 7.85%)		24,067,316,615	18,371,881,381	13,658,537,725
PERS (5.28%, 6.28%, 7.28%)		49,394,327,441	41,156,252,475	34,222,574,208

Notes to Financial Statements
June 30, 2019

(4) Employers' Net Pension Liability - Defined Benefit Plans - OPEB

Components of Net OPEB Liability - OPEB Plan

The components of the net OPEB liability of the participating employers for the OPEB plan at June 30, 2019 are as follows:

 Total OPEB liability
 \$ 13,819,244,582

 Plan fiduciary net position
 273,173,482

 Net OPEB liability
 \$ 13,546,071,100

Plan fiduciary net position as a percentage of the total OPEB liability

The total OPEB liability was determined by an actuarial valuation as of July 1, 2018, which was rolled forward to June 30, 2019 using the following actuarial assumptions, applied to all periods in the measurement:

Inflation rate 2.50%

Salary increases*

PERS

Initial fiscal year applied through
Rate
Rate thereafter

PFRS

2026
2.00% to 6.00%
3.00% to 7.00%

Rate for all future years 3.25% to 15.25%

Mortality PERS

Pub-2010 General classification headcount w eighted mortality with fully

generational mortality improvement projections from the central year

using Scale MP-2019

PFRS Pub-2010 Safety classification headcount w eighted mortality w ith fully

generational mortality improvement projections from the central year

using Scale MP-2019

Long-term rate of return 2.00%

Actuarial assumptions used in the July 1, 2018 valuation were based on the results of the PFRS and PERS experience studies prepared for July 1, 2013 to June 30, 2018 and July 1, 2014 to June 30, 2018, respectively.

34 (Continued)

1.98%

^{*} Salary increases are based on years of service within the respective plan.

Notes to Financial Statements
June 30, 2019

For pre-Medicare medical benefits, the trend is initially 5.7% and decreases to a 4.5% long-term trend rate after eight years. For post-65 medical benefits, the actual fully-insured Medicare Advantage trend rates for fiscal year 2020 are reflected. The assumed post-65 medical trend is 4.5% for all future years. For prescription drug benefits, the initial trend rate is 7.5% and decreases to a 4.5% long-term trend rate after eight years.

As the OPEB plan only invests in the State of New Jersey CMF, the long-term expected rate of return on OPEB investments was based off the best-estimate ranges of future real rates of return (expected returns, net of OPEB plan investment expense and inflation) for cash equivalents, which is 2.00%.

The discount rate for the OPEB plan was 3.50%. This represents the municipal bond return rate as chosen by the Division. The source is the Bond Buyer Go 20-Bond Municipal Bond Index, which includes tax-exempt general obligation municipal bonds with an average rating of AA/Aa or higher. As the long-term rate of return is less than the municipal bond rate, it is not considered in the calculation of the discount rate, rather the discount rate is set at the municipal bond rate.

Sensitivity of Net OPEB Liability to changes in the discount rate:

At 1%	At current	At 1%
 decrease (2.50%)	discount rate (3.50%)	increase (4.50%)
\$ 15,662,704,137	13,546,071,100	11,826,026,995

Sensitivity of Net OPEB Liability to changes in the healthcare trend rate:

Healthcare Cost							
	1% Decrease	Trend Rate	1% Increase				
\$	11,431,214,644	13,546,071,100	16,243,926,531				

Notes to Financial Statements
June 30, 2019

(5) Investments

Investments (including investments held directly by the Common Pension Funds) as of June 30, 2019 are as follows:

Common Pension Fund D:	
Cash	\$ 173,745,419
Cash Management Fund	1,570,027,226
Domestic equities	24,690,613,350
International equities	14,689,257,029
Domestic fixed income	9,657,129,003
International fixed income	1,351,491,650
Other ⁽¹⁾	 160,958,454
	 52,293,222,131
Common Pension Fund E:	
Cash	27,993,790
Cash Management Fund	929,613,246
Private equity funds	8,768,887,481
Global diversified credit funds	4,686,113,324
Absolute return strategy funds	4,350,868,877
Real estate funds	3,847,147,915
Real assets	1,905,042,244
Opportunistic private equity investments	422,541,807
Other ⁽¹⁾	 14,730,192
	 24,952,938,876
All Other Investments:	
Cash Management Fund	1,690,840,084
Domestic equities	796,970,015
Fixed income mutual funds	484,041,502
Equity mutual funds	 3,452,128,926
	 6,423,980,527
Total	\$ 83,670,141,534

⁽¹⁾ Includes assets (other than investments) and liabilities included in the net position of the Common Pension Funds. Common Pension Fund D excludes assets and liabilities related to securities lending.

New Jersey State statute provides for a State Investment Council (the Council) and a Director. Investment authority is vested in the Director of the Division of Investment and the role of the Council is to formulate investment policies. The Council issues regulations, which establish guidelines for permissible investments for the Common Pension Funds managed by the Division of Investment, which include global equity investments, non-convertible preferred stocks, covered call options, put options, futures contracts, obligations of the U.S. Treasury, government agencies, corporations, international governments and agencies, global diversified

Notes to Financial Statements
June 30, 2019

credit investments, swap transactions, state and municipal general obligations, public authority revenue obligations, collateralized notes and mortgages, commercial paper, certificates of deposit, repurchase agreements, money market funds, private equity funds, real estate funds, other real assets, absolute return strategy funds, and the CMF.

The Council approves an investment plan that includes a targeted asset allocation, as well as long-term targeted ranges for asset classes. The asset allocation targets approved on May 29, 2019 by the Council for the Pension Fund, is as follows:

Asset Class	Target
U.S. equity	28.00%
Non-U.S. developed markets equity	12.50%
Emerging markets equity	6.50%
Private equity	12.00%
Global Growth	59.00%
Real Estate	7.50%
Real Assets	2.50%
Real Return	10.00%
High yield	2.00%
Private Credit	6.00%
Investment grade credit	10.00%
Income	18.00%
Cash equivalents	5.00%
US Treasuries	5.00%
Risk mitigation strategies	3.00%
Defensive	13.00%
Total	100.00%

The asset allocation policy is reviewed on at least an annual fiscal year basis.

Rate of Return

The annual money-weighted rate of return for the Pension Funds (which includes JRS, SPRS, TPAF, PFRS, and PERS), POPF, CPFPF, and the OPEB plan were 6.17%, 2.29%, 2.29% and 2.29%, respectively. The money-weighted rate of return considers the changing amounts actually invested during a period and weights the amounts of pension plan investments by the proportion of time they are available to earn a return during that period. External cash flows are determined on a monthly basis and are assumed to occur at the end of each month. External cash inflows are netted with external cash outflows, resulting in a net external cash flow in each month. The money-weighted rate of return is calculated net of investment expenses.

Notes to Financial Statements
June 30, 2019

Deposit and Investment Risk Disclosure

Custodial credit risk, as it relates to investments, is the risk that in the event of the failure of the custodian, the Plans will not be able to recover the value of investments or collateral securities that are in the possession of the third party. The Plans' investment securities are not exposed to custodial credit risk as they are held in segregated accounts in the name of the Plans with the custodians.

The Plans' investments are subject to various risks. Among these risks are credit risk, concentration of credit risk, interest rate risk, and foreign currency risk. Each one of these risks is discussed in more detail below.

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The credit risk of issuers and debt instruments is evaluated by nationally recognized statistical rating agencies, such as Moody's Investors Service, Inc. (Moody's), Standard & Poor's Corporation (S&P), and Fitch Ratings (Fitch). Concentration of credit risk is the risk of loss attributed to the magnitude of an investment in a single issuer. There are no restrictions in the amount that can be invested in U.S. Treasury and government agency obligations. Council regulations require minimum credit ratings for certain categories of fixed income obligations held directly by the various funds and limit the amount that can be invested in any one issuer or issue.

Notes to Financial Statements June 30, 2019

The credit ratings and limits for the Pension Funds as of June 30, 2019 are as follows:

	ı	Minimum rating		Limitation of issuer's outstanding	Limitation	
Category	Moody's	S&P	Fitch	debt/stock	of issue	Other limitations
Certificates of deposit (1) Domestic	A3/P-1	A-/A-1	A-/F-1	_	_	Split rating allowable. Cannot exceed 10% of
International	Aa3/P-1	AA-/A-1	AA-/F-1	_	_	issuer's primary capital ⁽²⁾ . Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Collateralized notes and mortgages	Ваа3	BBB-	BBB-	_	25%	Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Commercial paper	P-1	A-1	F-1	_	_	Split rating allowable. Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Global debt obligations	Ваа3	BBB-	BBB-	10%	_	Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Global diversified credit investments Direct bank loans Funds	s: 	Ξ	Ξ	10% —	Ξ	Not more than 10% of pension fund assets can be invested in this category. Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
International government and agency obligations	Ваа3	BBB-	BBB-	25%	25%	Not more than 5% of the pension fund assets can be invested in this

category.

⁽¹⁾ As of July 1, 2019, the long-term rating requirement was eliminated. (2) As of July 1, 2019, the 10% limitation is applied to the issuer's outstanding debt.

Notes to Financial Statements
June 30, 2019

	N	linimum ratin	g	Limitation of issuer's outstanding	Limitation	
Category	Moody's	S&P	Fitch	debt/stock	of issue	Other limitations
Money market funds	_	_	_	_	_	Not more than 5% of pension fund assets can be invested in money market funds; limited to 5% of shares or units outstanding.
Mortgage backed						Not more than 10% of
Pass-through securities	A3	A-	A-	_	_	pension fund assets can
Senior debt securities	_	_	_	_	25%	be invested in mortgage backed securities.
Non-convertible preferred stocks	Ваа3	BBB-	BBB-	10%	25%	Not more than 5% of pension fund assets can be invested in any one issuer and affiliated entities.
Repurchase agreements						
Bank or trust company	_	_	_	_	_	_
Broker	P-1	A-1	F-1	_	_	_
State, municipal and public authority obligations	A3	A-	A-	10%	10%	Not more than 2% of pension fund assets can be invested in debt of any one obligor.
Swap transactions	Baa2	BBB	BBB	_	_	Notional value of net exposure to any one counterparty shall not exceed 1% of pension fund assets. Notional value of all swap transactions shall not exceed 5% of pension fund assets, but may be increased to 10% for a

Up to 8% of the fair value of the combined assets of the Pension Funds may be invested in global debt obligations, collateralized notes and mortgages, non-convertible preferred stock, and mortgage-backed pass-through securities that do not meet the minimum credit rating requirements set forth above.

40 (Continued)

fixed period of time.

Notes to Financial Statements
June 30, 2019

The total amount of a particular class of stock directly purchased of any one entity by the Common Pension Funds cannot exceed 10% of that class of stock outstanding. The total amount of shares or interests directly purchased or acquired of any one exchange traded fund or global, regional or country fund by the Common Pension Funds shall not exceed 10% of the total shares outstanding or interests of such fund.

The NJSEDCP Equity Fund and the NJSEDCP Small Capitalization Equity Fund are invested in equity securities that are denominated in U.S. dollars that trade on a securities exchange in the United States or the over-the-counter market. The NJSEDCP Equity Fund and the NJSEDCP Small Capitalization Equity Fund may hold up to 25% of their assets either in short-term fixed income securities, as permitted by the Council regulations, or in CMF. Not more than 10% of the market value of the NJSEDCP Equity Fund or the NJSEDCP Small Capitalization Equity Fund can be invested in the equity of any one issuer and affiliated entities. The total amount of a particular class of stock directly purchased or acquired of any one entity cannot exceed 5% of that class of stock outstanding. The total amount of shares directly purchased or acquired of any one exchange traded fund shall not exceed 5% of the total shares outstanding of such fund.

The funds managed by Prudential Retirement investments for the NJSEDCP consist of a number of individual investment managers, which individually have investment guidelines that they comply with and follow. For Prudential Retirement, the NJSEDCP is a participant directed program offering a range of diversified investment alternatives. The options include bond investments, which are diversified by sector and number of securities held, mitigating undue concentration of both credit and foreign currency risks as well as interest rate risk.

SACT can only invest in equity securities denominated in U.S. dollars that are traded on a securities exchange in the United States or over-the-counter market. For SACT, not more than 10% of the market value of the fund can be invested in the equity of any one issuer and affiliated entities. The total amount of shares directly purchased or acquired of any one exchange traded fund shall not exceed 5% of the total shares outstanding of such fund. The total amount of a particular class of stock directly purchased or acquired of any one entity shall not exceed 5% of that class of stock outstanding.

The following tables disclose aggregate fair value, by major credit quality rating category as of June 30, 2019 for the fixed income securities held directly by the Common Pension Funds. The first table includes fixed income securities rated by Moody's. The second table discloses Standard & Poor's ratings for fixed income securities not rated by Moody's (in thousands).

Moody's rating											
Aaa	Aa	Α	Baa	Ba	BB	В	Caa	Ca	CCC	C	Totals
775,338	1,062,700	4,540,673	405,804	314,987	626	406,105	109,934	2,961	835	1,468	7,621,431
1,510,012	_	_	_	_	_	_	_	_	_	_	1,510,012
171,021	606,725	25,973	_	_	_	259	_	_	_	_	803,978
194,428	50,976	49,233	40,270	60,257	2,839	67,855	28,153	140	_	_	494,151
336,246	_	_	_	_	_	_	_	_	_	_	336,246
_	96,638	32,976	_	_	_	_	_	_	_	_	129,614
12,589	_	_	_	_	_	_	_	_	_	_	12,589
_				198		1,833					2,031
2,999,634	1,817,039	4,648,855	446,074	375,442	3,465	476,052	138,087	3,101	835	1,468	10,910,052
	775,338 1,510,012 171,021 194,428 336,246 — 12,589	775,338 1,062,700 1,510,012 — 171,021 606,725 194,428 50,976 336,246 — — 96,638 12,589 — — —	775,338 1,062,700 4,540,673 1,510,012 — — 171,021 606,725 25,973 194,428 50,976 49,233 336,246 — — — 96,638 32,976 12,589 — — — —	775,338 1,062,700 4,540,673 405,804 1,510,012 — — — 171,021 606,725 25,973 — 194,428 50,976 49,233 40,270 336,246 — — — — 96,638 32,976 — 12,589 — — — — — — —	Aaa Aa Aa Baa Ba 775,338 1,062,700 4,540,673 405,804 314,987 1,510,012 — — — — 171,021 606,725 25,973 — — 194,428 50,976 49,233 40,270 60,257 336,246 — — — — — 96,638 32,976 — — 12,589 — — — 198 — — — — 198	Aaa Aa A Baa Ba BB 775,338 1,062,700 4,540,673 405,804 314,987 626 1,510,012 — — — — — 171,021 606,725 25,973 — — — — 194,428 50,976 49,233 40,270 60,257 2,839 336,246 — — — — — — 96,638 32,976 — — — 12,589 — — — — — — — — — — —	Aaa Aa A Baa Ba BB B 775,338 1,062,700 4,540,673 405,804 314,987 626 406,105 1,510,012 — — — — — — 171,021 606,725 25,973 — — — 259 194,428 50,976 49,233 40,270 60,257 2,839 67,855 336,246 — — — — — — — 96,638 32,976 — — — — 12,589 — — — — — — — — — — — — — — — — — — — —	Aaa Aa A Baa Ba BB B Caa 775,338 1,062,700 4,540,673 405,804 314,987 626 406,105 109,934 1,510,012 — — — — — — — 171,021 606,725 25,973 — — — 259 — 194,428 50,976 49,233 40,270 60,257 2,839 67,855 28,153 336,246 — — — — — — — — 96,638 32,976 — — — — — 12,589 — — — — — — — — — — — — — — — — —	Aaa Aa A Baa Ba BB B Caa Ca 775,338 1,062,700 4,540,673 405,804 314,987 626 406,105 109,934 2,961 1,510,012 — — — — — — — — 171,021 606,725 25,973 — — 259 — — 194,428 50,976 49,233 40,270 60,257 2,839 67,855 28,153 140 336,246 — — — — — — — — 96,638 32,976 — — — — — — 12,589 — — — — — — — — — — — — — — — — —	Aaa Aa A Baa Ba BB B Caa CCC 775,338 1,062,700 4,540,673 405,804 314,987 626 406,105 109,934 2,961 835 1,510,012 — — — — — — — — 171,021 606,725 25,973 — — 259 — — — 194,428 50,976 49,233 40,270 60,257 2,839 67,855 28,153 140 — 336,246 — — — — — — — — — 96,638 32,976 — — — — — — — — 12,589 —	Aaa Aa Aa Baa Ba BB B Caa Ca CCC CC 775,338 1,062,700 4,540,673 405,804 314,987 626 406,105 109,934 2,961 835 1,468 1,510,012 — — — — — — — — — 171,021 606,725 25,973 — — — 259 — — — — 194,428 50,976 49,233 40,270 60,257 2,839 67,855 28,153 140 — — 336,246 —

Notes to Financial Statements
June 30, 2019

	_		Standard and Poor's rating					Fi			
	_	AAA	BBB	BB	B	CCC	CC	BBB	BB	В	Totals
Foreign government obligations		39,837	_	_	_	_	_	_	_	_	39,837
Corporate obligations	\$	15,053	13,799	5,487	1,727	1,527	111	_	_	_	37,704
International corporate obligations		248	462	5,752	1,488	146	239	425	193	703	9,656
Asset backed securities	_		338								338
	\$	55,138	14,599	11,239	3,215	1,673	350	425	193	703	87,535

The tables do not include certain domestic and international corporate obligations and certain fixed income mutual funds, which invest in an underlying portfolio of fixed income securities, totaling \$495,075,998, and do not have a Moody's or Standard & Poor's rating. The above tables also do not include investment in the Cash Management Fund totaling \$4,190,480,556, which is not rated.

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. Commercial paper must mature within 270 days. Certificates of deposits are limited to a term of one year or less. Repurchase agreements must mature within 30 days. Council regulations permit the Common Pension Funds to enter into foreign exchange contracts for the purpose of hedging the international portfolio.

The following table summarizes the maturities (or, in the case of Remics and mortgage-backed securities, the expected average life) of the Common Pension Funds' fixed income portfolio as of June 30, 2019 (in thousands):

				Maturities in years	;	
Fixed income investment type		Less than 1	1-5	6-10	More than 10	Total fair value
Corporate obligations	\$	291,137	2,716,483	2,892,067	1,766,382	7,666,069
U.S. Treasury bonds		295,383	613,212	316,412	285,005	1,510,012
Foreign government obligations		139,052	369,906	121,357	213,500	843,815
International corporate obligations		1,114	355,118	119,348	31,595	507,175
Federal agency obligations		99,332	236,914	_	_	336,246
Municipal obligations		_	45,328	_	84,286	129,614
Mortgages (FHLMC/FNMA/GNMA)		_	382	10,106	2,101	12,589
Bank loans		_	1,246	_	_	1,246
Asset backed securities	_				338	338
	\$	826,018	4,338,589	3,459,290	2,383,207	11,007,104

The fixed income exchange traded funds held by the Common Pension Funds and the fixed income mutual funds held by NJSEDCP as of June 30, 2019 were \$1,516,932 and \$484,041,502, respectively. These funds have a weighted average duration of 3.12 and 5.64 years, respectively.

Notes to Financial Statements
June 30, 2019

The Common Pension Funds invest in global markets. Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The Common Pension Funds had the following foreign currency exposure as of June 30, 2019 (expressed in thousands of U.S. dollars):

Currency		Equities	Fixed income	Alternative investments	Total fair value
Australian dollar	\$	631,120	_	_	631,120
Brazilian real	Ψ	351,562		_	351,562
Canadian dollar		846,673	58,365	_	905,038
Chilean peso		31,581	_	_	31,581
Colombian peso		_	1,218	_	1,218
Czech koruna		16,799	, <u> </u>	_	16,799
Danish krone		160,727	_	_	160,727
Euro		2,503,826	30,712	803,745	3,338,283
Hong Kong dollar		1,409,346	· _	· —	1,409,346
Hungarian forint		30,743	_	_	30,743
Indonesian rupiah		131,698	_	_	131,698
Japanese yen		2,013,221	_	_	2,013,221
Malaysian ringgit		89,200		_	89,200
Mexican peso		101,366		_	101,366
New Israeli sheqel		33,552		_	33,552
New Taiwan dollar		12,229		_	12,229
New Zealand dollar		18,172		_	18,172
Norwegian krone		48,819	_	_	48,819
Pakistan rupee		3,459	_	_	3,459
Philippine peso		36,739	_	_	36,739
Polish zloty		53,203	_	_	53,203
Pound sterling (U.K)		1,387,717	2,533	117,993	1,508,243
Qatari rial		31,155	_	_	31,155
Singapore dollar		114,491	_	_	114,491
South African rand		323,981	_	_	323,981
South Korean won		625,290	_	_	625,290
Swedish krona		232,400	_	_	232,400
Swiss franc		722,216	_	_	722,216
Thailand baht		157,052	_	_	157,052
Turkish lira		40,761	_	_	40,761
UAE dirham	_	33,806			33,806
	\$	12,192,904	92,828	921,738	13,207,470

Notes to Financial Statements
June 30, 2019

The Pension Funds' interests in alternative investments may contain elements of credit, currency and market risk. Such risks include, but are not limited to, limited liquidity, absence of regulatory oversight, dependence upon key individuals, speculative investments (both derivatives and nonmarketable investments), and nondisclosure of portfolio composition. Council regulations provide that not more than 38% of the market value of the Pension Funds can be invested in alternative investments, with limits on the individual investment categories of real estate (9%), real assets (7%), private equity (12%) and absolute return strategy (15%).

Not more than 5% of the market value invested through direct investments, separate accounts, fund-of-funds, commingled funds, co-investments and joint ventures in global diversified credit, private equity, real asset and absolute return strategy investments, plus outstanding commitments, may be committed to any one partnership or investment. Investments made through separate accounts, funds-of funds, comingled funds, co-investments and joint ventures cannot comprise more than 20% of any one investment managers' total assets.

As of June 30, 2019, the net position of Common Pension Fund E includes receivables of \$14.7 million related to the redemption of hedge funds.

(6) Securities Lending Collateral

The State Investment Council policies permit the Common Pension Funds and several of the direct pension plan portfolios to participate in securities lending programs, whereby securities are loaned to brokers or other borrowers and, in return, the Common Pension Funds have rights to the collateral received. All of the publicly traded securities held in Common Pension Funds are eligible for the securities lending program. Collateral received may consist of cash, letters of credit, or U.S. Treasury obligations having a fair value equal to or exceeding 102% (U.S. dollar denominated) or 105% (non-U.S. dollar denominated) of the value of the loaned securities at the time the loan is made. Collateral is marked to market daily and adjusted as needed to maintain the required minimum level.

For loans of U.S. government securities or sovereign debt issued by non-U.S. governments, in the event that the fair value of the collateral falls below 100% of the fair value of the outstanding loaned securities to an individual borrower, or the fair value of the collateral of all loans of such securities falls below the collateral requirement, additional collateral shall be transferred by the borrower to the respective funds no later than the close of the next business day so that the fair value of such additional collateral together with collateral previously delivered meets the collateral requirements.

For loans of all other types of securities, in the event that the fair value of the collateral falls below the collateral requirement of either 102% or 105% (depending on whether the securities are denominated in U.S. dollars or a foreign currency, respectively) of the fair value of the outstanding loaned securities to an individual borrower, additional collateral shall be transferred in an amount that will increase the aggregate of the borrower's collateral to meet the collateral requirements. As of June 30, 2019, the Common Pension Funds had no aggregate credit risk exposure to borrowers because the collateral amount held by the Common Pension Funds exceeded the fair value of the securities on loan.

Notes to Financial Statements
June 30, 2019

The contract with the Common Pension Funds' securities lending agent requires them to indemnify the Common Pension Funds if the brokers or other borrowers fail to return the securities and provide that collateral securities may be sold in the event of a borrower default. The Common Pension Funds are also indemnified for any loss of principal or interest on collateral invested in repurchase agreements. The Common Pension Funds cannot participate in any dividend reinvestment program or vote with respect to any securities that are on loan on the applicable record date. The securities loans can be terminated by notification by either the borrower or the Common Pension Funds. The term to maturity of the securities loans is generally matched with the term to maturity of the investment of the cash collateral.

The securities lending collateral is subject to various risks. Among these risks are custodial credit risk, credit risk, concentration of credit risk, and interest rate risk. Securities lending collateral is invested in repurchase agreements, the maturities of which cannot exceed 30 days. The collateral for repurchase agreements is limited to obligations of the U.S. Government or certain U.S. Government agencies, collateralized notes and mortgages, and corporate obligations meeting certain minimum rating criteria. Total exposure to any individual issuer is limited consistent with internal policies for funds managed by the Division of Investment.

For securities exposed to credit risk in the collateral portfolio, the following table discloses aggregate fair value, by major credit quality rating category as of June 30, 2019 (in thousands):

Repurchase agreements
State Street Navigator Securities Lending
Money Market Portfolio

		Rating	
	Aaa/AAA	Not rated	Totals
\$	901,000	_	901,000
		107,389	107,389
\$_	901,000	107,389	1,008,389

Custodial credit risk for investments is the risk that in the failure of the counterparty to the transaction, the Pension Funds will not recover the value of the investments that are in the possession of an outside party. The repurchase agreement's underlying securities are held in a segregated account at the tri-party bank.

As of June 30, 2019, the Pension Funds had outstanding loaned investment securities with an aggregate fair value of \$992,246,119 and did not hold any noncash collateral. There were no borrowers or lending agent default losses, and no recoveries or prior period losses during the year.

(7) Derivatives

The Pension Funds invest in derivative securities through the Common Pension Funds. A derivative security is an investment whose value is derived from other financial instruments such as commodity prices, bonds and stock prices, or a market index. The Common Pension Funds' derivative securities are considered investment derivative instruments. The fair value of all derivative securities is reported in the statement of fiduciary net position, and the change in fair value is recorded in the statement of changes in fiduciary net position as a net increase or decrease in fair value of investments.

Notes to Financial Statements
June 30, 2019

Derivative transactions involve, to varying degrees, credit risk and market risk. Credit risk is the possibility that a loss may occur because a party to a transaction fails to perform according to terms. Market risk includes, but is not limited to, the possibility that a change in interest rate risk, foreign currency risk, or the value of the underlying securities will cause the value of a financial instrument to decrease or become more costly to settle. The market or the value of underlying security, or securities, risk associated with derivatives, the prices of which are constantly fluctuating, is regulated by imposing limits as to the types, amounts and degree of risk that the Common Pension Funds may undertake as set forth in the Council Regulations.

The Common Pension Funds may use financial futures to replicate an underlying security or indices they wish to hold in the portfolio. In certain instances, it may be beneficial to own a futures contract rather than the underlying security. Additionally, the Common Pension Funds may use futures contracts to improve the yield or adjust the duration of the fixed income portfolio or may sell futures contracts to hedge the portfolio. A financial futures contract is an agreement between a buyer and a seller that is based on a referenced item, such as financial indices, or interest rates or a financial instrument, such as equity or fixed income securities, physical commodities or currencies. Futures contracts may call for physical delivery of specified quantity of the underlying asset at a specified price (futures or strike price) and date, or be settled in cash. Futures contracts must be traded on a securities exchange or over-the-counter market. The net change in the futures contracts value is settled daily in cash with the exchanges. The cash to fulfill these obligations is held in a margin account. As the fair value of the futures contract varies from the original contract price, a gain or loss is paid to or received from the clearinghouse and recognized in the statement of changes in fiduciary net position.

Foreign currency forward contracts are used as a means to hedge against currency risks in the Common Pension Funds. Foreign currency forward contracts are agreements to buy or sell a specific amount of a foreign currency at a specified delivery or maturity date for an agreed upon price. Foreign currency forward contracts are marked to market on a daily basis with the change in fair value included in investment income in the statement of changes in fiduciary net position.

The Common Pension Funds utilize covered call and put options in an effort to add value to or reduce the risk level in the portfolio. Options are agreements that give the owner of the option the right, but not obligation, to buy (in the case of a call option) or to sell (in the case of a put option) a specific amount of an asset for a specific price (called the strike price) on or before a specified expiration date. The Common Pension Funds enter into covered calls when they write (or sell) call options on underlying stocks held by the Common Pension Funds or stock indices. The Common Pension Funds enter into covered put options when they purchase put options on underlying stocks held by the Common Pension Funds or stock indices. The Common Pension Funds enter into put spreads when they purchase put options while simultaneously writing put options on the same underlying securities or indices at a lower strike price. The purchaser of put options pays a premium at the outset of the agreement and stands to gain from an unfavorable change (i.e., a decrease) in the price of the agreement and may bear the risk of an unfavorable change (i.e., an increase) in the price of the instrument underlying the option.

Notes to Financial Statements
June 30, 2019

As of June 30, 2019, the Common Pension Fund's derivative investments included foreign currency forward contracts:

	Notional value	•	Receivable	Payable	Change in fair value
Foreign currency forward contracts:					
Buy:					
Euro	1,183,376	\$	1,348,532	1,337,431	11,101
Pound sterling	19,000		24,217	24,268	(51)
Sell:					
Euro	28,540,193	\$	32,498,790	32,552,123	(53,333)
Pound sterling	1,942,750	_	2,475,687	2,478,973	(3,286)
Total forward contracts		\$	36,347,226	36,392,795	(45,569)

Certain of the alternative investment funds and partnerships may use derivative instruments to hedge against market risk and to enhance investment returns. At any point during the year, the Common Pension Funds may have additional exposure to derivatives primarily through limited liability vehicles such as limited partnerships and commingled investment funds.

(8) Fair Value Measurements

Fair value is defined as the price that would be received to sell an asset or paid to transfer a liability in an orderly transaction between independent market participants at the measurement date. Inputs refer broadly to the assumptions that market participants would use in pricing the asset or liability, including assumptions about risk. Inputs may be observable or unobservable. Observable inputs are inputs that reflect the assumptions market participants would use in pricing the asset or liability developed based on market data obtained from sources independent of the reporting entity. Unobservable inputs are inputs that reflect the reporting entity's own assumptions about the assumptions market participants would use in pricing the asset or liability developed based on the best information available in the circumstances. The three levels of the fair value hierarchy are as follows:

Level 1 – Quoted prices are available in active markets for identical investments as of the reporting date.

Level 2 – Pricing inputs are other than quoted prices in active markets, which are either directly or indirectly observable as of the reporting date, and fair value is determined through the use of models or other valuation methodologies.

Level 3 – Pricing inputs are unobservable for the investment and inputs into the determination of fair value require significant management judgment or estimation, including assumptions about risk.

Notes to Financial Statements
June 30, 2019

Investments are reported at fair value as follows:

- Domestic and international equity securities and exchange traded funds are valued using closing sales prices reported on recognized securities exchanges on which the securities are principally traded; these securities are included as Level 1 in the chart below. For listed securities having no sales reported and for unlisted securities, such securities will be valued based upon the last reported bid price; these securities are included as Level 2 in the chart below.
- Fixed income and equity mutual funds are valued using the published daily closing prices reported by Prudential and are included as Level 1 in the chart below.
- Foreign and domestic government, agency and corporate obligations, municipal bonds, mortgages, bank loans and asset-backed securities are valued using an evaluated price, which is based on a compilation of primarily observable market information or broker quotes in a non-active market. These are included as Level 2 in the chart below.
- Foreign exchange contracts are valued using industry recognized market-based models to calculate
 the value that a holder or counterparty would receive within the bid-ask spread, in an orderly
 transaction under current market conditions. These securities are included as Level 2 in the chart
 below.
- Distributions from alternative investment vehicles are received as the underlying investments are liquidated. The Plan's ownership interest in partners' capital can never be redeemed, but could be sold subject to approval by the fund's management. As of June 30, 2019, a buyer (or buyers) for these investments have not yet been identified. The partnership interest may be sold at an amount different from the net asset value (NAV) per share (or its equivalent) of the plan's ownership interest in partners' capital.
- The valuation methods for investments measured at the NAV per share (or its equivalent) is presented in the table below.

Notes to Financial Statements
June 30, 2019

The following table summarizes the fair value hierarchy of the investment portfolio as of June 30, 2019 (in thousands):

		Total	Level 1	Level 2
Investments at fair value				
Equity securities				
Domestic equities	\$	25,382,703	25,368,795	13,908
International equities		13,815,188	13,813,907	1,281
Equity mutual funds		3,452,129	3,452,129	_
Exchange traded funds		978,949	978,949	
Total equity securities		43,628,969	43,613,780	15,189
Debt securities				
Corporate obligations		7,666,069	_	7,666,069
U.S. Treasury bonds		1,510,012	_	1,510,012
Foreign government obligations		843,815	_	843,815
International corporate obligations		507,175	_	507,175
Federal agency obligations		336,246	_	336,246
Fixed income mutual funds		484,042	484,042	_
Municipal obligations		129,614	_	129,614
Mortgages (FHLMC/FNMA/GNMA)		12,589	_	12,589
Exchanged traded funds		1,517	1,517	_
Bank loans		1,246	_	1,246
Asset backed securities		338	_	338
Total debt securities		11,492,663	485,559	11,007,104
Total investments by fair value level		55,121,632	44,099,339	11,022,293
Investments measured at the net asset value (NAV) Buyout private equity funds Global diversified credit funds Real estate funds - equity Multi-strategy hedge funds Real assets		7,429,608 4,686,113 3,428,812 2,136,471 1,905,042		
Opportunistic hedge funds		1,069,911		
Debt related private equity funds		924,740		
Credit oriented hedge funds		803,905		
Opportunistic private equity investments		422,542		
Real estate funds - debt		418,336		
Venture capital private equity funds		400,627		
Equity oriented hedge funds		340,583		
Secondary private equity funds		13,912		
Total investments measured at NAV		23,980,602		
Local Government Investment Pool				
Cash Management Fund	_	4,190,480		
Total investments	\$	83,292,714		
Investment derivative instruments				
Foreign currency forward contracts (assets)		11,050	_	11,050
Foreign currency forward contracts (liabilities)		(56,619)		(56,619)
Total investment derivative instruments	\$	(45,569)	<u> </u>	(45,569)

49

Notes to Financial Statements
June 30, 2019

The following table represents the unfunded commitments, redemptions frequency and redemption notice period for investments measured at NAV as of June 30, 2019 (in thousands):

	Fair Value	Unfunded Commitments*	Redemptions Frequency (if currently Bigible)	Redemption Notice Period
Buyout private equity funds (1)	\$ 7,429,608	3,421,316	None	N/A
Global diversified credit funds (2)	4,686,113	1,931,968	Quarterly, semi-annual	45 and 90 days
Real estate funds - equity (3)	3,428,812	1,866,052	Quarterly	15 and 90 days
Multi-strategy hedge funds (4)	2,136,471	127,791	Quarterly, semi-annual	None
Real assets (5)	1,905,042	1,019,323	None	None
Opportunistic hedge funds (6)	1,069,911	125,000	Monthly, quarterly	2-90 days
Debt related private equity funds (7)	924,740	745,213	None	N/A
Credit oriented hedge funds (8)	803,905	_	Monthly, quarterly, semi- annual, annually	45-60 days
Opportunistic private equity funds (9)	422,542	341,033	None	N/A
Real estate funds - debt (10)	418,336	319,647	None	N/A
Venture capital private equity funds (11)	400,627	92,741	None	N/A
Equity oriented hedge funds (12)	340,583	50,000	Quarterly, semi-annual, annually	45-92 days
Secondary private equity funds (13)	13,912	12,857	None	N/A
Total investments measured at NAV	\$ 23,980,602	10,052,941		

- * The unfunded commitments are comprised of funds at various points in their investment terms. Certain funds are outside of their investment period or within their dissolution period. Per the contractual fund agreements, these funds can no longer draw capital for new investments and thus are highly unlikely to utilize all of the remaining unfunded balances. In addition, the Division of Investment has contractual rights to veto further capital draws of certain funds on behalf of the Common Pension Fund E, limiting the ability to draw down these unfunded balances.
- 1. Buyout private equity funds include investments in 82 partnerships and 7 co-investment vehicles, which invest primarily in the equity of established operating companies in order to restructure the target company's reserve capital, management and/or organizational structure or facilitate ongoing growth of the firm. Return on investment is typically realized through an initial public offering, sale or merger of the company, or a recapitalization. All of the investments provide for transfer or sale of limited partnership interest with the prior written approval of the General Partner and seven investments further require the right of first refusal by the other partner in the investment. It is expected that the underlying assets will be liquidated over the next 1 to 14 years.
- 2. Global diversified credit funds include investments in 19 funds and separate account investments that make investment in mezzanine debt, credit structured products, commercial and residential

Notes to Financial Statements
June 30, 2019

mortgage-backed securities, commercial and residential whole loans, and other similar strategies. One of the funds has a quarterly redemption provision and one fund has a semi-annual redemption provision. Fifteen of these investments cannot be redeemed because the investments include restrictions. As of June 30, 2019, these remaining redemption restriction periods range from 3 to 72 months. It is expected that the underlying assets will be liquidated over the next 1 to 10 years.

- 3. Real estate funds equity include investments in 48 funds or separate accounts that make investments in the equity of the underlying asset, where the investor acts as a shareholder in a specific property and receives a share of the rental income the property generates. Investments representing approximately 80% of real estate equity investments can never be redeemed. Thirty eight of the investments provide for the transfer or sale of the limited partnership interest with the prior written approval of the General Partner and nine investments further require the right of first refusal by the other partners in the investment. Distributions from each fund and separate account will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 6 months to 15 years.
- 4. Multi-strategy hedge funds include investments in 13 hedge funds that pursue multiple strategies to diversify risks and reduce volatility. Investments representing approximately 40% of the value of the investments cannot be redeemed because the investment includes restrictions that do not allow for redemptions. As of June 30, 2019, the remaining redemption restriction periods range from 6 to 19 months.
- 5. Real asset funds includes investments in 19 fund or separate account strategies, which invest in the equity or debt of infrastructure, energy, utilities, water, timber, agriculture, metals, mining, and commodity-related and commodity-linked investments. Real asset investments include investments in products, services and technology related to the above. No real asset investments can be redeemed. All of the investments provide for transfer or sale of limited partnership interest with the prior written approval of the General Partner and one investment further requires the right of first refusal by the other partners in the investment. Distributions from each fund and separate account will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 1 to 17 years.
- 6. Opportunistic hedge funds include investments in 5 hedge funds that invest in speculative opportunities with high net market exposure across varied markets. Opportunistic funds include global macro funds, commodity trading advisor funds, and funds employing other similar strategies. Investments representing approximately 14% of the value of the investments in this type cannot be redeemed because the investments include restrictions. As of June 30, 2019, this remaining redemption restriction period is 1 year.
- 7. Debt related private equity funds include investments in 23 funds employing distressed, turnaround and mezzanine debt strategies. Distressed debt involves purchasing debt securities that are trading at a distressed level, in anticipation that those securities will have a higher market valuation and generate profit at a future date, or strategies which take a position to potentially gain control of an asset. Turnaround investments focus on acquiring voting control in companies that are in distress, and aim to subsequently restore the company to profitability. Mezzanine debt strategies provide a middle level of financing in leveraged buyouts, which is below the senior debt layer and above the equity layer. A typical mezzanine investment includes a loan to the borrower, in addition to the borrower's issuance of equity in the form of warrants, common stock, preferred stock, or some other

Notes to Financial Statements
June 30, 2019

equity investment. All of the investments provide for transfer or sale of the limited partnership interest with the prior written approval of the General Partner. Distributions from each fund will be received as the underlying investments of the funds are liquidated. It is expected that the underlying assets of the funds will be liquidated over the next 1 to 13 years.

- 8. Credit oriented hedge funds include investments in 7 hedge fund and separate account strategies that include both credit and distressed debt funds. Credit strategies typically invest both long and short in high yield and high-grade bonds, and structured products using fundamental credit analysis. These securities tend to be relatively liquid. Distressed debt strategies take advantage of corporate securities in default, under bankruptcy protection, in distress, or in liquidation. These securities are often illiquid. Investments representing approximately 98% of the value of the investments cannot be redeemed because the investment includes restrictions that do not allow for redemptions. As of June 30, 2019, these remaining redemption restriction periods range from 3 to 18 months.
- 9. Opportunistic private equity funds include investments in 4 funds and separate accounts, which acquire minority equity interests in investment management companies. Investments in these funds have a perpetual term and cannot be redeemed.
- 10. Real estate funds debt include investments in 7 funds or separate accounts that make investments in the debt of the underlying asset, where the investor acts as a lender to the property owner and receives an interest rate on the loan. Investments can never be redeemed. Six of the investments provide for transfer or sale of the limited partnership interest with the prior written approval of the General Partner and two investments further require the right of first refusal by the other partners in the investment. Distributions from each fund and separate account will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 1 to 8 years.
- 11. Venture capital private equity funds include investments in 8 partnership vehicles that make equity investments primarily in high growth companies during their early or expansion stages. These companies may or may not have revenues or a client base and in most cases will not be cash flow positive. Distributions from each vehicle will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 6 months to 5 years.) of the investment.
- 12. Equity oriented hedge funds include investments in 3 hedge fund and separate account strategies that include both equity long/short and event driven funds. Equity long/short funds hold a combination of long and short positions primarily in publicly traded equities. Event driven funds invest in merger arbitrage, capital structure arbitrage, relative value, activist or other similar strategies. Investments representing approximately 4% of the value of the investments cannot be redeemed because the investment includes restrictions that do not allow for redemptions. As of June 30, 2019, these remaining redemption restriction periods range from 3 to 18 months.
- 13. Secondary private equity funds include investments in 3 funds that purchase secondary interests in private equity partnerships. The underlying investments represent ownership interests in private equity funds managed by buyout or venture capital firms after the capital has been deployed. Distributions from each fund will be received as the underlying investments are liquidated. It is expected that the underlying assets will be liquidated over the next 1 to 4 years.

Notes to Financial Statements
June 30, 2019

(9) Local Employer's Contributions under P.L. 2009, C. 19

As discussed in Note 1, in the fiscal year ended June 30, 2009, the State passed P.L. 2009, C. 19 to allow local employers of PFRS and PERS to contribute 50% of the normal and accrued liability contributions amounts, while deferring the remaining amount for a 15-year period with payments beginning in the fiscal year ended June 30, 2012. At June 30, 2019, the remaining receivable balances related to P.L. 2009, C. 19 were \$86.9 million and \$29.0 million for PFRS and PERS, respectively.

(10) Reserves

The Plans maintain the following legally required reserves as follows (amounts indicated in parenthesis represent net position restricted for the respective reserve as indicated):

Members' Annuity Savings Reserve and Accumulative Interest Reserve – JRS (\$90,211,592); SPRS (\$239,278,067); TPAF (\$14,192,928,307); PFRS (\$4,023,973,993); PERS (\$15,756,816,896)

The Members' Annuity Savings Reserve (New Jersey Statutes Annotated (NJSA): JRS 43:6A- 34.1 and 34.2; SPRS 53:5A-35; TPAF 18A:66-19 and 25; PFRS 43:16A-16; PERS 43:15A-25 and 33) is credited with all contributions made by active members of the Plans. Interest earned on member contributions is credited to the Accumulative Interest Reserve, which is applied to JRS, TPAF and PERS. Member withdrawals are paid out of these reserves.

Contingent Reserve – JRS (\$-96,398,398); SPRS (\$1,085,894,873); TPAF (\$-31,761,523,984); PERS (\$-19,922,162,827)

The Contingent Reserve (NJSA: JRS 43:6A-33; SPRS 53:5A-34; TPAF 18A:66-18; PERS 43:15A-24) is credited with the contributions of contributing employers. Interest earnings, after crediting the Accumulative Interest Reserve and Retirement Reserve, as required, are credited to this account. Additionally, payments for administrative and miscellaneous expenses are made from this reserve.

Retirement Reserve – JRS (\$164,050,999); SPRS (\$466,616,627); TPAF (\$40,265,329,953); PFRS (\$27,250,114,084); PERS (\$33,842,715,655)

The Retirement Reserve (NJSA: JRS 43:6A-34; SPRS 53:5A-36; TPAF 18A:66-21; PFRS 43:16A-16; PERS 43:15A-27) is the account from which retirement benefits including COLA adjustments are paid. Upon retirement of a member, accumulated contributions together with accumulated interest are transferred to the Retirement Reserve from the Members' Annuity Savings Reserve and Accumulative Interest Reserve. Any additional reserves needed to fund the balance of the retirement benefit are transferred from the Contingent Reserve or Pension Accumulation Reserve. Annually, interest as determined by the State Treasurer (7.50% for State fiscal year 2019) is credited to the Retirement Reserve.

Retirement Reserve - POPF (\$4,925,932)

The Retirement Reserve (NJSA: POPF 43:7-13) is credited with State of New Jersey contributions and investment income. In addition, all benefits are paid from this account.

Non-Contributory Group Insurance Premium Reserve – PFRS – Local (\$57,556,934); PERS – Local (\$75,387,557)

The Non-Contributory Group Insurance Premium Reserve (NJSA: PFRS 43:16A-56; PERS 43:15A-91) represents the accumulation of employer group life insurance contributions in excess of premiums disbursed

Notes to Financial Statements
June 30, 2019

to the insurance carrier since the inception of the noncontributory death benefit program plus reserves held by the insurance carrier. Members are eligible by statute for the noncontributory group life insurance plan in the first year of membership. TPAF, PFRS — State and PERS — State show no balance as these premium expenses are funded on a monthly basis.

Pension Accumulation Reserve – PFRS (\$-3,539,224,066)

The Pension Accumulation Reserve (NJSA: PFRS 43:16A-16) is credited with the contributions of the State of New Jersey and other employers. Interest earnings, after crediting the Retirement Reserve, as required, are credited to this account. Additionally, payments for administrative and miscellaneous expenses are made from this Reserve.

Pension Reserve - CPFPF (\$1,387,550)

The Pension Reserve (NJSA: CPFPF 43:16-5) is credited with State of New Jersey contributions and investment income.

Benefit Enhancement Reserve – PERS – Local (\$95,220,385)

The Benefit Enhancement Reserve (NJSA: 43:15A-22) is a special reserve from which the required normal contributions to provide benefit increases under P.L. 2001, C. 353 and P.L. 2001, C. 133 will be charged. The reserve was established in 2002 and credited with excess assets equivalent to member contributions for State fiscal years 2000 and 2001 by transferring reserves in the Contingent Reserve to the Benefit Enhancement Reserve. Additional transfers will be made, as required, to maintain a reserve balance equal to the present value of expected additional normal contributions due to the increased benefits.

SHBP Reserve Fund – Local - Retired (\$273,173,482)

The net position of SHBP – Local (NJSA: SHBP 52:14-17.42) is available to pay claims of future periods. These reserves are maintained by the fund to stabilize rates and to meet unexpected increase in claims.

Variable Accumulation Reserve – NJSEDCP (\$4,507,883,228); SACT (\$186,787,425)

The Variable Accumulation Reserve (NJSA: NJSEDCP 52:18A-164; SACT 52:18A-109) is credited with member contributions and interest earnings on those contributions. Payments for administrative and miscellaneous expense are made from this reserve.

Variable Benefits Reserve – SACT (\$44,109,829)

The Variable Benefits Reserve (NJSA: SACT 52:18A-109) represents contributions accumulations that are transferred to Annuity Benefits for retirees that are receiving monthly life annuity payments.

Notes to Financial Statements
June 30, 2019

Various reserve balances as of June 30, 2019 are as follows:

	<u>_l</u>	Pension Reserves	Postemployment Benefit Plan Reserves
Members' Annuity Savings Reserve and Accumulated			
Interest Reserve	\$	34,303,208,855	_
Contingent Reserve		(50,694,190,336)	_
Retirement Reserve		101,993,753,250	_
Non-Contributory Group Insurance Premium Reserve		132,944,491	_
Pension Accumulation Reserve		(3,539,224,066)	_
Pension Reserve		1,387,550	_
SHBP Reserve		_	273,173,482
Benefit Enhancement Reserve		95,220,385	_
Variable Accumulation Reserve		4,694,670,653	_
Variable Benefits Reserve	_	44,109,829	
Total	\$_	87,031,880,611	273,173,482

(11) Contingencies

The Division is a party to various legal actions arising in the ordinary course of its operations. While it is not feasible to predict the ultimate outcome of these actions, it is the opinion of management that the resolution of these matters will not have a material adverse effect on the Division's financial statements.

(12) Subsequent Events

Significant legislation

The federal government passed legislation in December 2019 that repeals the 40% excise tax on high-cost health plans and the health insurer fee, which is a tax on fully insured health plans such as the State's Medicare Advantage plans. The excise tax was scheduled to go into effect January 1, 2022 and the health insurer fee will be repealed beginning in plan year 2021.

The repeal of these two taxes will reduce net OPEB liabilities for the Local Government Retired OPEB plan determined as of the June 30, 2020 measurement date. The estimate of the impact of the tax repeals on the net OPEB liabilities is not yet available.

Investment performance

In recent weeks, global financial markets have experienced significant declines generally attributable to COVID-19 pandemic and other market-related risks. The investment assets of the pension funds have also incurred a considerable decline in value due to these unfavorable market conditions. In mid-March 2020, preliminary fiscal year-to-date return estimates show a considerable decline in value.

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios - Defined Benefit Pension Plans

Judicial Retirement System

(Unaudited)

June 30, 2019

		2019	2018	2017	2016	2015	2014
Total pension liability:							
Service cost	\$	37,584,273	35,477,981	37,224,230	33,333,864	30,702,986	32,123,341
Interest on total pension liability		38,067,870	36,209,627	30,788,977	36,471,524	41,473,055	40,332,123
Effect of economic/demographic (gains) or losses		19,557,727	(8,553,096)	14,120,673	254,822	(1,733,197)	_
Effect of assumptions changes or inputs		151,274,804	(23,084,707)	(70,235,370)	85,677,552	(41,873,530)	26,907,821
Transfers from other systems		1,310,118	2,859,841	1,121,097	726,284	2,081,523	
Benefit payments		(59,591,606)	(58,286,421)	(56,365,718)	(54,686,521)	(52,430,016)	(49,604,080)
Net change in total pension liability		188,203,186	(15,376,775)	(43,346,111)	101,777,525	(21,779,179)	49,759,205
Total pension liability-beginning		922,019,220	937,395,995	980,742,106	878,964,581	900,743,760	850,984,555
Total pension liability-ending (a)	\$	1,110,222,406	922,019,220	937,395,995	980,742,106	878,964,581	900,743,760
Plan fiduciary net position:							
Contributions-employer	\$	29,702,700	24,023,637	20,341,379	14,794,774	17,031,026	15,874,857
Contributions-employee		9,688,270	9,177,453	10,348,191	9,271,869	6,310,124	5,096,577
Net investment (loss) income		9,230,701	14,809,869	20,031,152	(2,721,949)	8,475,641	34,448,036
Transfers from other systems		1,310,118	2,859,841	1,121,097	726,284	2,081,523	-
Benefit payments, including refunds of employee contributions		(59,591,606)	(58,286,421)	(56,365,718)	(54,686,521)	(52,430,016)	(49,604,080)
Administrative expense		(200,338)	(185,364)	(150,588)	(168,008)	(168,762)	(162,372)
Net change in Plan fiduciary net position		(9,860,155)	(7,600,985)	(4,674,487)	(32,783,551)	(18,700,464)	5,653,018
Plan fiduciary net position-beginning		167,724,348	175,325,333	179,999,820	212,783,371	231,483,835	225,830,817
Plan fiduciary net position-ending (b)	_	157,864,193	167,724,348	175,325,333	179,999,820	212,783,371	231,483,835
Plan's net pension liability-ending (a)-(b)	\$	952,358,213	754,294,872	762,070,662	800,742,286	666,181,210	669,259,925
Plan fiduciary net position as a percentage of the total pension liability		14.22%	18.19%	18.70%	18.35%	24.21%	25.70%
Covered-employee payroll	\$	77,763,777	69,216,709	68,062,584	67,097,166	66,028,491	67,810,110
Net pension liability as a percentage of covered-employee payroll		1,224.68%	1,089.76%	1,119.66%	1,193.41%	1,008.93%	986.96%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:	None					
Changes in assumptions:	4.070/	4.000/	0.000/	0.440/	4.400/	4.500/
Discount rate	4.07%	4.09%	3.83%	3.11%	4.12%	4.58%
Long-term expected rate of return	7.00%	7.00%	7.00%	7.65%	7.90%	7.90%

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2014 - June 30, 2018 Experience Study. For healthy retiree and pre-retirement mortality, the Pub-2010 Teachers Above-Median Income Employee mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis was used. For mortality improvement, Scale MP-2019 was used.

For 2016, salary increases were assumed to increase 2.00% through fiscal year 2025 and 3.00% for each fiscal year thereafter.

For 2015, the demographic assumptions were revised to reflect those recommended on the basis of the July 1, 2011 - June 30, 2014 experience study.

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios - Defined Benefit Pension Plans

Prison Officers' Pension Fund

(Unaudited)

June 30, 2019

	 2019	2018	2017	2016	2015	2014
Total pension liability: Service cost	\$ _	_	_	_	_	_
Interest on total pension liability Effect of economic/demographic (gains) or losses Effect of assumptions changes or inputs Benefit payments	 188,032 127,146 (36,496) (816,972)	215,068 (407,471) (73,662) (947,877)	198,788 82,047 (240,233) (1,069,209)	251,254 96,657 1,171,953 (1,240,307)	331,362 (296,620) 163,490 (1,377,505)	401,659 — 129,449
Net change in total pension liability	(538,290)	(1,213,942)	(1,028,607)	279,557	(1,179,273)	(1,052,300)
Total pension liability-beginning	 5,263,321	6,477,263	7,505,870	7,226,313	8,405,586	9,457,886
Total pension liability-ending (a)	\$ 4,725,031	5,263,321	6,477,263	7,505,870	7,226,313	8,405,586
Plan fiduciary net position: Contributions-other Net investment income Benefit payments, including refunds of employee contributions Administrative expense	\$ 412,250 111,413 (816,972) (4,215)	484,565 70,215 (947,877) (4,315)	552,131 30,847 (1,069,209) (4,134)	634,217 18,067 (1,240,307) (5,312)	698,360 6,355 (1,377,505) (5,843)	793,174 7,368 (1,583,408) (5,853)
Net change in Plan fiduciary net position	(297,524)	(397,412)	(490,365)	(593,335)	(678,633)	(788,719)
Plan fiduciary net position-beginning Plan fiduciary net position-ending (b)	 5,223,456 4,925,932	5,620,868 5,223,456	6,111,233 5,620,868	6,704,568 6,111,233	7,383,201 6,704,568	8,171,920 7,383,201
Plan's net pension liability-ending (a)-(b)	\$ (200,901)	39,865	856,395	1,394,637	521,745	1,022,385
Plan fiduciary net position as a percentage of the total pension liability	104.25%	99.24%	86.78%	81.42%	92.78%	87.84%
Covered-employee payroll Net pension liability as a percentage of covered-employee payroll	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

 Changes in benefit terms:
 None

 Changes in assumptions:
 3.50%
 3.87%
 3.58%
 2.85%
 3.80%
 4.29%

For 2019, the mortality tables used were the Pub-2010 Safety Healthy Retiree, Pub-2010 General Healthy Retiree, Pub-2010 Safety Disabled Retiree for healthy retirees, beneficiaries, and disabled retirees, respectively. Each used a base year of 2010 with future improvement from the base year on a generational basis using Scale MP-2019.

For 2016, the mortality improvement assumption was revised to be projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and further projected beyond the valuation date using the plan actuary's modified 2014 projection. Further, the RP-2000 disabled retiree mortality table is used for the period after disability retirement for disability retirements.

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios - Defined Benefit Pension Plans

State Police Retirement System

(Unaudited)

June 30, 2019

	_	2019	2018	2017	2016	2015	2014
Total pension liability: Service cost Interest on total pension liability Effect of economic/demographic (gains) or losses Effect of assumptions changes or inputs Transfers from other systems Benefit payments	\$	100,705,109 240,494,663 (11,528,958) (333,811,404) (39,834) (225,682,230)	119,718,797 226,928,605 (19,592,172) (379,490,284) 190,903 (222,315,723)	139,506,057 202,545,532 23,786,696 (697,970,471) 3,925 (217,303,946)	113,546,510 221,675,495 (17,580,385) 747,941,075 54,000 (213,436,150)	93,740,921 216,980,562 35,245,543 435,691,094 222,557 (206,493,624)	93,623,020 209,010,706 — 92,686,900 — (197,958,938)
Net change in total pension liability		(229,862,654)	(274,559,874)	(549,432,207)	852,200,545	575,387,053	197,361,688
Total pension liability-beginning	_	4,849,714,240	5,124,274,114	5,673,706,321	4,821,505,776	4,246,118,723	4,048,757,035
Total pension liability-ending (a)	\$_	4,619,851,586	4,849,714,240	5,124,274,114	5,673,706,321	4,821,505,776	4,246,118,723
Plan fiduciary net position: Contributions-employer Contributions-employee Net investment (loss) income Transfers from other systems Benefit payments, including refunds of employee contributions Administrative expense	\$	98,182,956 24,183,990 105,696,140 (39,834) (225,682,230) (596,137)	74,603,780 22,416,571 154,029,009 190,903 (222,315,723) (377,193)	53,006,614 23,721,785 207,401,590 3,925 (217,303,946) (294,745)	37,435,541 22,818,295 (19,284,054) 54,000 (213,436,150) (334,630)	38,527,297 22,315,431 75,532,779 222,557 (206,493,624) (351,724)	36,436,923 24,034,496 287,098,217 — (197,958,938) (280,026)
Net change in Plan fiduciary net position		1,744,885	28,547,347	66,535,223	(172,746,998)	(70,247,284)	149,330,672
Plan fiduciary net position-beginning Plan fiduciary net position-ending (b)	_	1,790,044,682 1,791,789,567	1,761,497,335 1,790,044,682	1,694,962,112 1,761,497,335	1,867,709,110 1,694,962,112	1,937,956,394 1,867,709,110	1,788,625,722 1,937,956,394
Plan's net pension liability-ending (a)-(b)	\$	2,828,062,019	3,059,669,558	3,362,776,779	3,978,744,209	2,953,796,666	2,308,162,329
Plan fiduciary net position as a percentage of the total pension liability		38.78%	36.91%	34.38%	29.87%	38.74%	45.64%
Covered-employee payroll Net pension liability as a percentage of covered-employee payroll	\$	275,790,087 1,025.44%	284,707,387 1,074.67%	277,771,135 1,210.63%	275,477,457 1,444.31%	262,496,289 1,125.27%	262,063,829 880.76%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:

In 2017, Chapter 26, P.L. 2016 amended statutes to change the definition of child to include a child 18 years of age or older and enrolled in a secondary school, or under the age of 24 and enrolled in a degree program in an institution of higher education for at least 12 credits in each semester, provided that the member died in the line of duty while in active service. It also increases the accidental death benefit payable to children if there is no surviving spouse to 70% of final compensation.

Changes in assumptions:

 Discount rate
 5.51%
 4.97%
 4.42%
 3.55%
 4.59%
 5.12%

 Long-term expected rate of return
 7.00%
 7.00%
 7.65%
 7.90%
 7.90%

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2014 - June 30, 2018 Experience Study. For healthy retiree and pre-retirement mortality, the Pub-2010 Public Safety Above-Median Income Employee mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis was used. For beneficiaries, the Pub-2010 General Above-Median Income Healthy Retiree mortality table, unadjusted, with future improvement from the base year of 2010 was used. For disabled retiree mortality, the Pub-2010 Public Safety Disabled Retiree mortality table, unadjusted, with future improvement from the base year of 2010 on a generational basis was used. For mortality improvement, Scale MP-2019 was used.

For 2016, salary increases were assumed to increased 2.95% through fiscal year 2025 and 3.95% for each fiscal year thereafter.

For 2015, the demographic assumptions were revised to reflect those recommended on the basis of the July 1, 2011 - June 30, 2014 experience study.

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios - Defined Benefit Pension Plans

Consolidated Police and Firemen's Pension Fund

(Unaudited)

June 30, 2019

	 2019	2018	2017	2016	2015	2014
Total pension liability: Service cost Interest on total pension liability Effect of economic/demographic (gains) or losses Effect of assumptions changes or inputs Benefit payments	\$ 200,618 (196,476) (375,356) (1,033,175)	— 241,913 (582,507) (70,518) (1,289,899)	— 260,211 (984,588) (236,022) (1,535,623)	— 352,889 (71,313) 1,273,909 (1,881,252)	— 504,066 (993,528) 193,719 (2,445,627)	— 632,080 — 163,528 (2,942,035)
Net change in total pension liability	 (1,404,389)	(1,701,011)	(2,496,022)	(325,767)	(2,741,370)	(2,146,427)
Total pension liability-beginning	 5,695,602	7,396,613	9,892,635	10,218,402	12,959,772	15,106,199
Total pension liability-ending (a)	\$ 4,291,213	5,695,602	7,396,613	9,892,635	10,218,402	12,959,772
Plan fiduciary net position: Contributions-nonemployer Net investment income Contributions-other Benefit payments, including refunds of employee contributions Administrative expense	\$ 	325,000 21,542 806,330 (1,289,899) (4,006)	575,000 10,099 964,280 (1,535,623) (4,188)	148,000 10,856 1,196,017 (1,881,252) (6,643)	— 198 1,577,751 (2,445,627) (8,003)	11,740 585 1,889,091 (2,942,035) (9,566)
Net change in Plan fiduciary net position	(375,913)	(141,033)	9,568	(533,022)	(875,681)	(1,050,185)
Plan fiduciary net position-beginning Plan fiduciary net position-ending (b)	 1,763,463 1,387,550	1,904,496 1,763,463	1,894,928 1,904,496	2,427,950 1,894,928	3,303,631 2,427,950	4,353,816 3,303,631
Plan's net pension liability-ending (a)-(b)	\$ 2,903,663	3,932,139	5,492,117	7,997,707	7,790,452	9,656,141
Plan fiduciary net position as a percentage of the total pension liability	32.33%	30.96%	25.75%	19.15%	23.76%	25.49%
Covered-employee payroll Net pension liability as a percentage of covered-employee payroll	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A	N/A N/A

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

 Changes in benefit terms:
 None

 Changes in assumptions:
 3.50%
 3.87%
 3.58%
 2.85%
 3.80%
 4.29%

See accompanying independent auditors' report.

For 2019, the mortality tables used were the Pub-2010 Public Safety Healthy Retiree and Pub-2010 General Healthy Retiree for healthy retirees and beneficiaries, respectively. Each used a base year of 2010 with future improvement from the base year on a generational basis using Scale MP-2019.

For 2016, the mortality improvement assumption was revised to be projected on a generational basis from the base year of 2000 to 2014 using Projection Scale BB as the base tables and further projected beyond the valuation date using the plan actuary's modified 2014 projection. Further, the RP-2000 disabled retiree mortality table is used for the period after disability retirement for disability retirements.

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios - Defined Benefit Pension Plans

Teachers' Pension and Annuity Fund

(Unaudited)

June 30, 2019

	 2019	2018	2017	2016	2015	2014
Total pension liability: Service cost Interest on total pension liability Effect of economic/demographic (gains) or losses Effect of assumptions changes or inputs Transfers from other systems Benefit payments	\$ 1,882,081,572 4,201,672,382 (155,621,840) (4,005,548,119) 6,655,677 (4,510,860,239)	2,229,422,113 3,858,188,355 1,195,858,381 (6,816,855,725) 5,686,293 (4,401,203,131)	3,028,689,581 3,304,988,177 236,377,556 (13,285,524,000) 1,338,431 (4,306,268,745)	2,344,321,810 3,694,844,118 (134,644,168) 10,827,093,000 1,564,002 (4,169,070,762)	2,022,411,197 3,797,032,970 365,228,279 5,913,556,000 4,117,141 (4,015,003,587)	1,870,901,832 3,794,362,523 (24,898,221) 2,614,173,709 — (3,837,859,513)
Net change in total pension liability	(2,581,620,567)	(3,928,903,714)	(11,020,399,000)	12,564,108,000	8,087,342,000	4,416,680,330
Total pension liability-beginning	 86,797,467,286	90,726,371,000	101,746,770,000	89,182,662,000	81,095,320,000	76,678,639,670
Total pension liability-ending (a)	\$ 84,215,846,719	86,797,467,286	90,726,371,000	101,746,770,000	89,182,662,000	81,095,320,000
Plan fiduciary net position: Contributions-employer Contributions-nonemployer Contributions-employee Net investment (loss) income Transfers from other systems Employer specific contributions - delayed appropriation and delayed enrollments Benefit payments, including refunds of employee contributions Administrative expense	\$ 2,050,414 2,013,446,234 846,166,328 1,361,781,295 6,655,677 300,112 (4,510,860,239) (13,922,385)	1,723,827 1,514,407,623 810,899,751 2,016,316,929 5,686,293 345,897 (4,401,203,131) (13,222,178)	1,404,292 1,125,614,188 790,788,033 2,736,988,791 1,338,431 357,659 (4,306,268,745) (11,923,787)	1,105,810 798,963,467 761,711,695 (267,684,353) 1,564,002 243,660 (4,169,070,762) (13,768,112)	807,246 539,796,289 740,296,265 1,066,062,926 4,117,141 358,899 (4,015,003,587) (13,890,080)	4,688,045 423,012,101 716,183,306 4,100,273,453 — — (3,837,859,513) (12,170,971)
Net change in Plan fiduciary net position	(294,382,564)	(65,044,989)	338,298,862	(2,886,934,593)	(1,677,454,901)	1,394,126,421
Plan fiduciary net position-beginning Plan fiduciary net position-ending (b)	 22,991,116,840 22,696,734,276	23,056,161,829 22,991,116,840	22,717,862,967 23,056,161,829	25,604,797,560 22,717,862,967	27,282,252,461 25,604,797,560	25,888,126,040 27,282,252,461
Plan's net pension liability-ending (a)-(b)	\$ 61,519,112,443	63,806,350,446	67,670,209,171	79,028,907,033	63,577,864,440	53,813,067,539
Plan fiduciary net position as a percentage of the total pension liability	26.95%	26.49%	25.41%	22.33%	28.71%	33.64%
Covered-employee payroll Net pension liability as a percentage of covered-employee payroll	\$ 10,823,504,797 568.38%	10,636,814,121 599.86%	10,436,205,103 648.42%	10,305,472,484 766.86%	10,162,263,470 625.63%	10,038,792,896 536.05%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms: None Changes in assumptions: Discount rate 5.60% 4.86% 4.25% 3.22% 4.13% 4.68% Long-term expected rate of return 7.00% 7.00% 7.00% 7.65% 7.90% 7.90%

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2015 - June 30, 2018 Experience Study. For pre-retirement mortality, the Pub-2010 Teachers Above-Median Income Employee mortality table with a 93.9% adjustment for males and 85.3% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For healthy retirees and beneficiaries, the Pub-2010 Teachers Above-Median Income Healthy Retiree mortality table with a 114.7% adjustment for males and 99.6% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For disabled retiree mortality, the Pub-2010 Non-Safety Disabled Retiree mortality table with a 106.3% adjustment for males, and a 100.3% adjustment for females, and with improvement from the base year of 2010 on a generational basis was used. For mortality improvement, Scale MP-2019 was used.

For 2016, the demographic assumptions were revised to reflect those recommended on the basis of the July 1, 2012 - June 30, 2015 experience study.

See accompanying independent auditors' report.

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios - Defined Benefit Pension Plans

Police and Firemen's Retirement System

(Unaudited)

June 30, 2019

		2019	2018	2017	2016	2015	2014
Total pension liability: Service cost Interest on total pension liability Effect of economic/demographic (gains) or losses Effect of assumptions changes or inputs Transfers from other systems Benefit payments	\$	958,392,935 3,025,500,679 (138,356,304) (1,875,170,696) 3,239,769 (2,606,863,711)	1,030,735,624 2,898,092,706 47,676,088 (2,069,626,924) 3,422,888 (2,523,462,466)	1,136,338,028 2,738,598,309 89,364,940 (3,534,553,975) 289,960 (2,421,485,437)	1,148,613,712 2,751,445,220 (34,916,637) 343,078,737 358,929 (2,324,175,953)	994,248,683 2,680,664,300 (215,122,438) 3,755,474,472 800,782 (2,205,464,297)	1,079,166,175 2,535,619,539 — 649,814,155 — (2,105,829,011)
Net change in total pension liability		(633,257,328)	(613,162,084)	(1,991,448,175)	1,884,404,008	5,010,601,502	2,158,770,858
Total pension liability-beginning	_	46,797,559,654	47,410,721,738	49,402,169,913	47,517,765,905	42,507,164,403	40,348,393,545
Total pension liability-ending (a)	\$_	46,164,302,326	46,797,559,654	47,410,721,738	49,402,169,913	47,517,765,905	42,507,164,403
Plan fiduciary net position: Contributions-employer Contributions-nonemployer Contributions-employee Net investment (loss) income Transfers from other systems Employer specific contributions - additional contribution Employer specific contributions - delayed appropriation Employer specific contributions - delayed enrollments Employer specific contributions - retroactive Contributions-other Benefit payments, including refunds of employee contributions Administrative expense	\$	1,206,535,544 130,202,000 410,943,242 1,549,138,833 3,239,769 847,716 422,890 96,603 6,501,177 — (2,606,863,711) (7,199,218)	1,127,617,114 108,857,000 395,604,883 2,139,481,226 3,422,888 173,554 450,244 90,933 3,120,240 (12,230) (2,523,462,466) (4,505,685)	1,002,043,734 86,467,000 395,878,384 2,791,104,860 289,960 268,910 892,514 179,386 11,476,881 — (2,421,485,437) (4,124,457)	900,033,567 61,466,000 388,681,408 (150,693,159) 358,929 1,923,531 763,176 142,034 3,661,101 — (2,324,175,953) (4,292,891)	883,776,917 76,038,000 386,991,641 922,598,676 800,782 535,424 865,936 224,629 24,536,440 — (2,205,464,297) (4,531,012)	858,047,628 — 385,660,096 3,381,553,869 — — — — — — — — — (2,105,829,011) —(3,884,342)
Net change in Plan fiduciary net position		693,864,845	1,250,837,701	1,862,991,735	(1,122,132,257)	86,373,136	2,515,548,240
Plan fiduciary net position-beginning Plan fiduciary net position-ending (b)	_	27,098,556,100 27,792,420,945	25,847,718,399 27,098,556,100	23,984,726,664 25,847,718,399	25,106,858,921 23,984,726,664	25,020,485,785 25,106,858,921	22,504,937,545 25,020,485,785
Plan's net pension liability-ending (a)-(b)	\$ _	18,371,881,381	19,699,003,554	21,563,003,339	25,417,443,249	22,410,906,984	17,486,678,618
Plan fiduciary net position as a percentage of the total pension liabil	ity	60.20%	57.91%	54.52%	48.55%	52.84%	58.86%
Covered-employee payroll Net pension liability as a percentage of covered-employee payroll	\$	3,870,718,707 474.64%	3,803,348,329 517.94%	3,726,807,562 578.59%	3,695,509,355 687.79%	3,682,677,356 608.55%	3,678,910,266 475.32%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:

In 2017, Chapter 26, P.L. 2016 increased the accidental death benefit payable to children if there is no surviving spouse to 70% of final compensation.

Changes in assumptions:						
Discount rate	6.85%	6.51%	6.14%	5.55%	5.79%	6.32%
Long-term expected rate of return	7.00%	7.00%	7.00%	7.65%	7.90%	7.90%

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2013 - June 30, 2018 Experience Study. For pre-retirement mortality, the Pub-201 Safety Employee mortality table with a 105.6% adjustment for males and 102.5% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For healthy retirees, the Pub-2010 Safety Retiree Below-Median Income Weighted mortality table with a 96.7% adjustment for males and 96.0% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For disabled mortality, the Pub-2010 Safety Disabled Retiree mortality table with a 152.0% adjustment for males and 109.3% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used.

For 2016, the mortality improvement scale incorporated the plan actuary's modified 2014 projection scale. Further, salary increases were assumed to increase between 2.10% and 8.98% (based on age through fiscal year 2026 and 3.10% and 9.98% (based on age) for each fiscal year thereafter. For 2015, demographic assumptions were revised in accordance with the results of the July 1, 2010 - June 30, 2013 experience study.

See accompanying independent auditors' report.

5.39%

7.90%

STATE OF NEW JERSEY DIVISION OF PENSIONS AND BENEFITS

Required Supplementary Information

Schedule of Changes in Net Pension Liability and Related Ratios - Defined Benefit Pension Plans

Public Employees' Retirement System

(Unaudited)

June 30, 2019

	_	2019	2018	2017	2016	2015	2014
Total pension liability: Service cost Interest on total pension liability Effect of economic/demographic (gains) or losses Effect of assumptions changes or inputs Transfers from other systems Benefit payments	\$	1,330,518,589 4,084,253,310 137,159,950 (3,283,548,860) (11,955,594) (4,118,371,422)	1,555,424,045 3,849,650,265 (363,908,216) (5,613,718,254) (13,217,000) (3,936,320,575)	1,865,398,219 3,412,789,012 306,941,390 (10,156,789,076) 854,976 (3,810,818,692)	1,628,065,678 3,653,373,426 600,806,505 8,792,817,065 778,753 (3,629,651,915)	1,523,631,386 3,647,688,354 1,050,795,158 4,091,557,460 1,651,542 (3,441,046,065)	1,592,214,831 3,506,486,225 — 1,222,437,554 — (3,259,290,114)
Net change in total pension liability		(1,861,944,027)	(4,522,089,735)	(8,381,624,171)	11,046,189,512	6,874,277,835	3,061,848,496
Total pension liability-beginning	_	72,866,174,168	77,388,263,903	85,769,888,074	74,723,698,562	67,849,420,727	64,787,572,231
Total pension liability-ending (a)	\$_	71,004,230,141	72,866,174,168	77,388,263,903	85,769,888,074	74,723,698,562	67,849,420,727
Plan fiduciary net position: Contributions-employer Contributions-nonemployer Contributions-employee Net investment (loss) income Transfers from other systems Employer specific contributions - additional contribution Employer specific contributions - delayed appropriation Employer specific contributions - delayed enrollments Employer specific contributions - retroactive Other Benefit payments, including refunds of employee contributions Administrative expense	\$	1,862,706,649 6,829,134 909,191,554 1,741,296,887 (11,955,594) 103,872 1,775,826 657,701 4,623,577 2,387 (4,118,371,422) (21,257,441)	1,680,631,409 — 854,178,790 2,435,763,559 (13,217,000) 28,566 2,687,967 931,611 4,818,841 — (3,936,320,575) (21,368,150)	1,465,931,579 — 847,952,137 3,202,393,837 854,976 25,676 3,224,612 1,030,774 11,230,521 (7,797) (3,810,818,692) (19,648,715)	1,273,425,342 — 821,305,787 (237,215,643) 778,753 257,850 1,721,199 532,612 687,225 (51,586) (3,629,651,915) (23,285,920)	1,085,237,214 — 805,232,235 1,117,827,113 1,651,542 111,824 1,664,415 594,843 6,504,878 (31,006) (3,441,046,065) (23,761,860)	917,689,000 — 797,818,225 4,102,964,869 — — — — — (3,259,290,114) (21,756,019)
Net change in Plan fiduciary net position		375,603,130	1,008,135,018	1,702,168,908	(1,791,496,296)	(446,014,867)	2,537,425,961
Plan fiduciary net position-beginning Plan fiduciary net position-ending (b)	_	29,472,374,536 29,847,977,666	28,464,239,518 29,472,374,536	26,762,070,610 28,464,239,518	28,553,566,906 26,762,070,610	28,999,581,773 28,553,566,906	26,462,155,812 28,999,581,773
Plan's net pension liability-ending (a)-(b)	\$ _	41,156,252,475	43,393,799,632	48,924,024,385	59,007,817,464	46,170,131,656	38,849,838,954
Plan fiduciary net position as a percentage of the total pension liability		42.04%	40.45%	36.78%	31.20%	38.21%	42.74%
Covered-employee payroll Net pension liability as a percentage of covered-employee payroll	\$	11,440,021,762 359.76%	11,360,644,671 381.97%	11,296,345,312 433.10%	11,320,198,747 521.26%	11,441,433,226 403.53%	11,448,531,265 339.34%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

 Changes in benefit terms:
 None

 Changes in assumptions:
 5.66%

 Discount rate
 6.28%

 5.66%
 5.00%

 3.98%
 4.90%

7.00%

7.00%

See accompanying independent auditors' report.

Long-term expected rate of return

7.00%

7.65%

7.90%

For 2019, the assumed rates of retirement, mortality, salary increases, and inflation were updated based on the July 1, 2014 - June 30, 2018 Experience Study. For pre-retirement mortality, the Pub-2010 General Below-Median Income Employee mortality table with a 82.2% adjustment for males and 101.4% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For healthy retirees and beneficiaries, the Pub-2010 General Below-Median Income Healthy Retiree mortality table with a 91.4% adjustment for males and 99.7% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For disabled retiree mortality, the Pub-2010 Non-Safety Disabled Retiree mortality table with a 127.7% adjustment for males, and a 117.2% adjustment for females, and with future improvement from the base year of 2010 on a generational basis was used. For mortality improvement, Scale MP-2019 was used.

For 2016, demographic assumptions were revised in accordance with the results of the July 1, 2011 - June 30, 2014 experience study and the mortality improvement scale incorporated the plan actuary's modified MP-2014 projection scale. Further, salary increases were assumed to increase between 1.65% and 4.15% (based on age) through fiscal year 2026 and 2.65% and 5.15% (based on age) for each fiscal year thereafter.

Required Supplementary Information

Schedule of Employer Contributions - Defined Benefit Pension Plans

(Unaudited)

	Actuarially	Actual employer &		Contribution						
	determined contribution	nonemployer contribution	excess (deficiency)	Covered payroll	as a percentage of covered payroll					
Judicial Retirement System										
Year ended June	30:									
2019	\$ 49,099,041	29,702,700	(19,396,341)	77,763,777	38.20%					
2018	47,224,943	24,023,637	(23,201,306)	69,216,709	34.71					
2017	44,807,771	20,341,379	(24,466,392)	68,062,584	29.89					
2016	47,305,819	14,794,774	(32,511,045)	67,097,166	22.05					
2015	45,136,504	17,031,026	(28,105,478)	66,028,491	25.79					
2014	43,922,167	15,874,681	(28,047,486)	67,810,110	23.41					
2013	45,415,467	12,308,227	(33,107,240)	• • • • • • • • • • • • • • • • • • • •						
2012	42,475,660	5,969,713	(36,505,947)	67,437,125	8.85					
2011	38,450,553	651,718	(37,798,835)	71,746,413	0.91					
2010	32,540,704	1,032,857	(31,507,847)	70,133,372	1.47					
		Prison Officer	s' Pension Fund							
Year ended June	30:									
2019	\$ —	_	_	N/A	N/A					
2018	_	_	_	N/A	N/A					
2017	_	_	_	N/A	N/A					
2016	_	_	_	N/A	N/A					
2015	_	_	_	N/A	N/A					
2014	_	_	_	N/A	N/A					
2013	_	_	_	N/A	N/A					
2012	_	_	_	N/A	N/A					
2011	_	_	_	N/A	N/A					
2010	_	_	_	N/A	N/A					
State Police Retirement System										
Year ended June	: 30:									
2019	\$ 161,134,729	98,182,956	(62,951,773)	275,790,087	35.60%					
2018	145,908,823	74,603,780	(71,305,043)	284,707,387	26.20					
2017	135,017,662	53,006,614	(82,011,048)	277,771,135	19.08					
2016	120,800,705	37,435,541	(83,365,164)	275,477,457	13.59					
2015	110,904,703	38,527,297	(72,377,406)	262,496,289	14.68					
2014	105,093,378	36,436,923	(68,656,455)	262,063,829	13.90					
2013	99,876,582	27,777,047	(72,099,535)	283,216,927	9.81					
2012	98,869,662	13,545,607	(85,324,055)	275,219,752	4.92					
2011	114,120,061	2,201,604	(111,918,457)	289,980,657	0.76					
2010	91,411,237	1,018,200	(90,393,037)	287,267,502	0.35					

Required Supplementary Information

Schedule of Employer Contributions - Defined Benefit Pension Plans

(Unaudited)

	Actuarially determined contribution	Actual employer & nonemployer contribution	Contribution excess (deficiency)	Covered payroll	Contribution as a percentage of covered payroll					
Consolidated Police and Firemen's Pension Fund										
Year ended Jun	ne 30:									
2019	\$ —	_	_	N/A	N/A					
2018	325,191	325,000	(191)	N/A	N/A					
2017	884,680	1,539,280	654,600	N/A	N/A					
2016	491,683	1,324,017	832,334	N/A	N/A					
2015	_	1,577,751	_	N/A	N/A					
2014	864,041	1,900,831	1,036,790	N/A	N/A					
2013	1,095,632	896,883	(198,749)	N/A	N/A					
2012	1,240,860	174,000	(1,066,860)	N/A	N/A					
2011	528,714	_	(528,714)	N/A	N/A					
2010	1,679,690	_	(1,679,690)	N/A	N/A					
Teachers' Pension and Annuity Fund										
Year ended Jun	ne 30:									
2019	\$ 3,249,224,200	2,015,496,648	(1,233,727,552)	10,823,504,797	18.62%					
2018	3,035,344,625	1,516,131,450	(1,519,213,175)	10,636,814,121	14.25					
2017	2,737,175,151	1,127,018,480	(1,610,156,671)	10,436,205,103	10.80					
2016	2,544,811,534	800,069,277	(1,744,742,257)	10,305,472,484	7.76					
2015	2,306,611,715	540,603,535	(1,766,008,180)	10,162,263,470	5.32					
2014	2,159,287,358	427,700,146	(1,731,587,212)	10,038,792,896	4.26					
2013	2,331,811,395	647,059,335	(1,684,752,060)	9,779,212,916	6.62					
2012	2,269,823,968	317,927,358	(1,951,896,610)	9,682,318,739	3.28					
2011	2,123,175,951	2,123,175,951 30,655,332		10,025,401,658	_					
2010	1,796,358,016	33,199,655	(1,763,158,361)	9,797,020,060	_					
Police and Firemen's Retirement System										
Year ended Jun	ne 30:									
2019	\$ 1,545,236,051	1,332,222,254	(213,013,797)	3,870,718,707	34.42%					
2018	1,424,767,509	1,236,395,284	(188,372,225)	3,803,348,329	32.51					
2017	1,335,659,737	1,046,327,392	(289,332,345)	3,726,807,562	28.08					
2016	1,311,849,713	986,654,840	(325,194,873)	3,695,509,355	26.70					
2015	1,217,110,411	941,950,336	(275,160,075)	3,682,677,356	25.58					
2014	1,150,719,106	880,431,697	(270,287,409)	3,678,910,266	23.93					
2013	1,279,412,723	895,743,379	(383,669,344)	3,656,218,573	24.50					
2012	1,238,132,402	826,461,015	(411,671,387)	3,649,416,297	22.65					
2011	1,337,424,856	889,724,548	(447,700,308)	3,720,534,369	23.91					
2010	1,161,763,447	758,722,185	(403,041,262)	3,673,674,523	20.65					

Required Supplementary Information

Schedule of Employer Contributions - Defined Benefit Pension Plans (Unaudited)

	_	Actuarially determined contribution	Actual employer & nonemployer contribution	Contribution excess (deficiency)	Covered payroll	Contribution as a percentage of covered payroll
			Public Employees	' Retirement System		
Year ended Jun	e 30:					
2019	\$	2,457,773,619	1,912,209,917	(545,563,702)	11,440,021,762	16.72%
2018		2,306,287,092	1,632,971,072	(673,316,020)	11,360,644,671	14.37
2017		2,207,859,541	1,448,520,025	(759,339,516)	11,296,345,312	12.82
2016		2,097,570,117	1,265,246,226	(832,323,891)	11,320,198,747	11.18
2015		1,935,315,246	1,067,584,583	(867,730,663)	11,441,433,226	9.33
2014		1,797,073,081	941,023,184	(856,049,897)	11,448,531,265	8.22
2013		1,911,359,009	1,087,389,140	(823,969,869)	11,433,091,635	9.51
2012		1,895,158,413	976,093,907	(919,064,506)	11,609,042,726	8.41
2011		1,824,391,081	832,016,186	(992,374,895)	11,981,354,783	6.94
2010		1,422,475,763	640,282,996	(782,192,767)	11,995,447,141	5.34

See accompanying independent auditors' report.

Schedule of Employer Contributions - Defined Benefit Pension Plans

Last 10 Fiscal Years
(Unaudited)

Notes to Schedule:

Method and assumptions used in calculations of employers' actuarially determined contributions: The actuarially determined contributions are calculated as of July 1 preceding the fiscal year in which the contributions are reported. Unless otherwise noted above, the following actuarial methods and assumptions were used to determine contribution rates in the Schedule of Employer Contributions.

	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS
Actuarial cost method	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit	Projected Unit Credit
Amortization method	Level Dollar, open	Level Dollar	Level Dollar, open	Level Dollar	Level Dollar, open	Level Dollar, open	Level Dollar, open
Remaining amortization period	30 years	1 year	30 years	1 year	30 years	30 years	30 years
Asset valuation method	Five-year smoothing difference between market value and expected acturial value	Market value	Five-year smoothing difference between market value and expected acturial value	Five-year smoothed method with write-up	Five-year smoothing difference between market value and expected acturial value	Five-year smoothing difference between market value and expected acturial value	Five-year smoothing difference between market value and expected acturial value
Projected salary increase	expected detailer value		expected detailer value		expected detailer value	expected detailer value	expected detailer value
2019, 2018, 2017, and 2016							
Initial fiscal year applied through	2025	N/A^	2025	N/A^	2026	2025	2026
					1.55 - 3.80%	2.10 - 8.98%	1.65% - 4.15%
Rate	2.00%	N/A^	2.95%	N/A^	based on years of service	based on age	based on age
					2.00 - 4.90%	3.10 - 9.98%	2.65 - 5.15%
Thereafter	3.00%	N/A^	3.95%	N/A^	based on years of service	based on age	based on age
2015 and 2014							
Through fiscal year 2021	2.00%	N/A^	2.95%	N/A^	Varies based on	2.60 - 9.48%	2.15 - 4.40%
milough fiscal year 2021	2.00 /6	IN/75 ·	2.9376	11/77	experience	based on age	based on age
Thereafter	3.00%	N/A^	3.95%	N/A^	Varies based on	3.60 - 10.48%	3.15 - 5.40%
		•			experience	based on age	based on age
Projected COLAs Investment rate of return	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*	N/A*
2019	7.50%	5.00%	7.50%	2.00%	7.50%	7.50%	7.50%
2018	7.50%	5.00%	7.50%	2.00%	7.50%	7.50%	7.50%
2017	7.50%	5.00%	7.50%	2.00%	7.50%	7.50%	7.50%
2016	7.65%	5.00%	7.65%	2.00%	7.65%	7.65%	7.65%
2015	7.90%	5.00%	7.65%	2.00%	7.90%	7.90%	7.90%
2014	7.90%	5.00%	7.90%	2.00%	7.90%	7.90%	7.90%

^{*} Pursuant to the provisions of Chapter 78, P.L. 2011, cost of living adjustment (COLA) increases were suspended for all current and future retirees of all retirement systems.

Contributions: Contributions reported on Schedule 1 include actual contributions by State and, where applicable, the local employer's contribution revenue recorded in fiscal year 2018 that is due in fiscal year 2019 and contributions to the Non-Contributory Group Insurance Premium Fund. Contributions reported on Schedule 2 represent actual contributions by the State and local employers (where applicable) made during the year, including contributions to the Non-Contributory Group Life Insurance Premium Fund.

[^] This is a closed plan, therefore there are no active employees.

Required Supplementary Information

Schedule of Investment Returns - Defined Benefit Pension Plans

Annual Money-Weighted Rate of Return, Net of Investment Expense

(Unaudited)

	JRS, SPRS, TPAF, PERS and PFRS*	POPF	CPFPF	
Year ended June 30:				
2019	6.17%	2.29%	2.29%	
2018	9.11%	1.36%	1.36%	
2017	13.01%	0.53%	0.53%	
2016	(1.15)%	0.28%	0.50%	
2015	4.08%	0.09%	0.34%	
2014	16.79%	0.09%	0.02%	

^{*} The annual money-weighted rate of return, net of investment expense, which includes JRS, SPRS, TPAF, PFRS and PERS, is calculated on the investments held within Common Pension Funds D and E, and the State of New Jersey, Cash Management Fund for the Pension Funds, as a whole rather than by individual plan since the portfolios are managed through common trust funds.

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Required Supplementary Information

Schedule of Changes in Net OPEB Liability and Related Ratios

(Unaudited)

June 30, 2019

	_	2019	2018	2017
Total OPEB liability:				
Service cost	\$	666,574,660	896,235,148	1,064,525,862
Interest on total OPEB liability		636,082,461	764,082,232	648,423,508
Changes of benefit terms		(1,903,958)	(0.000.004.047)	_
Difference between expected and actual experience Effect of changes of assumptions		(1,399,921,930) (1,635,760,217)	(3,626,384,047) (2,314,240,675)	— (2,587,850,974)
Contributions - employee		43,249,952	(2,314,240,675)	(2,567,650,974)
Benefit payments	_	(470,179,613)	(421,621,253)	(417,488,848)
Net change in total OPEB liability	_	(2,161,858,645)	(4,647,941,429)	(1,238,804,947)
Total OPEB liability-beginning	_	15,981,103,227	20,629,044,656	21,867,849,603
Total OPEB liability-ending (a)	\$_	13,819,244,582	15,981,103,227	20,629,044,656
Plan fiduciary net position:		_		
Contributions-employer	\$	346,415,056	421,194,662	381,813,324
Contributions-nonemployer contributing entity		43,854,500	53,548,285	53,064,311
Contributions - employee		43,249,952	53,987,166	53,585,505
Net investment income		4,826,936	2,320,422	791,049
Benefit payments Administrative expense		(470,179,613) (9,478,435)	(421,621,253) (8,200,113)	(417,488,848) (8,894,576)
·	-	,	· ·	· · · · · · · · · · · · · · · · · · ·
Net change in Plan fiduciary net position		(41,311,604)	101,229,169	62,870,765
Plan fiduciary net position-beginning		314,485,086	213,255,917	150,385,152
Plan fiduciary net position-ending (b)	_	273,173,482	314,485,086	213,255,917
Plan's net OPEB liability-ending (a)-(b)	\$_	13,546,071,100	15,666,618,141	20,415,788,739
Plan fiduciary net position as a percentage of the total OPEB liability		1.98%	1.97%	1.03%
Covered-employee payroll		4,801,667,470	4,646,915,753	4,336,016,376
Net OPEB liability as a percentage of covered-employee payroll		282.11%	337.14%	470.84%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Notes to Schedule:

Changes in benefit terms:

In 2019, there were slight changes to the Chapter 48 provisions.

Changes in assumptions:

In 2019, the discount rate changed to 3.50% from 3.87%, and there were changes in the assumed health care cost trend, PPO/HMO future retiree elections, and excise tax assumptions. Further, decrements, salary scale, and mortality assumptions were updated based on the July 1, 2013 - June 30, 2018 PFRS and July 1, 2014 - June 30, 2018 PERS experience studies. For mortality related to PFRS members and retirees, the Pub-2010 "Safety" classification headcount-weighted mortality table with fully generational mortality improvement projections from the central year using Scale MP-2019 was used. For mortality generational mortality improvement projections from the central year using Scale MP-2019 was used.

In 2018, the discount rate changed to 3.87% from 3.58%, there were changes in the census, claims and premiums experience and a decrease in the assumed health care cost trend and excise tax assumptions.

In 2017, the discount rate changed to 3.58% from 2.85%.

Required Supplementary Information

Schedule of Investment Returns - OPEB Plan

Annual Money-Weighted Rate of Return, Net of Investment Expense

(Unaudited)

Year ended June 30:

 2019
 2.29%

 2018
 1.28%

 2017
 0.58%

Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

Schedule of Administrative Expenses

Year ended June 30, 2019

	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS	NJSEDCP	Total
Personnel services:									
Salaries and wages \$	115,988	2,094	314,170	1,167	5,633,416	3,985,343	8,096,602	261,350	18,410,130
Employee benefits	57,854	679	87,288	618	2,837,238	1,875,856	4,116,351	128,191	9,104,075
Total personnel									
services	173,842	2,773	401,458	1,785	8,470,654	5,861,199	12,212,953	389,541	27,514,205
Professional services:									
Actuarial services	2,799	153	33,457	130	368,966	237,439	408,730	_	1,051,674
Data processing	4,958	270	29,315	230	1,174,538	407,977	1,921,530	26,682	3,565,500
Information systems	5,684	310	33,610	264	1,346,594	467,741	2,203,012	82	4,057,297
Other professional (1)	3,744	204	22,394	174	888,941	311,639	1,454,057	_	2,681,153
Medical reviews (exams/hearings)	_	_	32,059	_	241,921	435,530	871,605	_	1,581,115
Elections	_	_	_	_	_	107,384	137,562	_	244,946
Internal audit and legal	3,269	178	19,334	152	774,613	269,063	1,267,258		2,333,867
Total professional									
services	20,454	1,115	170,169	950	4,795,573	2,236,773	8,263,754	26,764	15,515,552
Communication:									
Travel	9	1	55		4,225	5,077	7,382	_	16,749
Telephone	357	19	2,108	17	84,468	29,340	138,188	2,800	257,297
Postage	1,170	64	6,917	54	277,145	96,267	453,406	1,000	836,023
Motor pool	26	1	153	1	6,118	2,125	10,009	_	18,433
Printing and office	278	15	1,646	13	65,930	49,211	107,862		224,955
Total communication	1,840	100	10,879	85	437,886	182,020	716,847	3,800	1,353,457
Miscellaneous:									
Office space	3,476	189	20,555	162	823,561	286,065	1,347,336	_	2,481,344
Maintenance	208	11	1,227	10	49,175	17,081	80,450	_	148,162
Equipment	441	25	2,611	21	104,602	36,333	171,127	_	315,160
Other services and charges	17	2	104	<u> </u>	4,165	1,446	6,813	12,000	24,547
Total miscellaneous	4,142	227	24,497	193	981,503	340,925	1,605,726	12,000	2,969,213
Total administrative									
expenses \$	200,278	4,215	607,003	3,013	14,685,616	8,620,917	22,799,280	432,105	47,352,427

(1) Portion of consulting

Schedule of Investment Expenses

Year ended June 30, 2019

_	JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS	NJSEDCP	Total
Investment expense \$	87,962	1,834	266,627	1,319	6,450,756	3,786,476	10,014,729	219,476	20,829,179

Schedule of Expenses for Consultants

Year ended June 30, 2019

		JRS	POPF	SPRS	CPFPF	TPAF	PFRS	PERS	Total
Actuarial: Cheiron	\$	2,799	153	33,457	130	368,966	237,439	408,730	1,051,674
Medical reviews (exams/hearings) Board elections:		_	_	32,059	_	241,921	435,530	871,605	1,581,115
Election America							107,384	137,562	244,946
Total expenses for consultants	\$_	2,799	153	65,516	130	610,887	780,353	1,417,897	2,877,735

Combining Schedule of Fiduciary Net Position Information Fiduciary Funds – Select Pension Trust Funds

June 30, 2019

	Judicial Retirement System	Prison Officers' Pension Fund	State Police Retirement System	Consolidated Police and Firemen's Pension Fund	Teachers' Pension and Annuity Fund	Police and Firemen's Retirement System	Public Employees' Retirement System	Total
Assets: Cash and cash equivalents \$	720,054	118,112	985,575	10,992	6,180,296	3,616,695	5,767,776	17,399,500
Receivables: Contributions: Members Employers Accrued interest and dividends	826,413 30,475 998	 54	2,314,582 151,066 3,964		84,097,036 123,713,405 82,302	58,868,315 1,116,253,564 3,727,503	79,589,589 1,091,157,332 73,514	225,695,935 2,331,305,842 3,888,406
Other	886,293	32,292	98,472	181,943	3,653,862	3,949,920	8,030,435	16,833,217
Total receivables	1,744,179	32,346	2,568,084	182,014	211,546,605	1,182,799,302	1,178,850,870	2,577,723,400
Investments, at fair value: Cash Management Fund Common Pension Fund D Common Pension Fund E	9,966,380 101,650,624 48,506,951	4,847,579 — —	40,048,799 1,188,543,171 567,135,128	1,287,986 — —	530,787,273 15,001,060,665 7,158,359,748	304,621,976 16,929,310,898 8,078,001,134	445,915,628 19,072,656,773 9,100,935,915	1,337,475,621 52,293,222,131 24,952,938,876
Total investments	160,123,955	4,847,579	1,795,727,098	1,287,986	22,690,207,686	25,311,934,008	28,619,508,316	78,583,636,628
Securities lending collateral Members' loans and mortgages	1,962,719 338,374		22,948,963 11,691,381		289,647,691 270,804,824	326,879,274 1,527,112,724	368,264,027 529,382,511	1,009,702,674 2,339,329,814
Total assets	164,889,281	4,998,037	1,833,921,101	1,480,992	23,468,387,102	28,352,342,003	30,701,773,500	84,527,792,016
Liabilities: Accounts payable and accrued expenses Retirement benefits payable Noncontributory group life insurance premiums payable Administrative expense payable Securities lending collateral and rebates payable	46 4,962,702 30,475 71,518 1,960,347	814 70,742 — 549	171,006 18,580,605 100,081 358,621 22,921,221	93,442 — — —	101,535,010 377,193,446 3,135,963 490,857 289,297,550	6,840,887 217,743,295 3,591,393 5,261,359 326,484,124	132,504,142 344,618,701 8,854,142 — 367,818,849	241,051,905 963,262,933 15,712,054 6,182,904 1,008,482,091
Total liabilities	7,025,088	72,105	42,131,534	93,442	771,652,826	559,921,058	853,795,834	2,234,691,887
Net position restricted for pensions \$	157,864,193	4,925,932	1,791,789,567	1,387,550	22,696,734,276	27,792,420,945	29,847,977,666	82,293,100,129

Combining Schedule of Changes In Fiduciary Net Position Information Fiduciary Funds – Select Pension Trust Funds

Year ended June 30, 2019

	Judicial Retirement System	Prison Officers' Pension Fund	State Police Retirement System	Consolidated Police and Firemen's Pension Fund	Teachers' Pension and Annuity Fund	Police and Firemen's Retirement System	Public Employees' Retirement System	Total
Additions:								
Contributions:								
Members:	.		0.4.400.000		0.40.400.000	= 0.000.400		4 00= 000 440
State Local	\$ 9,688,270	_	24,183,990	_	846,166,328	52,202,489	355,581,371	1,287,822,448
Employers:	_	_	_	_	_	358,740,753	553,610,183	912,350,936
State	29,702,700	_	98,182,956	_	2,050,414	196,322,771	890,001,213	1,216,260,054
Local	_	_	_	_	_	1,010,212,773	972,705,436	1,982,918,209
Nonemployer	_	_	_	_	2,013,446,234	130,202,000	6,829,134	2,150,477,368
Employer specific and other		412,250		631,757	300,112	7,868,386	7,163,363	16,375,868
Total contributions	39,390,970	412,250	122,366,946	631,757	2,861,963,088	1,755,549,172	2,785,890,700	7,566,204,883
Investment income: Net increase in fair value of investments Interest	5,975,125 3,343,538	113,247	13,926,924 92,035,843		857,404,310 510,827,741	950,672,825 602,252,484	1,074,808,322 676,503,294 1,751,311,616	2,902,787,506 1,885,105,984 4,787,893,490
	9,318,663	113,247	105,962,767	29,837	1,368,232,051	1,552,925,309	, , ,	
Less investment expense	87,962	1,834	266,627	1,319	6,450,756	3,786,476	10,014,729	20,609,703
Net investment income	9,230,701	111,413	105,696,140	28,518	1,361,781,295	1,549,138,833	1,741,296,887	4,767,283,787
Transfers	1,310,118		110,843		15,148,965	3,765,634	8,589,133	28,924,693
Total additions	49,931,789	523,663	228,173,929	660,275	4,238,893,348	3,308,453,639	4,535,776,720	12,362,413,363
Deductions: Benefits:								
Benefit expense - retirement allowances	58,847,179	816,972	223,317,477	1,033,175	4,408,262,599	2,563,694,176	3,896,686,814	11,152,658,392
Noncontributory group insurance expense	702,700	_	2,182,956	_	41,107,648	35,769,359	86,793,757	166,556,420
Refunds of contributions Transfers	41,727	_	181,797 150,677	_	61,489,992 8,493,288	7,400,176 525,865	134,890,851 20,544,727	204,004,543 29,714,557
Administrative and miscellaneous expenses	200,338	<u> </u>	596,137	3,013	13,922,385	7,199,218	21,257,441	43,182,747
·	<u> </u>	<u> </u>						
Total deductions	59,791,944	821,187	226,429,044	1,036,188	4,533,275,912	2,614,588,794	4,160,173,590	11,596,116,659
Change in net position	(9,860,155)	(297,524)	1,744,885	(375,913)	(294,382,564)	693,864,845	375,603,130	766,296,704
Net position restricted for pensions: Beginning of year	167,724,348	5,223,456	1,790,044,682	1,763,463	22,991,116,840	27,098,556,100	29,472,374,536	81,526,803,425
End of year	\$ 157,864,193	4,925,932	1,791,789,567	1,387,550	22,696,734,276	27,792,420,945	29,847,977,666	82,293,100,129

Combining Schedule of Balance Sheet Information Fiduciary Funds – Agency Funds

June 30, 2019

	Alternate Benefit Program Fund	Pension Adjustment Fund	Dental Expense Program Fund	Total Agency Funds
Assets: Cash and cash equivalents	\$ 2,554,236	115,631	126,054	2,795,921
Receivables: State related employer contributions Other	— 42,699,854	102,629 814	 2,111,563	102,629 44,812,231
Total receivables	42,699,854	103,443	2,111,563	44,914,860
Investments, at fair value: Cash Management Fund	144,429	2,072,618	50,573,699	52,790,746
Total investments	144,429	2,072,618	50,573,699	52,790,746
Total assets	\$ 45,398,519	2,291,692	52,811,316	100,501,527
Liabilities: Accounts payable and accrued expenses Assets held for local contributing employers Pension adjustment payroll payable Due to State of New Jersey Due to other funds	\$ 42,775,706 — — 2,622,813 —	— 1,990,368 83,960 92,689 124,675	52,811,316 — — — — —	95,587,022 1,990,368 83,960 2,715,502 124,675
Total liabilities	\$ 45,398,519	2,291,692	52,811,316	100,501,527

Combining Schedule of Changes in Fiduciary Net Position Information Fiduciary Funds – Agency Funds

Year ended June 30, 2019

	E	Iternate Benefit gram Fund	Pension Adjustment Fund	Dental Expense Program Fund	Total Agency Funds
Additions: Contributions: Members	\$	870,410	_	111,429,344	112,299,754
Employers	•	12,349,605	1,136,759	39,755,631	253,241,995
Total contributions	21	13,220,015	1,136,759	151,184,975	365,541,749
Investment income: Interest		581,194	47,952	1,211,305	1,840,451
Total investment income		581,194	47,952	1,211,305	1,840,451
Total additions	21	13,801,209	1,184,711	152,396,280	367,382,200
Deductions: Benefits Refunds of contributions	21	11,168,972 2,632,237	1,109,276 75,435	149,662,152 2,734,128	361,940,400 5,441,800
Total deductions	21	13,801,209	1,184,711	152,396,280	367,382,200
Change in net position		_	_	_	_
Net position – beginning of year					
Net position – end of year	\$				

Combining Schedule of Balance Sheet Information Agency Fund – Dental Expense Program Fund

June 30, 2019

		State	Local	Total Agency Fund – Dental Expense Program Fund
	_	State	Local	Frogram Fund
Assets: Cash and cash equivalents	\$	105,880	20,174	126,054
Receivables: Other		1,902,985	208,578	2,111,563
Total receivables		1,902,985	208,578	2,111,563
Investments, at fair value:				
Cash Management Fund	_	39,227,341	11,346,358	50,573,699
Total investments		39,227,341	11,346,358	50,573,699
Total assets	\$	41,236,206	11,575,110	52,811,316
Liabilities:				
Accounts payable and accrued expenses	\$	41,236,206	11,575,110	52,811,316
Total liabilities	\$_	41,236,206	11,575,110	52,811,316

Combining Schedule of Changes in Fiduciary Net Position Information Agency Fund – Dental Expense Program Fund

Year ended June 30, 2019

		State	Local	Total Agency Fund – Dental Expense Program Fund
A 1 199	_	State	Local	1 rogram r unu
Additions: Contributions:				
Members	\$	58,262,005	53,167,339	111,429,344
Employers	_	34,928,824	4,826,807	39,755,631
Total contributions		93,190,829	57,994,146	151,184,975
Investment income:				
Net decrease in fair value of investments		000 000	000 447	
Interest	_	920,888	290,417	1,211,305
Total investment income	_	920,888	290,417	1,211,305
Total additions		94,111,717	58,284,563	152,396,280
Deductions:				
Benefits		91,732,284	57,929,868	149,662,152
Refunds of contributions	_	2,379,433	354,695	2,734,128
Total deductions	_	94,111,717	58,284,563	152,396,280
Change in net position		_	_	_
Net position – beginning of year				
Net position – end of year	\$ _	_		

Schedule of Changes in Assets and Liabilities Information Agency Fund – Alternate Benefit Program Fund

June 30, 2019

	_	Balance June 30, 2018	Deductions	Balance June 30, 2019	
Assets:					
Cash and cash equivalents	\$	804,731	190,017,480	188,267,975	2,554,236
Receivables: Other Investments, at fair value:		40,385,204	42,699,854	40,385,204	42,699,854
Cash Management Fund	_	576,602	217,982,402	218,414,575	144,429
Total assets	\$ _	41,766,537	450,699,736	447,067,754	45,398,519
Liabilities:					
Accounts payable and accrued expenses	\$	40,494,611	43,412,020	41,130,925	42,775,706
Due to State of New Jersey	_	1,271,926	2,622,813	1,271,926	2,622,813
Total liabilities	\$_	41,766,537	46,034,833	42,402,851	45,398,519

Schedule of Changes in Assets and Liabilities Information Agency Fund – Pension Adjustment Fund

June 30, 2019

	_	Balance June 30, 2018	Additions	Deductions	Balance June 30, 2019
Assets:					
Cash and cash equivalents	\$	124,795	744,921	754,085	115,631
Receivables:					
State related employer contributions		191,300	890,150	978,821	102,629
Other		1,787	23,625	24,598	814
Investments, at fair value:					
Cash Management Fund	_	1,890,381	1,307,144	1,124,907	2,072,618
Total assets	\$ _	2,208,263	2,965,840	2,882,411	2,291,692
Liabilities:					
Assets held for local contributing employers	\$	1,965,508	_	(24,860)	1,990,368
Pension adjustment payroll payable		60,025	1,112,515	1,088,580	83,960
Due to State of New Jersey		42,114	92,689	42,114	92,689
Due to other funds	_	140,616	661,262	677,203	124,675
Total liabilities	\$_	2,208,263	1,866,466	1,783,037	2,291,692

Schedule of Changes in Assets and Liabilities Information Agency Fund – Dental Expense Program Fund – Total

June 30, 2019

-	Balance June 30, 2018	Additions	Deductions	Balance June 30, 2019
\$	195,156	37,387,690	37,456,792	126,054
	355,783	151,882,164	150,126,384	2,111,563
	47 000 742	220 625 000	225 071 141	50,573,699
-	41,909,142	220,033,090	223,971,141	50,575,099
\$	48,460,681	417,904,952	413,554,317	52,811,316
_	_			
\$	48,460,681	48,867,752	44,517,117	52,811,316
\$	48,460,681	48,867,752	44,517,117	52,811,316
	\$:	June 30, 2018 \$ 195,156 355,783 47,909,742 \$ 48,460,681 \$ 48,460,681	June 30, 2018 Additions \$ 195,156 37,387,690 355,783 151,882,164 47,909,742 228,635,098 \$ 48,460,681 417,904,952 \$ 48,460,681 48,867,752	June 30, 2018 Additions Deductions \$ 195,156 37,387,690 37,456,792 355,783 151,882,164 150,126,384 47,909,742 228,635,098 225,971,141 \$ 48,460,681 417,904,952 413,554,317 \$ 48,460,681 48,867,752 44,517,117

Schedule of Changes in Assets and Liabilities Information Agency Fund – Dental Expense Program Fund – State

June 30, 2019

	Balance June 30, 2018	Additions	Deductions	Balance June 30, 2019
Assets:				
Cash and cash equivalents	\$ 181,496	31,266,294	31,341,910	105,880
Receivables: Other	192,196	93.710.894	92.000.105	1,902,985
Investments, at fair value:	102,100	00,1 10,00 1	02,000,100	1,002,000
Cash Management Fund	37,044,423	164,290,536	162,107,618	39,227,341
Total assets	\$ 37,418,115	289,267,724	285,449,633	41,236,206
Liabilities:				
Accounts payable and accrued expenses	\$ 37,418,115	36,914,201	33,096,110	41,236,206
Total liabilities	\$ 37,418,115	36,914,201	33,096,110	41,236,206

Schedule of Changes in Assets and Liabilities Information Agency Fund – Dental Expense Program Fund – Local

June 30, 2019

	_	Balance June 30, 2018	Additions	Deductions	Balance June 30, 2019
Assets:					
Cash and cash equivalents	\$	13,660	6,121,396	6,114,882	20,174
Receivables:					
Other		163,587	58,171,270	58,126,279	208,578
Investments, at fair value: Cash Management Fund		10,865,319	64,344,562	63,863,523	11,346,358
Casii Management i unu	-	10,000,019	04,344,302	03,003,323	11,540,556
Total assets	\$	11,042,566	128,637,228	128,104,684	11,575,110
Liabilities:	_	_			
Accounts payable and accrued expenses	\$	11,042,566	11,953,551	11,421,007	11,575,110
Total liabilities	\$_	11,042,566	11,953,551	11,421,007	11,575,110