PSERS

PUBLIC SCHOOL EMPLOYEES' RETIREMENT SYSTEM

PSERB Resolution 2024-62
Re: June 30, 2024, and 2023 Financial Statements and Ratification of Payments
October 25, 2024

RESOLVED, that the Public School Employees' Retirement Board (the "Board") accepts the recommendation of the Finance and Actuarial Committee and adopts the attached June 30, 2024, and 2023 Financial Statements and ratifies all payments that are reflected within.

Commonwealth of Pennsylvania

Public School Employees'

Retirement System

(A Component Unit of the Commonwealth of Pennsylvania)

Financial Statements

June 30, 2024 and 2023

TABLE OF CONTENTS

SBC Certified Public Accountants & Business Advisors

REPORT OF INDEPENDENT PUBLIC ACCOUNTANTS

The Board of Trustees of
Commonwealth of Pennsylvania Public School Employees' Retirement System
Harrisburg, Pennsylvania

Report on the Audit of the Financial Statements

Opinions

We have audited the accompanying statements of fiduciary net position of the Commonwealth of Pennsylvania Public School Employees' Retirement System (PSERS), a component unit of the Commonwealth of Pennsylvania, as of June 30, 2024 and 2023, and the related statements of changes in fiduciary net position for the years then ended, and the related notes to the financial statements, as listed in the table of contents.

In our opinion, the accompanying financial statements present fairly, in all material respects, the fiduciary net position of PSERS, as of June 30, 2024 and 2023, and the respective changes in fiduciary net position for the years then ended in accordance with accounting principles generally accepted in the United States of America. .

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the *Auditor's Responsibilities for the Audit of the Financial Statements* section of our report. We are required to be independent of PSERS and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Responsibilities of Management for the Financial Statements

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

In preparing the financial statements, management is required to evaluate whether there are conditions or events, considered in the aggregate, that raise substantial doubt about PSERS' ability to continue as a going concern for twelve months beyond the financial statement date, including any currently known information that may raise substantial doubt shortly thereafter.

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The Board of Trustees of
Commonwealth of Pennsylvania Public School Employees' Retirement System
Harrisburg, Pennsylvania

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Auditor's Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditor's report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is not a guarantee that an audit conducted in accordance with GAAS will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal controls. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS, we:

- Exercise professional judgment and maintain professional skepticism throughout the audit.
- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.
- Obtain an understanding of internal controls relevant to the audit 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 PSERS' internal controls. Accordingly, no such opinion is expressed.
- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.
- Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about PSERS' ability to continue as a going concern for a reasonable period of time.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal controls-related matters that we identified during the audit.

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, schedule of changes in the employer net pension liability, schedule of employer net pension liability, schedule of employer pension contributions, schedule of changes in the employer net OPEB (premium assistance) liability, schedule of employer net OPEB (premium assistance) liability, schedule of employer OPEB (premium assistance) contributions, and schedule of investment returns – pension and OPEB, be presented to supplement the basic financial statements. Such information is the responsibility of management and, 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

The Board of Trustees of
Commonwealth of Pennsylvania Public School Employees' Retirement System
Harrisburg, Pennsylvania

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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 opinions on the financial statements that collectively comprise PSERS' basic financial statements. The schedule of administrative and investment expenses, summary of investment expenses, and schedule of payments to non-investment consultants are presented for purposes of additional analysis and are not a required part of the basic financial statements.

The accompanying supplementary information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic 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 accompanying supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

SB & Company, LLC

Philadelphia, Pennsylvania
September 30, 2024

Management's Discussion and Analysis

Management's Discussion and Analysis (MD&A) of the Commonwealth of Pennsylvania Public School Employees' Retirement System (PSERS; System) for the fiscal year ended June 30, 2024 (FY 2024) provides a narrative summary of PSERS' financial position and performance, including highlights and comparative data. The MD&A is presented as required supplementary information to the financial statements and should be read in conjunction with the financial statements, the notes to financial statements, and the supplementary schedules.

Overview of Financial Statements

PSERS administers a governmental, cost-sharing, multiple-employer pension plan for public school employees. PSERS is also required to oversee two employee classes who can select Defined Benefit (DB) and Defined Contribution (DC) components or a stand-alone DC class. Other statutes direct PSERS to administer two voluntary postemployment healthcare programs, the Health Insurance Premium Assistance Program (Premium Assistance) and the Health Options Program (HOP), for its annuitants.

The ***Statements of Fiduciary Net Position*** provide a snapshot of the financial position of PSERS at June 30, 2024 and 2023. Amounts are shown for the most recent and previous fiscal years for comparison and analysis of changes in individual line items.

The ***Statements of Changes in Fiduciary Net Position*** summarize PSERS' financial activities that occurred during the fiscal period from July 1, 2023, to June 30, 2024, and from July 1, 2022, to June 30, 2023,. Amounts are shown for the most recent and previous fiscal years for comparison and analysis of changes in individual line items.

The ***Notes to Financial Statements*** provide additional information that is essential for a full understanding of the financial statements. The notes are an integral part of the financial statements and include detailed information not readily evident in the basic financial statements such as accounting policies, plan membership and benefits, and summary disclosures of selected financial data.

The ***Required Supplementary Information,*** immediately following the notes to financial statements, provides seven schedules illustrating the Changes in the Employer Net Pension Liability; Employer Net Pension Liability; Employer Pension Contributions; Changes in the Employer Net OPEB (Premium Assistance) Liability; Employer Net OPEB (Premium Assistance) Liability; Employer OPEB (Premium Assistance) Contributions; and Investment Returns - Pension and OPEB.

The ***Other Supplementary Information*** provide additional detailed information concerning the administrative expenses, investment expenses, and payments to non-investment consultants. These schedules emphasize the long-term nature of the pension and premium assistance plans and show the PSERS' progress in accumulating assets sufficient to pay benefits when due. This supplementary information is considered useful in understanding and evaluating PSERS' financial activities.

Management's Discussion and Analysis (continued)

Analysis of Fiduciary Net Position Defined Benefit Pension Plan
(Dollar Amounts in Thousands)

Summary of Fiduciary Net Position	FY 2024	Increase (Decrease)	FY 2023	Increase (Decrease)	FY 2022
Assets:					
Receivables	**$ 2,474,949**	$ 12,802	$ 2,462,147	$ 88,816	$ 2,373,331
Investments	**75,572,631**	4,570,768	71,001,863	693,290	70,308,573
Securities lending collateral pool	—	(6,147,770)	6,147,770	(3,680,820)	9,828,590
Capital assets	**54,831**	18,951	35,880	20,994	14,886
Miscellaneous	**33,702**	(11,011)	44,713	13,290	31,423
Total Assets	**78,136,113**	(1,556,260)	79,692,373	(2,864,430)	82,556,803
Liabilities:					
Payables and other liabilities	**1,643,119**	210,846	1,432,273	(767,698)	2,199,971
Obligations under securities lending	—	(6,147,770)	6,147,770	(3,680,820)	9,828,590
Total Liabilities	**1,643,119**	(5,936,924)	7,580,043	(4,448,518)	12,028,561
Net Position	**$76,492,994**	**$ 4,380,664**	**$ 72,112,330**	**$ 1,584,088**	**$70,528,242**

Summary of Changes in Fiduciary Net Position	FY 2024	Increase (Decrease)	FY 2023	Increase (Decrease)	FY 2022
Additions:					
Contributions	**$ 6,460,585**	$ 36,987	$ 6,423,598	$ 291,635	$ 6,131,963
Net investment income (loss)	**5,704,271**	2,908,975	2,795,296	3,062,546	(267,250)
Total Additions	**12,164,856**	2,945,962	9,218,894	3,354,181	5,864,713
Deductions:					
Benefit expenses	**7,728,745**	147,762	7,580,983	326,611	7,254,372
Administrative expenses	**55,447**	1,624	53,823	4,372	49,451
Total Deductions	**7,784,192**	149,386	7,634,806	330,983	7,303,823
Changes in Net Position	**4,380,664**	2,796,576	1,584,088	3,023,198	(1,439,110)
Balance, Beginning of Year	**72,112,330**	1,584,088	70,528,242	(1,439,110)	71,967,352
Balance, End of Year	**$76,492,994**	$ 4,380,664	$ 72,112,330	$ 1,584,088	$70,528,242

Defined Benefit Pension Plan

PSERS administers a governmental, cost-sharing, multiple-employer pension plan for public school employees. The following paragraphs and summary financial data provide supplementary information to the financial statements that contain the financial position and activities for Defined Benefit Pension Plan.

Financial Highlights

- The time-weighted rate of return on Defined Benefit Pension Plan investments was 8.14% for FY 2024; 3.54% for the fiscal year ended June 30, 2023 (FY 2023); and 2.23% for the fiscal year ended June 30, 2022 (FY 2022). The Defined Benefit Pension Plan return for the 20-year period ended June 30, 2024, was 7.05%, which exceeded the 7.00% actuarial investment rate of return assumption. Unless otherwise noted, all rates of return are net of fees.
- Defined Benefit Pension Plan net position increased $4.4 billion from $72.1 billion at June 30, 2023, to $76.5 billion at June 30, 2024. The increase at June 30, 2024 was due mostly to positive net investment income. Defined Benefit Pension Plan net position increased $1.6 billion from $70.5 billion at June 30, 2022, to $72.1 billion at June 30, 2023. The increase at June 30, 2023, was due mostly to positive net investment income. See analysis and discussion on Defined Benefit Pension Plan investments on pages 8 through 12.
- Defined Benefit Pension Plan employer contributions remained consistent at $5.3 billion in FY 2023 and FY 2024. This was primarily attributable to employer payroll growth that was offset by a decrease in the pension portion of the employer contribution rate from 34.31% in FY 2023 to 33.09% in FY 2024.

Management's Discussion and Analysis (continued)

- PSERS' employers fully funded the actuarially determined contributions from FY 2016 to FY 2024. These contributions continue to make a positive difference in PSERS' longer term funding trends as PSERS Net Pension Liability has declined by approximately 16% from $49.6 billion at June 30, 2016 to $41.9 billion at June 30, 2024.
- Defined Benefit Pension Plan benefit expense increased from $7.6 billion in FY 2023 to $7.7 billion in FY 2024. This is due to increases in the average monthly pension benefit and the number of members receiving benefits in FY 2024.

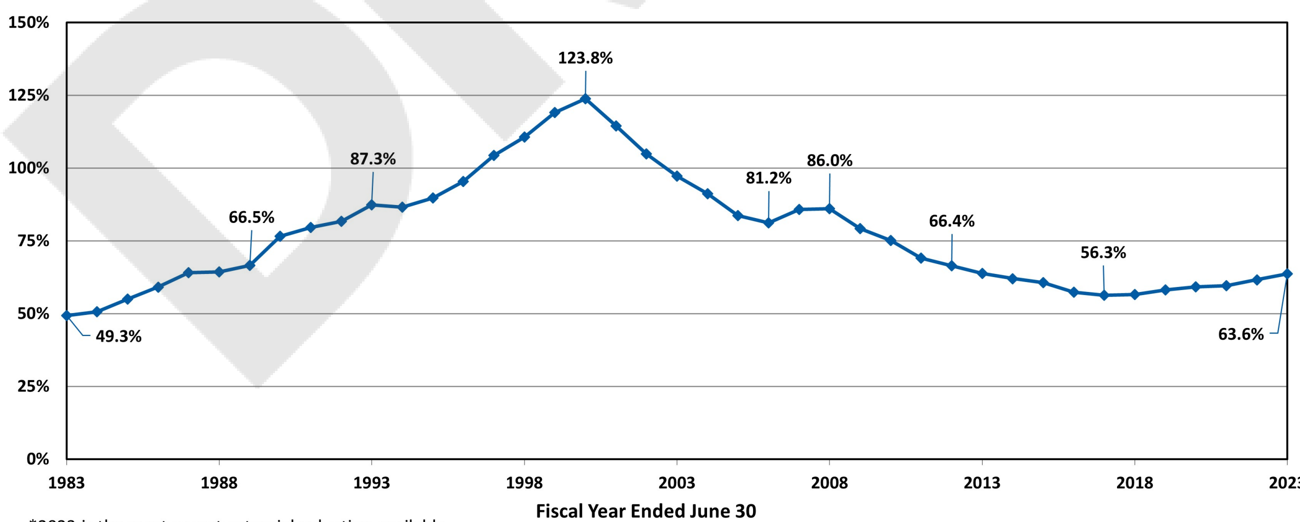
Funded Status

PSERS uses an actuarial reserve type of funding that is financed by member contributions, employer contributions, and earnings from invested assets. Pennsylvania's Public School Retirement Code requires PSERS Board of Trustees to conduct an annual independent actuarial valuation of assets and liabilities. As part of this valuation, the progress toward funding pension obligations of PSERS is measured by comparing the actuarial value of assets to the actuarial accrued liability. This measurement is referred to as the funded ratio or funded status.

PSERS' actuarial funded ratio increased from 61.6% at June 30, 2022 to 63.6% as of June 30, 2023, the most recent actuarial valuation, due to full actuarially determined employer contributions, favorable demographic experience, and positive investment returns. Figure 1 illustrates a 40-year history of PSERS' funded status. The actuarial funded ratio improved to 63.6% as of June 30, 2023, after reaching a significant turning point at June 30, 2017, when it fell to a low of 56.3%. After years of decline since the 123.8% peak at June 30, 2000, the funded ratio is steadily improving and is projected to continue to rise in the future. FY 2024 operational results will be reflected in the actuarial valuation for the year ended June 30, 2024. Due to the normal lag time for completion of the actuarial valuation, the resulting actuarial funded status will be available at the end of the 2024 calendar year and will be reported in the financial statements for the fiscal year ending June 30, 2025 (FY 2025). Based on positive investment performance for the 10-year period ended June 30, 2024, and due to receiving the full actuarially determined contributions, the funded ratio at June 30, 2024 is expected to improve.

Under GASB 67, the market value funded ratio, which is referred to as the plan fiduciary net position as a percentage of total pension liability, increased from 61.85% at June 30, 2023, to 64.63% at June 30, 2024 due to PSERS receiving the full actuarially determined contributions and positive investment returns. Unlike the actuarial funded ratio, which recognizes the investment performance over 10 years, the market-value funded

Figure 1 - PSERS' Funded Ratio*
Funded Ratio = Actuarial Value of Assets / Actuarial Accrued Liability



*2023 is the most recent actuarial valuation available.

Management's Discussion and Analysis (continued)

Table 1 - Investment Balances by Asset Class

(Dollar Amounts in Thousands)

Asset Class	2024	%	2023	%	2022	%
Short-term	**$ 6,572,484**	**8.7**	$ 6,118,812	8.6	$ 8,915,210	12.7
Fixed income	**17,155,399**	**22.7**	15,658,641	22.0	13,752,793	19.6
Equity	**24,356,583**	**32.2**	21,506,295	30.3	17,136,393	24.4
Collective trust funds	**905,424**	**1.2**	2,117,309	3.0	5,481,102	7.8
Real estate	**8,146,596**	**10.8**	7,437,732	10.5	7,122,100	10.1
Alternative investments	**18,436,145**	**24.4**	18,163,074	25.6	17,900,975	25.4
Total	**$ 75,572,631**	**100.0**	$ 71,001,863	100.0	$ 70,308,573	100.0

ratio is expected to fluctuate more year-to-year due to the immediate recognition of the Defined Benefit Pension Plan's fiscal-year investment performance.

Over the past eight years, the longer term trend of the market value funded ratio increased from 50.14% at June 30, 2016, to 64.63% at June 30, 2024, due primarily to PSERS receiving the full actuarially determined contributions and strong positive investment returns. Based on the current actuarial assumptions, PSERS remains on a path to full funding.

Defined Benefit Pension Plan Investments

Defined Benefit Pension Plan investments of $75.6 billion represents an increase of $4.6 billion over the previous fiscal year end amount. Total Defined Benefit Pension Plan investment performance for FY 2024 was a time-weighted rate of return of 8.14%.

The asset distribution of the Defined Benefit Pension Plan's investment portfolio at June 30, 2024, is presented in Figure 2 and Table 1. For comparison purposes, the prior two fiscal years also are presented in Table 1.

FY 2024

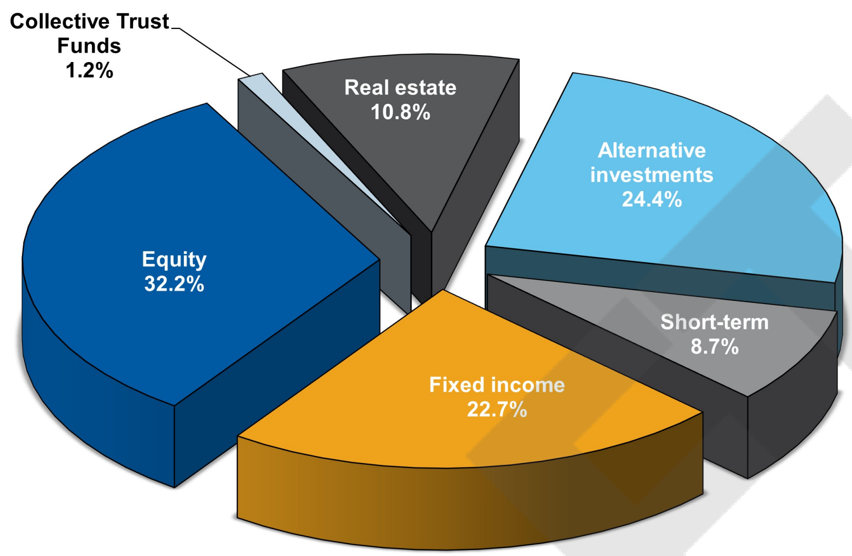
- ***Short-term investments*** (cash and cash equivalents) increased by $0.5 billion from $6.1 billion at June 30, 2023, to $6.6 billion June 30, 2024, mainly due to a reallocation of exposure from other asset classes.
- ***Fixed income investments*** increased by $1.5 billion from $15.7 billion at June 30, 2023, to $17.2 billion at June 30, 2024, mainly due to positive investment performance and a reallocation of exposure from other asset classes.
- ***Equity investments*** increased by $2.9 billion from $21.5 billion at June 30, 2023, to $24.4 billion at June 30, 2024, mainly due to positive investment performance offset by reallocation of exposure to other asset classes.
- ***Collective trust funds*** decreased by $1.2 billion from $2.1 billion at June 30, 2023, to $0.9 billion at June 30, 2024, due to the unwinding of the absolute return program.
- ***Real estate investments*** increased by $0.7 billion from $7.4 billion at June 30, 2023, to $8.1 billion at June 30, 2024, due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings, which exceeded significant distributions.
- ***Alternative investments*** increased by $0.2 billion from $18.2 billion at June 30, 2023, to $18.4 billion at June 30, 2024, due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings, which exceeded significant distributions.

FY 2023

- ***Short-term investments*** (cash and cash equivalents) decreased by $2.8 billion from $8.9 billion at June 30, 2022, to $6.1 billion June 30, 2023, mainly due to a reallocation of exposure to other asset classes.
- ***Fixed income investments*** increased by $1.9 billion from $13.8 billion at June 30, 2022, to $15.7 billion at June 30, 2023, mainly due to a reallocation of exposure from other asset classes, which was offset by negative investment performance.
- ***Equity investments*** increased by $4.4 billion from $17.1 billion at June 30, 2022, to $21.5 billion at June 30, 2023, mainly due to a reallocation of exposure from other asset classes and investment performance.

Management's Discussion and Analysis (continued)

Figure 2 - Asset Distribution
June 30, 2024



- ***Collective trust funds*** decreased by $(3.4) billion from $5.5 billion at June 30, 2022, to $2.1 billion at June 30, 2023, due to the unwinding of the absolute return program.
- ***Real estate investments*** increased by $0.3 billion from $7.1 billion at June 30, 2022, to $7.4 billion at June 30, 2023, due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings, which exceeded significant distributions.
- ***Alternative investments*** increased by $0.3 billion from $17.9 billion at June 30, 2022, to $18.2 billion at June 30, 2023, due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings, which exceeded significant distributions.

Securities Lending

The Defined Benefit Pension Plan's net income from securities lending activities decreased by $19.4 million from $23.1 million in FY 2023 to $3.7 million in FY 2024. Lending income and expense both decreased significantly due to the securities lending program being suspended as of October 31, 2023.

Contributions

Defined Benefit Pension Plan Employer contributions remained consistent from $5.3 billion in FY 2023 to $5.3 billion in FY 2024. This was primarily attributable to employer payroll growth that was offset by a decrease in the employer contribution rate from 34.31% in FY 2023 to 33.09% in

FY 2024. Employer contributions increased from $5.0 billion in FY 2022 to $5.3 billion in FY 2023. This increase was primarily attributable to employer payroll growth and a small increase in the employer contribution rate from 33.99% in FY 2022 to 34.31% in FY 2023.

Defined Benefit Pension Plan member contributions increased from $1.17 billion in FY 2023 to $1.20 billion in FY 2024 mainly due to an increase in member contributions from active member payroll. Pension portion of member contributions increased from $1.13 billion in FY 2022 to $1.17 billion in FY 2023 mainly due to an increase in member contributions from active member payroll.

See Figure 4 for a history of member and employer contribution rates as a percentage of payroll.

Investment Income

Defined Benefit Pension Plan net investment income of $5.70 billion in FY 2024 increased from net investment income of $2.80 billion in FY 2023. As depicted in Figure 3, investment earnings provided 52% of PSERS' total funding over the past 25 years, a majority of which is related to the Defined Benefit Pension Plan. Net

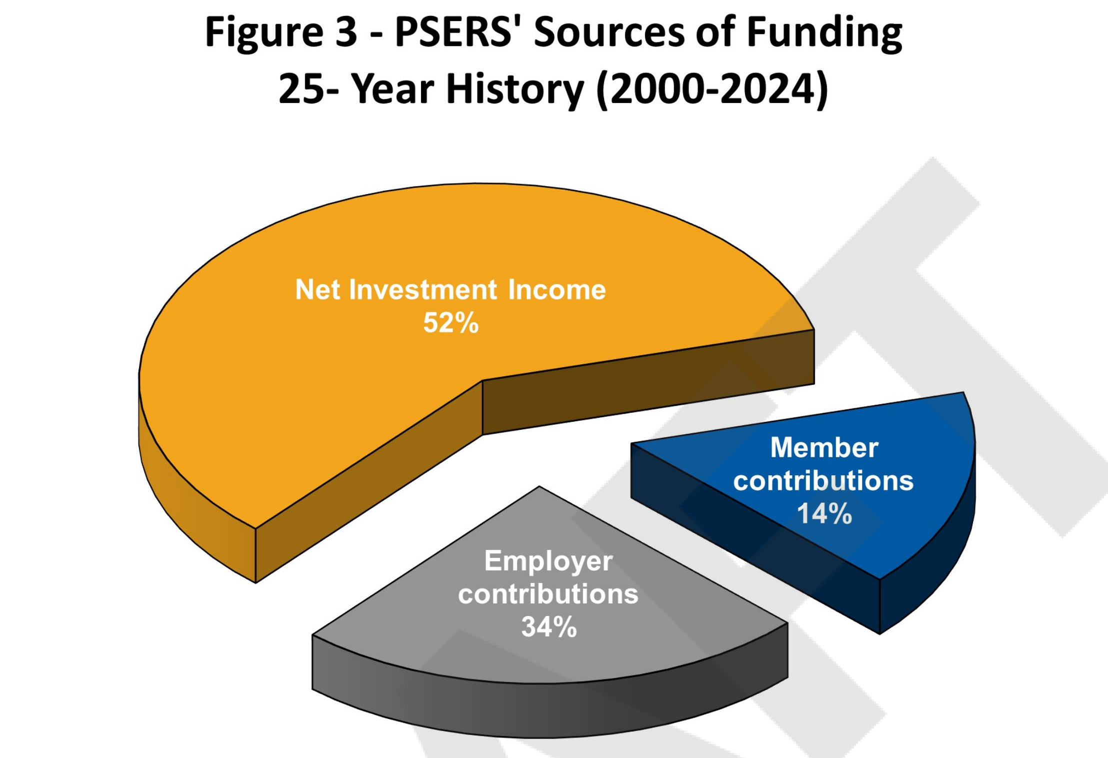
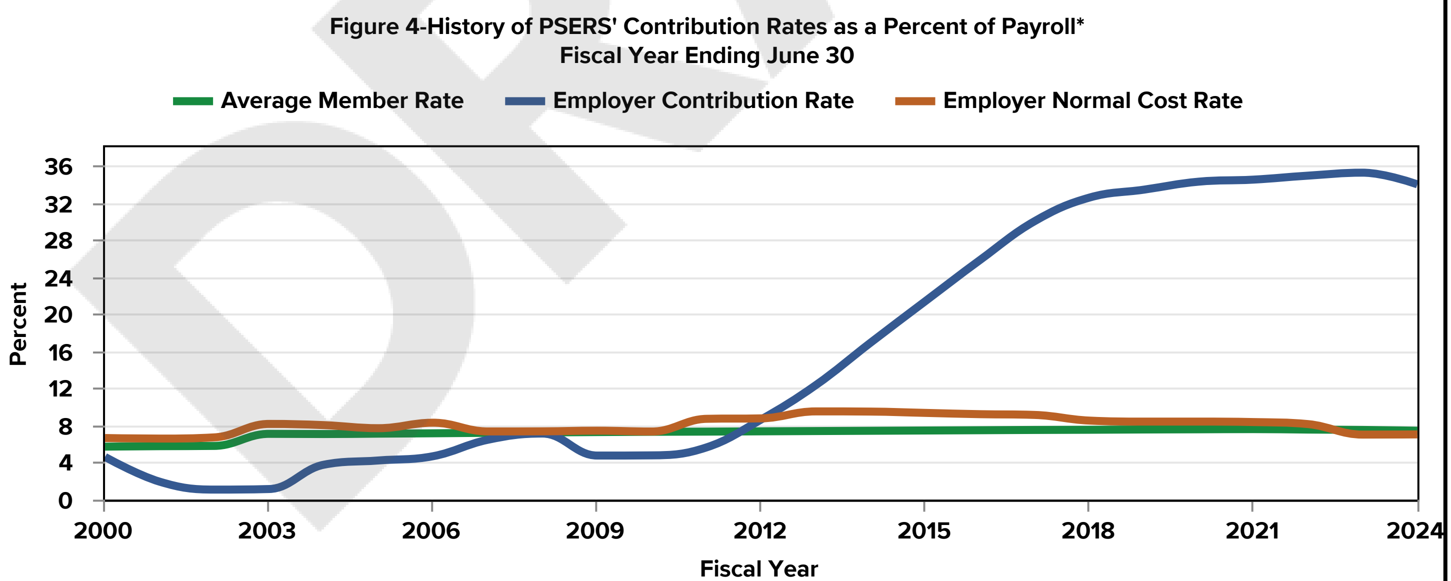
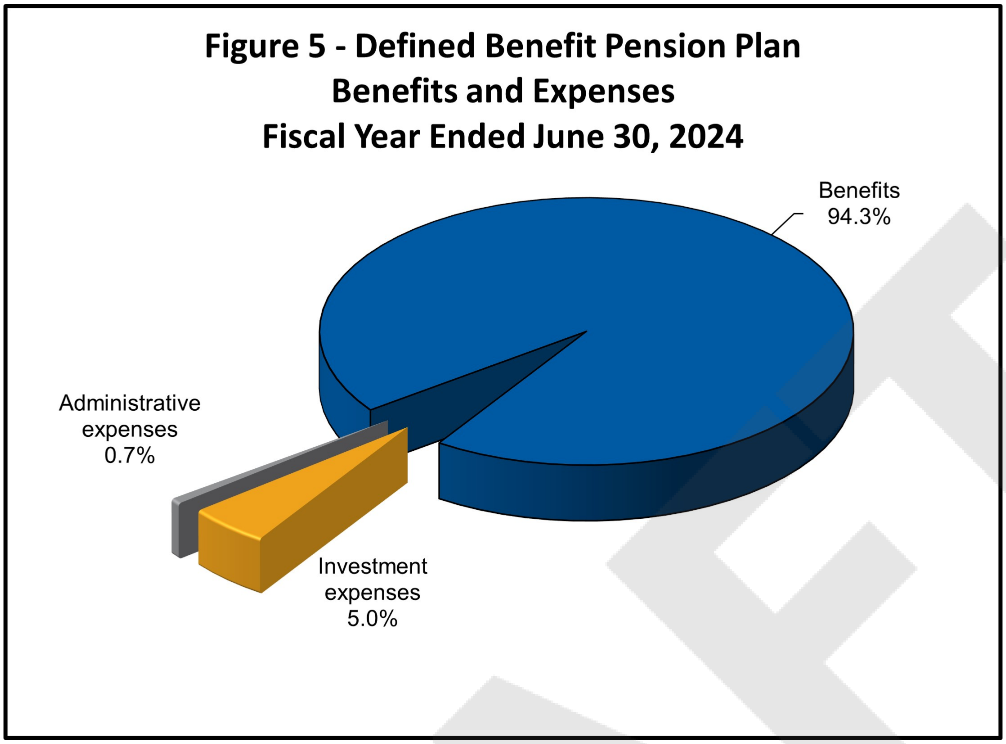


Figure 3 includes Defined Benefit Pension Plan & Premium Assistance.



*Includes Defined Benefit Pension Plan, Premium Assistance, & DC

Management's Discussion and Analysis (continued)



investment income also includes investment expenses as a deduction. The "Defined Benefit Pension Plan Benefits and Expenses" section that follows includes an analysis of investment expenses.

Defined Benefit Pension Plan Benefits and Expenses

The primary expense source during FY 2024 was for the payment of pension benefits approximating $7.7 billion. Figure 5 illustrates the significant portion of expenses attributable to Defined Benefit Pension Plan benefit payments. Defined Benefit Pension Plan benefits increased from $7.6 billion in FY 2023 to $7.7 billion in FY 2024. The increase is attributable to an ongoing increase to the average monthly benefit. The average monthly benefit increase is attributable to the increase to the number of members receiving a benefit payment. Pension benefits payable increased from $656.4 million at June 30, 2023 to $789.8 million at June 30, 2024. This increase was mainly attributable to an increase in pension payments payable from a higher number of retirements in the 4th quarter of FY 2024. Defined Benefit Pension Plan benefits increased from $7.3 billion in FY 2022 to $7.6 billion in FY 2023. The increase is attributable to an ongoing increase to the average monthly benefit. Pension benefits payable increased from $542.0 million at June 30, 2022, to $656.4 million at June 30, 2023. The increase was mainly attributable to an increase in pension payments payable from a higher number of retirements in the 4th quarter of FY 2023.

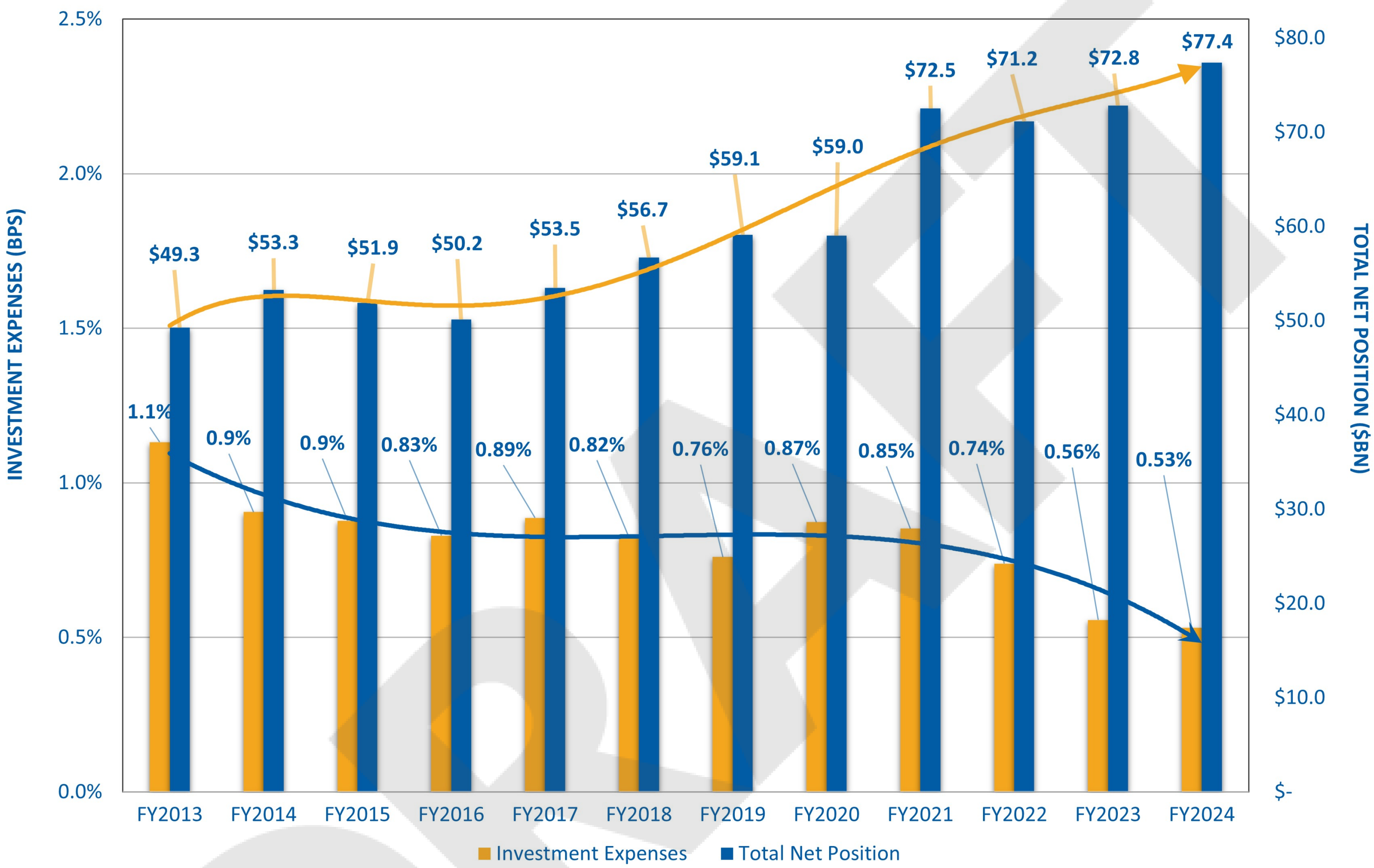
Investment expenses increased by $5.2 million from $405.2 million in FY 2023 to $410.4 million in FY 2024 mainly due to a increase in real estate manager fees of $14 million, which was partially offset by a decrease in fixed income fees of $10 million. As a percentage of defined benefit pension plan benefits, investment expense remained consistent at 5.0% in both FY 2023 and FY 2024.

Defined Benefit Pension Plan administrative expenses increased by $1.6 million from $53.8 million during FY 2023 to $55.4 million during FY 2024. This increase was mainly attributable to an increase in personnel costs. As depicted in Figure 5, Defined Benefit Pension Plan administrative expenses represent 0.7% of total benefits.

As a percentage of total PSERS benefits, investment expense has decreased from a high of 8.2% in FY 2013 to 5.0% in FY 2024. During this same period, total PSERS net position increased $28.1 billion from $49.3 billion at June 30, 2013, to $77.4 billion at June 30, 2024, as depicted in Figure 6. Correspondingly, investment expenses as a percentage of total net position also have decreased from a high of 1.1% in FY 2013 to 0.53% in FY 2024.

Figure 6 includes Defined Benefit Pension Plan, Premium Assistance, DC, & Health Options Program.

Figure 6- PSERS
Investment Expenses to Total Net Position
FY2013-FY2024



Management's Discussion and Analysis (continued)

Analysis of Fiduciary Net Position Defined Contribution Plan
(Dollar Amounts in Thousands)

Summary of Fiduciary Net Position	FY 2024	Increase (Decrease)	FY 2023	Increase (Decrease)	FY 2022
Assets:					
Receivables	**$ 1,365**	$ 431	$ 934	$ 333	$ 601
Investments	**356,248**	153,482	202,766	103,128	99,638
Total Assets	**357,613**	153,913	203,700	103,461	100,239
Liabilities:					
Payables and other liabilities	**1,293**	(526)	1,819	551	1,268
Total Liabilities	**1,293**	(526)	1,819	551	1,268
Net Position	**$ 356,320**	$ 154,439	$ 201,881	$ 102,910	$ 98,971

Summary of Changes in Fiduciary Net Position	FY 2024	Increase (Decrease)	FY 2023	Increase (Decrease)	FY 2022
Additions:					
Contributions	**$ 123,544**	$ 33,540	$ 90,004	$ 31,705	$ 58,299
Net investment income (loss)	**44,415**	22,881	21,534	37,347	(15,813)
Total Additions	**167,959**	56,421	111,538	69,052	42,486
Deductions:					
Distributions	**9,982**	3,812	6,170	2,540	3,630
Administrative expenses	**3,538**	1,080	2,458	297	2,161
Total Deductions	**13,520**	4,892	8,628	2,837	5,791
Changes in Net Position	**154,439**	51,529	102,910	66,215	36,695
Balance, Beginning of Year	**201,881**	102,910	98,971	36,695	62,276
Balance, End of Year	**$ 356,320**	$ 154,439	$ 201,881	$ 102,910	$ 98,971

Defined Contribution Plan (DC)

PSERS administers a Defined Contribution Plan for employees hired as of July 1, 2019. The following paragraphs and summary financial data provide supplementary information to the financial statements that contain the financial position and activities for the Defined Contribution Plan.

Financial Highlights

Total net position increased by $154.4 million from June 30, 2023, to June 30, 2024. This increase is primarily due to participant and employer contributions and investments (additions) exceeding the benefits and administrative expenses (deductions).

Contributions

Total member (participant) contributions increased from $50.7 million to $69.7 million, while total employer contributions increased from $39.3 million to $53.8 million for the years ended June 30, 2023, and 2024, respectively. Contributions increased due to an increase in participants from 63,700 on June 30, 2023, to 79,800 on June 30, 2024, resulting in an increase in employee and employer contributions. Additionally, employee contributions increased due to a 107.4% increase in participants with voluntary post tax contributions and a 58.8% increase in participants with rollover contributions.

Investment Income (Loss)

Total net investment income increased from $21.5 million to $44.4 million for the years ended June 30, 2023, and 2024, respectively. Investment performance was driven by artificial intelligence and technology, a robust labor market, consumer and business spending, and a favorable fiscal backdrop.

Benefits and Expenses

Overall deductions increased from $8.6 million to $13.5 million for the years ended June 30, 2023, and 2024, respectively. Total distributions increased by $3.8 million due to a 27.9% increase in the number of participants receiving distributions and an increase in the average distribution of 26.2% offset by refunds of expenditures due to stale-dated checks. Overall DC administrative expenses increased due to an increase in the total number of participants in the plan and an increase in PSERS personnel cost.

Management's Discussion and Analysis (continued)

Analysis of Fiduciary Net Position Premium Assistance
(Dollar Amounts in Thousands)

Summary of Fiduciary Net Position	FY 2024	Increase (Decrease)	FY 2023	Increase (Decrease)	FY 2022
Assets:					
Receivables	**$ 29,435**	$ (3,516)	$ 32,951	$ (1,222)	$ 34,173
Investments	**109,873**	1,506	108,367	6,460	101,907
Total Assets	**139,308**	(2,010)	141,318	5,238	136,080
Liabilities:					
Payables and other liabilities	**2,860**	2,258	602	(2)	604
Total Liabilities	**2,860**	2,258	602	(2)	604
Net Position	**$ 136,448**	$ (4,268)	$ 140,716	$ 5,240	$ 135,476

Summary of Changes in Fiduciary Net Position	FY 2024	Increase (Decrease)	FY 2023	Increase (Decrease)	FY 2022
Additions:					
Contributions	**$ 102,211**	$ (12,510)	$ 114,721	$ (2,457)	$ 117,178
Net investment income	**6,184**	1,710	4,474	4,158	316
Total Additions	**108,395**	(10,800)	119,195	1,701	117,494
Deductions:					
Benefit expenses	**111,659**	(1,211)	112,870	(837)	113,707
Administrative expenses	**1,004**	(81)	1,085	259	826
Total Deductions	**112,663**	(1,292)	113,955	(578)	114,533
Changes in Net Position	**(4,268)**	(9,508)	5,240	2,279	2,961
Balance, Beginning of Year	**140,716**	5,240	135,476	2,961	132,515
Balance, End of Year	**$ 136,448**	$ (4,268)	$ 140,716	$ 5,240	$ 135,476

Analysis of Fiduciary Net Position Health Options Program
(Dollar Amounts in Thousands)

Summary of Fiduciary Net Position	FY 2024	Increase (Decrease)	FY 2023	Increase (Decrease)	FY 2022
Assets:					
Receivables	**$ 60,057**	$ 12,672	$ 47,385	$ (16,990)	$ 64,375
Investments	**457,617**	36,737	420,880	26,262	394,618
Miscellaneous	**242**	72	170	34	136
Total Assets	**517,916**	49,481	468,435	9,306	459,129
Liabilities:					
Payables and other liabilities	**131,587**	50,166	81,421	12,081	69,340
Total Liabilities	**131,587**	50,166	81,421	12,081	69,340
Net Position	**$ 386,329**	$ (685)	$ 387,014	$ (2,775)	$ 389,789

Summary of Changes in Fiduciary Net Position	FY 2024	Increase (Decrease)	FY 2023	Increase (Decrease)	FY 2022
Additions:					
Participant and CMS premiums	**$ 510,761**	$ 31,900	$ 478,861	$ (1,982)	$ 480,843
Net investment income	**17,127**	8,039	9,088	8,742	346
Total Additions	**527,888**	39,939	487,949	6,760	481,189
Deductions:					
Benefit expenses	**487,975**	36,991	450,984	28,198	422,786
Administrative expenses	**40,598**	858	39,740	450	39,290
Total Deductions	**528,573**	37,849	490,724	28,648	462,076
Changes in Net Position	**(685)**	2,090	(2,775)	(21,888)	19,113
Balance, Beginning of Year	**387,014**	(2,775)	389,789	19,113	370,676
Balance, End of Year	**$ 386,329**	$ (685)	$ 387,014	$ (2,775)	$ 389,789

Management's Discussion and Analysis (continued)

Postemployment Healthcare

PSERS administers two postemployment healthcare programs, the Health Insurance Premium Assistance Program (Premium Assistance) and the Health Options Program (HOP), for its annuitants. The following paragraphs and summary financial data provide supplementary information to the financial statements that contain the financial position and activities for the two postemployment healthcare programs.

Health Insurance Premium Assistance Program (Premium Assistance)

Financial Highlights

- Total net position decreased by $4.3 million in FY 2024 due to an employer contribution rate decrease partially offset by a decrease in benefit payments and an increase in net investment income. The total net position continues to be sufficient to fund one full year of benefits. The employer contribution rate decreased by 14.67% from 0.75% in FY2023 to 0.64% in FY2024. The change from June 30, 2022, to June 30, 2023, of a $5.2 million increase was due to net investment income and employer contributions exceeding benefit expense deductions and administrative expenses.

Contributions

Employer contributions decreased from $114.7 million in FY 2023 to $102.2 million in FY 2024 due to a lower contribution rate (0.75% to 0.64%) partially offset by growth in employer payroll.

Investment Income

Net investment income for Premium Assistance increased to $6.2 million for FY 2024 vs. $4.5 million for FY 2023. This is due to increased short-term interest rates.

Benefits and Expenses

Premium Assistance total deductions decreased slightly from $114.0 million in FY 2023 to $112.7 million in FY 2024. Premium assistance benefit payments decreased from $112.9 for FY2023 to $111.7 million in FY 2024. Based on a count comparative analysis, the number of members dropped by nearly 1% which correlates to the slight decrease in Premium Assistance benefit payments.

Health Options Program (HOP)

Financial Highlights

- Total net position decreased slightly by $0.7 million in FY 2024 due to increasing benefit and administrative expenses outpacing revenues.
- Total receivables increased from $47.4 million at June 30, 2023, to $60.1 million at June 30, 2024. This is due to a increase in CMS reinsurance receivables and an increase in prescription drug rebate receivables due to higher prescription drug costs.The net position change from June 30, 2022, to June 30, 2023, was a decrease of $2.8 million due to increased medical claims, prescription and administrative costs outpacing revenues.
- Investments increased from $420.9 million at June 30, 2023, to $457.6 million at June 30, 2024, due to delayed processing of medical claims resulting in increasing cash flow.
- Total liabilities increased from $81.4 million at June 30, 2023, to $131.6 million at June 30, 2024. This is due to a $50 million increase in medical claims payable resulting from a delay in CMS processing their initial portion of the claims.

Participant and CMS Premiums

Total Participant and CMS premiums for HOP increased from $478.9 million for FY 2023 to $510.8 million for FY 2024 due to a $23.5 million increase in CMS revenue and an $8.4 million increase in member premiums.

Investment Income

Net investment income increased from $9.1 million for FY 2023 to $17.1 million in FY 2024 due to increased short-term interest rates.

Benefits and Expenses

HOP total deductions increased by 7.7% from $490.7 million in FY2023 to $528.6 million in FY2024. This is due to an increase in claim, net prescription and administrative costs.

Statements of Fiduciary Net Position
June 30, 2024 and 2023
(Dollar Amounts in Thousands)

	2024				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Assets:					
Receivables:					
Members	$ 374,663	$ 751	$ 1,518	$ 126	$ 377,058
Employers	1,449,523	591	27,426	—	1,477,540
Investment income	320,934	23	491	1,189	322,637
Investment proceeds	326,159	—	—	—	326,159
CMS Part D and prescriptions	—	—	—	58,742	58,742
Interfund receivable	3,670	—	—	—	3,670
Total Receivables	2,474,949	1,365	29,435	60,057	2,565,806
Investments, at fair value:					
Short-term	6,572,484	13,713	109,873	457,617	7,153,687
Fixed income	17,155,399	—	—	—	17,155,399
Equity	24,356,583	—	—	—	24,356,583
Collective trust funds	905,424	342,535	—	—	1,247,959
Real estate	8,146,596	—	—	—	8,146,596
Alternative investments	18,436,145	—	—	—	18,436,145
Total Investments	75,572,631	356,248	109,873	457,617	76,496,369
Capital assets (net of accumulated depreciation $72,272)	54,831	—	—	—	54,831
Miscellaneous	33,702	—	—	242	33,944
Total Assets	78,136,113	357,613	139,308	517,916	79,150,950
Liabilities:					
Accounts payable and accrued	90,764	114	230	5,742	96,850
Benefits payable	789,804	—	50	89,899	879,753
HOP participant premium advances	—	—	—	35,552	35,552
Investment purchases and other	567,751	483	—	—	568,234
Interfund payable	—	696	2,580	394	3,670
Other liabilities	194,800	—	—	—	194,800
Total Liabilities	1,643,119	1,293	2,860	131,587	1,778,859
Net position restricted for pension, DC and postemployment healthcare benefits	$76,492,994	$ 356,320	$ 136,448	$ 386,329	$ 77,372,091

The accompanying notes are an integral part of the financial statements.

Statements of Fiduciary Net Position
June 30, 2024 and 2023
(Dollar Amounts in Thousands)

	2023				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Assets:					
Receivables:					
Members	$ 404,819	$ 509	$ 1,541	$ 133	$ 407,002
Employers	1,418,716	399	30,880	—	1,449,995
Investment income	335,907	26	530	1,178	337,641
Investment proceeds	301,559	—	—	—	301,559
CMS Part D and prescriptions	—	—	—	46,074	46,074
Interfund receivable	1,146	—	—	—	1,146
Total Receivables	2,462,147	934	32,951	47,385	2,543,417
Investments, at fair value:					
Short-term	6,118,812	11,231	108,367	420,880	6,659,290
Fixed income	15,658,641	—	—	—	15,658,641
Equity	21,506,295	—	—	—	21,506,295
Collective trust funds	2,117,309	191,535	—	—	2,308,844
Real estate	7,437,732	—	—	—	7,437,732
Alternative investments	18,163,074	—	—	—	18,163,074
Total Investments	71,001,863	202,766	108,367	420,880	71,733,876
Securities lending collateral pool	6,147,770	—	—	—	6,147,770
Capital assets (net of accumulated depreciation $57,100)	35,880	—	—	—	35,880
Miscellaneous	44,713	—	—	170	44,883
Total Assets	79,692,373	203,700	141,318	468,435	80,505,826
Liabilities:					
Accounts payable and accrued expenses	96,521	203	205	1,829	98,758
Benefits payable	656,401	—	78	38,456	694,935
HOP participant premium advances	—	—	—	40,884	40,884
Investment purchases and other payables	490,388	1,041	—	—	491,429
Obligations under securities lending	6,147,770	—	—	—	6,147,770
Interfund payable	—	575	319	252	1,146
Other liabilities	188,963	—	—	—	188,963
Total Liabilities	7,580,043	1,819	602	81,421	7,663,885
Net position restricted for pension, DC and postemployment healthcare benefits	$ 72,112,330	$ 201,881	$ 140,716	$ 387,014	$ 72,841,941

The accompanying notes are an integral part of the financial statements.

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2024 and 2023
(Dollar Amounts in Thousands)

	2024				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Additions:					
Contributions:					
Members	$ 1,197,871	$ 69,748	$ —	$ —	$ 1,267,619
Employers	5,262,714	53,796	102,211	—	5,418,721
Total contributions	6,460,585	123,544	102,211	—	6,686,340
HOP participant premiums	—	—	—	421,491	421,491
Centers for Medicare & Medicaid Services premiums	—	—	—	89,270	89,270
Investment income:					
From investing activities:					
Net appreciation in fair value of investments	4,312,722	44,304	—	—	4,357,026
Short-term	303,821	248	6,233	17,171	327,473
Fixed income	594,978	—	—	—	594,978
Equity	502,176	—	—	—	502,176
Collective trust funds	—	386	—	—	386
Real estate	119,403	—	—	—	119,403
Alternative investments	277,795	—	—	—	277,795
Total investment activity income	6,110,895	44,938	6,233	17,171	6,179,237
Investment expenses	(410,354)	(523)	(49)	(44)	(410,970)
Net income from investing activities	5,700,541	44,415	6,184	17,127	5,768,267
From securities lending activities:					
Securities lending income	90,050	—	—	—	90,050
Securities lending expense	(86,320)	—	—	—	(86,320)
Net income from securities lending activities	3,730	—	—	—	3,730
Total net investment income	5,704,271	44,415	6,184	17,127	5,771,997
Total Additions	12,164,856	167,959	108,395	527,888	12,969,098
Deductions:					
Benefits	7,683,019	—	111,659	487,975	8,282,653
Refunds of contributions	45,726	—	—	—	45,726
Distributions	—	9,982	—	—	9,982
Administrative expenses	55,447	3,538	1,004	40,598	100,587
Total Deductions	7,784,192	13,520	112,663	528,573	8,438,948
Net increase (decrease)	4,380,664	154,439	(4,268)	(685)	4,530,150
Net position restricted for pension, DC and postemployment healthcare benefits:					
Balance, beginning of year	72,112,330	201,881	140,716	387,014	72,841,941
Balance, end of year	$76,492,994	$ 356,320	$ 136,448	$ 386,329	$77,372,091

The accompanying notes are an integral part of the financial statements.

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2024 and 2023
(Dollar Amounts in Thousands)

	2023				
			Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Additions:					
Contributions:					
Members	$ 1,174,580	$ 50,676	$ —	$ —	$ 1,225,256
Employers	5,249,018	39,328	114,721	—	5,403,067
Total contributions	6,423,598	90,004	114,721	—	6,628,323
HOP participant premiums	—	—	—	413,136	413,136
Centers for Medicare & Medicaid Services premiums	—	—	—	65,725	65,725
Investment income:					
From investing activities:					
Net appreciation in fair value of investments	1,315,367	21,437	—	—	1,336,804
Short-term	262,890	214	4,513	9,122	276,739
Fixed income	663,883	—	—	—	663,883
Equity	445,086	—	—	—	445,086
Collective trust funds	823	158	—	—	981
Real estate	188,922	—	—	—	188,922
Alternative investments	300,455	—	—	—	300,455
Total investment activity income	3,177,426	21,809	4,513	9,122	3,212,870
Investment expenses	(405,217)	(275)	(39)	(34)	(405,565)
Net income from investing activities	2,772,209	21,534	4,474	9,088	2,807,305
From securities lending activities:					
Securities lending income	402,300	—	—	—	402,300
Securities lending expense	(379,213)	—	—	—	(379,213)
Net income from securities lending activities	23,087	—	—	—	23,087
Total net investment income	2,795,296	21,534	4,474	9,088	2,830,392
Total Additions	9,218,894	111,538	119,195	487,949	9,937,576
Deductions:					
Benefits	7,537,873	—	112,870	450,984	8,101,727
Refunds of contributions	43,110	—	—	—	43,110
Distributions	—	6,170	—	—	6,170
Administrative expenses	53,823	2,458	1,085	39,740	97,106
Total Deductions	7,634,806	8,628	113,955	490,724	8,248,113
Net increase (decrease)	1,584,088	102,910	5,240	(2,775)	1,689,463
Net position restricted for pension, DC and postemployment healthcare benefits:					
Balance, beginning of year	70,528,242	98,971	135,476	389,789	71,152,478
Balance, end of year	$ 72,112,330	$ 201,881	$ 140,716	$ 387,014	$ 72,841,941

The accompanying notes are an integral part of the financial statements.

Notes to Financial Statements
Years Ended June 30, 2024 and 2023

1. Organization and Description of the System

(A) Organization

Pennsylvania Public School Employees' Retirement System (PSERS or System) was established on July 18, 1917, under the provisions of Pamphlet Law 1043, No. 343, as a governmental, cost-sharing, multiple-employer plan to which public school employers, the Commonwealth of Pennsylvania (Commonwealth), and school employees (members) contribute. PSERS was created by statute through the Public School Employees' Retirement Code (Retirement Code) as a defined benefit plan; a qualified trust under Section 401(a) of the Internal Revenue Service Code (DB Plan; Pension). PSERS' role expanded upon the passage of Act 5 of 2017 (Act 5), effective July 1, 2019, to include oversight of the School Employees' Defined Contribution Plan, a separate qualified 401(a) defined contribution plan (DC Plan; Trust). At June 30, 2024, there were 763 participating employers, generally school districts.

The Public School Employees' Retirement Board (Board) is established by state law as an independent administrative board of the Commonwealth. The Board exercises control and management of the System, including the investment of its assets, and the DC Plan. The Board has 15 members including the Commonwealth's Secretary of Education; the Commonwealth's Secretary of Banking and Securities; the State Treasurer; the Executive Director of the Pennsylvania School Boards Association; one member appointed by the Governor; six elected members (three from among the System's certified members, one from among the System's noncertified members, one from among the System's annuitants; and one from among school board members in Pennsylvania); two members from the Senate; and two members from the House of Representatives.

The retirement plan of the System is a contributory defined benefit plan for which the benefit payments to members and contribution provisions by employers and employees are specified in the Pennsylvania Public School Employees' Retirement Code (Code). Changes in benefit and contribution provisions for the retirement plan must be made by legislation. Pursuant to state law, all legislative bills and amendments proposing to change the System's retirement plan are to be accompanied with an actuarial note prepared by an enrolled pension actuary from the Independent Fiscal Office (IFO) providing an estimate of the cost and actuarial effect of the proposed change. The IFO's actuarial note must be published prior to a second vote on pension-related legislation in the House or Senate.

Based upon criterion of financial accountability as defined by governmental accounting standards, PSERS is considered a component unit of the Commonwealth of Pennsylvania financial reporting entity and is included in the Annual Comprehensive Financial Report of the Commonwealth of Pennsylvania.

(B) DB and DC Retirement Plans

i. Membership Classes

Individuals who became a member prior to July 1, 2011 are Membership Class T-C (Class T-C) or Membership Class T-D (Class T-D). Act 120 of 2010 (Act 120) created two new membership classes, Membership Class T-E (Class T-E) and Membership Class T-F (Class T-F), for individuals who first became new members on or after July 1, 2011 through June 30, 2019.

For individuals who first become new members on or after July 1, 2019, Act 5 allows the employee to elect one of two membership classes consisting of defined benefit (DB) and defined contribution (DC) components (Membership Class T-G (Class T-G) and Membership Class T-H (Class T-H)) or a standalone DC membership class. Membership at June 30, 2023, the most recent year for which actual amounts are available, is presented in Table 2.

Table 2 - Membership as of June 30, 2023	
Active members:	
Vested	143,021
Nonvested	107,799
Total active members	**250,820**
Inactive members:	
Retirees and beneficiaries currently receiving benefits	249,724
Inactive members and vestees entitled to but not receiving benefits	26,776
Total retirees and other members	**276,500**
Total number of members	**527,320**

The normal retirement age, vesting period and final average salary for virtually all members are presented below:

Membership Class	Normal Retirement Age	Pension Multiplier	Vesting	Final Average Salary
T-C	Age 62, or Age 60 with 30 years of service, or 35 years of service regardless of age.	2.00%	5 Years	For any 3 years of service
T-D		2.50%	5 Years	For any 3 years of service
T-E	Age 65 with a minimum of three years of service credit, or Any combination of age and service that totals 92 with at least 35 years of credited service.	2.00%	10 Years	For any 3 years of service
T-F		2.50%	10 Years	For any 3 years of service
T-G	Age 67 with a minimum of three years of service credit, or Any combination of age and service that totals 97 with at least 35 years of credited service.	1.25%	10 Years	For any 5 years of service
T-H	Age 67 with a minimum of three years of credited service.	1.00%	10 Years	For any 5 years of service

ii. DB Benefits

As summarized in the table above, DB benefits are generally between 1% to 2.5%, depending upon membership class, of the member's final average salary (as defined in the Code) multiplied by the number of for years of credited service. A members' right to a DB benefit is vested in 5 to 10 years depending on membership class as summarized in the table above.

To qualify for normal retirement, Class T-C and Class T-D members must work until age 62 with a minimum of one year of service, age 60 with 30 years of service, or attain 35 years of service regardless of age. To qualify years of credited service. To qualify for normal retirement, Class T-G and Class T-H members must work until age 67 with a minimum of 3 years of credited service. Class T-G may also qualify for normal retirement by attaining a total combination of age and service that is equal to or greater than 97 with a minimum of 35 years of credited service.

Active DB members may purchase credit for various types of school and non-school service on a lump-sum, installment purchase basis, or through an actuarially calculated benefit reduction. Class T-E, Class T-F, Class T-G, and Class T-H members must purchase Non-Qualifying Part Time service and most other types of non-school or non-state service credit at full actuarial cost. Members have one year after enrollment in the System to purchase service for Non-Qualifying Part Time service.

In addition to regular retirement benefits, the System also provides for disability retirement benefits and death benefits. Members are eligible for disability retirement benefits after completion of five years of credited service. Such benefits are generally between 33.33% to 40% of the member's final average salary, depending upon membership class.

Death benefits are payable upon the death of an active member who has reached age 62 with at least one year of credited service or who has at least five years of credited service for Class T-C and Class T-D members; age 65 with at least three years of credited service for Class T-E and Class T-F members; age 67 with at least three years of credited services for Class T-G and Class T-H members or 10 years of credited service for Class T-E, Class T-F, Class T-G, and Class T-H members. The death benefit is actuarially equivalent to the present value of the benefit as if the member retired on the day before death.

Members with credited service in the Commonwealth of Pennsylvania State Employees' Retirement System (SERS) may have 365 days from enrollment in the System to elect to have their state service combined with service in the Public School Employees' Retirement System upon commencement of employment in the public school system. Similarly, a member with credited service in the System may elect to combine such service with SERS within 365 days of becoming a member of that system.

All DB members are fully vested in their individual balance of member contributions and interest in the Members' Savings Account, which is described in Note 3. All non-vested members may receive a refund of their individual balance of member contributions and interest from the Members' Savings Account upon termination of public school employment. Vested members may elect to receive a return of their accumulated contributions and interest from the Members' Savings Account upon their retirement which results in a reduced monthly annuity.

iii. DB Contributions

The contribution policy is set by the Code and requires contributions by active members, employers, and the Commonwealth. The System's funding policy provides for periodic employer and Commonwealth contributions at actuarially determined rates, expressed as a percentage of annual covered payroll, such that they, along with employee contributions and an actuarially determined rate of investment return, are adequate to accumulate assets to pay retirement benefits when due. Level percentage of payroll employer contribution rates are determined using the entry age normal actuarial funding method. This method determines the amount of contributions necessary to (1) fully fund all current costs, (also known as normal cost), which represents the estimated amount necessary to pay for the benefits earned by the employees during the current service year; and (2) liquidate the prior service cost for service earned prior to the current service year and subsequent benefit increases, which represents the amount necessary to fund accrued liabilities over the appropriate amortization periods.

According to requirements established in Act 29 of 1994, the Commonwealth reimburses school entity employers a portion of the employer contributions paid to the System. All school entity employers are reimbursed by the Commonwealth at least 50% of the total employer contributions based on the total contribution rate. The Commonwealth reimburses certain school entity employers at a rate greater than 50% based on the Commonwealth of Pennsylvania Department of Education's Market Value/Personal Income Aid Ratio and other factors. School entities remit 100% of total employer contributions directly to the System. The Commonwealth then remits 50% of the total employer contributions for employers other than school entities directly to the System. All contributions from employers and the Commonwealth are shown as employer contributions on the Statements of Changes in Fiduciary Net Position.

The Commonwealth Share of total employer contributions for FY 2024 and FY 2023 was $3.0 billion. The school and non-school entity share of total employer contributions for FY 2024 and FY 2023 was $2.4 billion. For FY 2024 and FY 2023 total employer contributions were $5.4 billion.

Contribution rates for active members are set by law PSERS members contribute between 4.5% and 10.3% of their pay depending on their class of membership to help fund their own retirement benefit. The average contribution rate payable by members for the current year (FY2023-24) is 7.44%.

Rates for members hired on and after July 1, 2011 are subject to a shared risk/shared gain contribution rate. With a shared risk/shared gain contribution rate, members can benefit when PSERS' investments are doing well and share some of the risk when PSERS' investments underperform. DB contribution rates may increase or decrease by 0.50% or 0.75% within the specified range every three years.

The member contribution rate will stay within the ranges specified in the shared risk summary table but can fluctuate by the shared risk increment every three years depending on the investment performance of PSERS.

The investment performance calculations utilized for the shared risk/shared gain contribution rate member risk share assessment are performed by the System's general investment consultant, consistent with current investment policy, and use quarter lagged values for private market investments.

The contribution rates based on qualified member compensation for virtually all members are presented below:

Member Contribution Rates for Fiscal Year Ended June 30, 2024				
Membership Class	**Continuous Employment Since**	**Defined Benefit (DB) Contribution Rate**	**DC Contribution Rate**	**Total Contribution Rate**
T-C	Prior to July 22, 1983	5.25%	N/A	5.25%
T-C	On or after July 22, 1983	6.25%	N/A	6.25%
T-D	Prior to July 22, 1983	6.50%	N/A	6.50%
T-D	On or after July 22, 1983	7.50%	N/A	7.50%
T-E	On or after July 1, 2011	7.50% base rate	N/A	Prior to 7/1/21: 7.50% After 7/1/21: 8.00%
T-F	On or after July 1, 2011	10.30% base rate	N/A	Prior to 7/1/21: 10.30% After 7/1/21: 10.80%
T-G	On or after July 1, 2019	5.50% base rate	2.75%	Prior to 7/1/21: 8.25% After 7/1/21: 9.00%
T-H	On or after July 1, 2019	4.50% base rate	3.00%	Prior to 7/1/21: 7.50% After 7/1/21: 8.25%
DC	On or after July 1, 2019	N/A	7.50%	7.50%

Shared Risk Summary				
Membership Class	**Defined Benefit (DB) Base Rate**	**Shared Risk Increment**	**Minimum**	**Maximum**
T-E	7.50%	+/-0.50%	5.50%	9.50%
T-F	10.30%	+/-0.50%	8.30%	12.30%
T-G	5.50%	+/-0.75%	2.50%	8.50%
T-H	4.50%	+/-0.75%	1.50%	7.50%

iv. Defined Contribution Plan

Act 5 allows the employee to elect one of three Membership Class T-G (Class T-G) and Membership Class T-H (Class T-H)) or a standalone DC membership class. The table below shows the current membership of the DC Plan.

The financial statements for FY 2024 and FY 2023 reflect the DC Plan activities for the fourth and fifth years of operations.

Defined Contribution Plan Membership at June 30, 2024	
Active participants	74,770
Inactive participants entitled to but not receiving distributions	5,059
Total number of participants	**79,829**

v. DC Benefits

The DC component of the retirement is based on the statutory rate of contributions made by the participant and the employer, voluntary contributions (rollovers and after-tax contributions), the investment performance on those contributions, and the fees, costs, and expenses deducted from the PSERS DC Plan account. Contributions have the potential to grow based on investment earnings but are not guaranteed against loss in declining investment markets.

DC participants are always 100% vested in their own mandatory before-tax, after-tax, and rollover contributions in the DC plan. DC participants who have at least three eligibility points become vested and eligible for employer DC contributions made on their behalf. Participants with fewer than three eligibility points are not eligible to receive the employer DC contributions. Each eligibility point is earned the first day a contribution is made to the plan on behalf of a DC participant in a school year (July 1 – June 30). Only one eligibility point may be credited in a school year.

Death benefits are payable upon the death of an active DC participant equal to the vested portion of the participant's DC account. There is no disability benefit with the DC Plan.

vi. DC Contributions

DC participant and employer contributions rates are set by statute. A participant may elect to make additional voluntary post-tax member contributions and rollovers.

(C) Postemployment Healthcare Plans

i. Health Insurance Premium Assistance Program

(a) Premium Assistance Benefits

Beginning July 1, 1992, the System provides a Health Insurance Premium Assistance program (Premium Assistance) for all eligible annuitants who qualify and elect to participate. Effective January 1, 2002, participating eligible annuitants are entitled to receive premium assistance payments equal to the lesser of $100 per month or their out-of-pocket monthly health insurance premium.

The eligibility requirements for premium assistance are as follows:

- 24.5 years of credited service (for Class DC members, Medicare eligibility with at least 24.5 eligibility points), or
- 15 years of credited service if termination of employment and retirement occurred after superannuation age , or
- Receiving a disability annuity from PSERS; and
- Have an out-of-pocket premium expense from their former school employer's health plan or the PSERS sponsored HOP.

As of June 30, 2024, there were no assumed future benefit increases to participating eligible annuitants in the Premium Assistance program. Membership at June 30, 2023, the most recent year for which actual amounts are available, is presented in Table 3.

(b) Contributions

A portion of the employer contribution rate to the System includes the funding of Premium Assistance. The Premium Assistance contribution rate is set at a level necessary to establish reserves sufficient to provide Premium Assistance payments for all participating eligible members for the subsequent fiscal year. The portion of the total contribution rate for employers used to fund Premium Assistance was 0.64% for the year ended June 30, 2024, and 0.75% for the year ended June 30, 2023. Members do not contribute to Premium Assistance.

Table 3 - Premium Assistance Membership at June 30, 2023	
Retirees and beneficiaries currently receiving benefits	93,199
Inactive members and vestees entitled to but not receiving benefits	629
Total retirees and other inactive members	**93,828**
Total active members	251,732
Total number of members	**345,560**

ii. Health Options Program

The Health Options Program (HOP) is a PSERS-sponsored voluntary health insurance program for the sole benefit of annuitants of PSERS, spouses of annuitants, survivor annuitants and their dependents who participate in HOP. The HOP is a separate trust funded exclusively by the premiums paid by its participants for the benefit coverage they elect.

The HOP offers several health plans. Participants may select among two self-funded Medicare supplement plans, three Medicare Rx plans, and multiple Medicare Advantage plans for those eligible for Medicare. Participants not eligible for Medicare have a choice between a self-funded high deductible indemnity plan and multiple managed-care plans. Pre-65 Medical Plan or a companion managed care plan offered through Medicare Advantage carriers are available to retirees residing in the plan's service area. The Medicare supplements and pre-65 high deductible plan are self-funded and claims are adjudicated by a third-party administrator. The Medicare Rx Options and the prescription drug benefit of the pre-65 high deductible plan are also self-funded and claims are adjudicated by a pharmacy benefits manager. The Medicare Advantage and managed-care plans are provided by private insurance companies or managed care organizations and benefits are fully insured. HOP also offers a fitness program and a dental and vision option through fully insured carriers.

Effective January 1, 2006, PSERS entered into an Employer/Union Entity contract with the Centers for Medicare and Medicaid Services (CMS) to operate a voluntary Medicare Prescription Drug Plan (PDP). The PDP covers approximately 97,000 participants. CMS provides partial funding of the PDP in the form of monthly per capita payments and reinsurance. An independent actuarial consulting firm sets the rates for the self-funded benefits. The HOP maintains reserves for claims that are Incurred But Not Reported (IBNR) and for claim fluctuation for the self-funded benefit plans. At June 30, 2024 and 2023, PSERS recorded $24,857,000 and $23,092,600, respectively, in IBNR. The IBNR is included in benefits payable.

2. Summary of Significant Accounting Policies

(A) Basis of Accounting

The System's financial statements are prepared on the accrual basis of accounting under which expenses are recorded when the liability is incurred, revenues are recorded in the accounting period in which they are earned and become measurable, and investment purchases and sales are recorded as of their trade date. Member and employer contributions are recognized in the period for which employees' salaries are reported. Benefits and refunds are recognized when due and payable in accordance with the terms of the plan.

The Systems' accounting and reporting policies conform to accounting principles generally accepted in the United States of America (GAAP). The preparation of financial statements in conformity with GAAP requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of additions and deductions in fiduciary net position during the reporting period. Actual results could differ from those estimates.

(B) Investments

The System's investments are reported at fair value. Fair value is the amount that the System can reasonably expect to receive for an investment in a current sale between a willing buyer and a willing seller, that is, other than in a forced or liquidation sale. See Note 4(B) for the description of the Fair Value of Investments.

Net appreciation (depreciation) is determined by calculating the change in fair value of investments between the beginning of the year and end of the year, less purchases of investments at cost, plus sales of investments at fair value.

Investment purchases and sales are recorded as of the trade date. Interest income is comprised of dividend, interest, and other investment income. Dividend income is recognized on the ex-dividend date. Interest and other investment income is recognized when earned.

Investment expenses consist of investment manager fees and those administrative expenses directly related to the System's investment operations. Investment proceeds receivable generally include unsettled investment sales. Unsettled investment purchases are included in investment purchases and other payables.

(C) Capital Assets

PSERS maintains three categories of capital assets: tangible capital assets, intangible capital assets, and intangible right-to-use assets.

Tangible capital assets consist primarily of data processing equipment and software. Internally developed computer software is recognized as intangible capital assets. Capital assets are depreciated using the straight-line method over an estimated useful life of five years.

Intangible Right to Use Assets		
Costs		**(Dollar Amounts in Thousands)**
Balances as of June 30, 2023	$	34,564
Balances as of June 30, 2024	$	68,514
Accumulated depreciation and amortization		
Depreciation and Amortization Expense	$	(23,466)
Balances June 30, 2024		(23,466)
Net right to use assets June 30, 2024	**$**	**45,048**

Intangible capital assets are amortized using the straight-line method over an estimated useful life of twenty years for assets purchased prior to July 1, 2012 and up to 10 years for assets purchased after June 30, 2012.

Intangible right-to-use leases are recorded at net present value of lease payments. Intangible right-to-use lease assets and related liabilities are recorded at the commencement date of the related contract. Lease liabilities, included in Other Liabilities on the Statement of Fiduciary Net Position, are measured at the present value of expected payments over the contract term. Lease assets are amortized over the shorter of the term of the contract or the useful life of the underlying assets. Interest expense is recognized over the contract term.

Intangible right-to-use Subscription-Based Information Technology Arrangements (SBITA) are recorded under GASB Statement No. 96, Subscription-Based Information Technology Arrangements. Intangible right-to-use SBITA assets and related liabilities are recorded at the commencement date of the related contract. SBITA liabilities, included in Other Liabilities on the Statement of Fiduciary Net Position, are measured at the present value of expected payments over the contract term. SBITA assets are amortized over the shorter of the term of the contract or the useful life of the underlying assets. Interest expense is recognized over the contract term.

(D) Benefits Payable

Benefits payable represents the obligations of the System, on an accrual basis, at the end of the fiscal year. It includes the estimated retirement and death benefits payable, federal taxes withheld but not yet due to the IRS, premium assistance benefits payable, and the HOP IBNR claims for its participants.

(E) Pensions for Employees of the System

For purposes of measuring the net pension liability, deferred outflows of resources, deferred inflows of resources, and pension expense, information about the fiduciary net position of the Pennsylvania State Employees' Retirement System (SERS) and additions to/deductions from SERS' fiduciary net position have been determined on the same basis as they are reported by SERS. Please refer to Note 8 for additional information regarding SERS. PSERS' net pension liability for its employees to SERS is reported in Other liabilities. Deferred inflows of resources are reported in Other liabilities. Deferred outflows of resources are reported in Miscellaneous assets. Pension expense is reported in administrative expenses and is detailed on the Schedule of Administrative and Investment Expenses Supplementary Schedule.

(F) Postemployment Healthcare Plan for Employees of the System

For purposes of measuring the net OPEB liability, deferred outflows of resources, deferred inflows of resources and OPEB expense, information about the fiduciary net position of the Commonwealth of Pennsylvania Retired Employees Health Program (REHP) and additions to/deductions from REHP fiduciary net position have been determined on the same basis as they are reported by the REHP. Please refer to Note 9 for additional information regarding the REHP. PSERS' net OPEB liability for its employees to the REHP is reported in Other liabilities. Deferred inflows of resources are reported in Other liabilities. Deferred outflows of resources are reported in Miscellaneous assets. OPEB expense is reported in administrative expenses and is detailed on the Schedule of Administrative and Investment Expenses Supplementary Schedule.

(G) Compensated Absences

The System uses the accrual basis of accounting for measuring vacation, sick leave, and other compensated absences liabilities. Employees of the System are paid for accumulated vacation leave upon termination or retirement. Retiring employees of the System that meet service, age, or disability requirements are paid between 30% and 100% of sick days available at retirement, up to 161 maximum days paid. At June 30, 2024 and 2023, $5,424,000 and $6,810,000, respectively, were accrued for unused vacation and sick leave for the System's employees and are included in Accounts payable and accrued expenses on the Statements of Fiduciary Net Position.

(H) Participant Premium Advances

Premium advances at June 30, 2024 and 2023, are for HOP premiums related to health care coverage to be provided in July of 2024 and 2023, respectively.

(I) Federal Income Taxes

PSERS is exempt from federal income taxes under section 501 (a) of the Internal Revenue Code.

(J) Risk Management

The System is exposed to various liabilities and risks of loss, including, without limitation, the ordinary risks of investment losses, risks related to theft or destruction of assets, liabilities resulting from injuries to employees, and liabilities resulting from court challenges to fiduciary decisions. As an administrative agency of the Commonwealth of Pennsylvania, the System is accorded sovereign immunity. For claims not shielded by sovereign immunity, the System participates in certain Commonwealth pooled insurance programs and requires asset managers to carry certain insurance coverage for the protection of the System. The System has implemented a self-insurance program for fiduciary and director and officer liability coverage. During the past three fiscal years, insurance settlements did not exceed insurance coverage. In addition, the DC plan has its own fiduciary insurance through a third-party.

The Health Options Program maintains a reserve equal to approximately 11 to 12 months of self-funded benefits and expenses. Reserves are recommended for all self-insured group health plans to cover the potential for unexpected claim volatility (high amount claim events) and unanticipated economic changes (excessive inflation). Further, The Health Options Program, as a Medicare Supplement Plan, has limited exposure to high cost claims, which reduces the potential for excess risk. Medicare is the primary payer for most medical claims in the HOP Medical and Value Medical plans, and the Medicare Prescription Drug Program is protected by Medicare Part D Catastrophic coverage. Benefits for members who are not eligible for Medicare are limited to $300,000 per year in medical benefits, and $1,000,000 over a member's lifetime. Medical and Prescription drug benefits provided by Managed Care Organizations are fully insured by those providers. For these reasons, the Health Options Program is sufficiently reserved and reinsurance (stop loss coverage) is not needed or recommended at this time.

(K) Members Receivables

Members receivables include an amount for members' obligations to the System for the purchase of service credit. Members have a variety of options to remit purchase of service payments:

- Remit a lump sum payment.
- Request an installment plan from one to seven years where the member's employer establishes a payroll deduction process. The member's employer then forwards monthly payments of the withheld amounts to PSERS.
- Accept an actuarial reduction debt through which the amount of the purchase, plus accumulated interest, will reduce the member's retirement or death benefit.
- Rollover funds from an eligible distribution.

The following is a summary of member receivables at June 30, 2024 and 2023:

	(Dollar Amounts in Thousands)	
	2024	2023
Pension:		
Member Contributions	**$ 82,173**	$ 88,253
Purchase of Service	**284,947**	305,797
Other	**7,543**	10,769
Total Pension	**$ 374,663**	$ 404,819
Defined Contribution Plan	**$ 751**	$ 509
Postemployment Healthcare:		
Premium Assistance	**$ 1,518**	$ 1,541
Health Options Program	**$ 126**	$ 133

(L) Interfund Transactions and Balances

Interfund transfers of assets take place on a regular recurring basis between Pension, Premium Assistance, HOP and Defined Contribution. The transfers occur upon receipt of employer contributions and payment of benefits or expenses. The interfund receivables and payables related to interfund activity are classified under receivables and liabilities on the financial statements.

(M) Adoption of New Accounting Standards

PSERS reviews the requirements of all new GASB pronouncements and assesses the potential impact to the System. There were no new GASB standards that materially impacted PSERS' financial statements for the fiscal year ended June 30, 2024.

3. Description of Accounts

The Code requires the System to maintain the following accounts which represent reserves held for future and current benefit payments as follows and as illustrated in Table 4.

Table 4 - Account Balance

	(Dollar Amounts in Thousands)	
	2024	2023
Pension:		
State Accumulation Account	**$ (7,561,460)**	$ (9,242,681)
Members' Savings Account	**19,630,600**	19,188,548
Annuity Reserve Account	**64,423,854**	62,166,463
	$ 76,492,994	$ 72,112,330
Defined Contribution Plan	**$ 356,320**	$ 201,881
Postemployment Healthcare:		
Health Insurance Account	**$ 136,448**	$ 140,716
Account	**$ 386,329**	$ 387,014

(A) State Accumulation Account

The State Accumulation Account is credited with contributions from the Commonwealth and the employers. Additionally, interest earnings of the System (after crediting the Members' Savings Account with 4% interest and the reserve for retirement with 5.50% statutory interest) are credited to this account. Each year, the necessary amounts, as determined by the actuary for the payment of retirement, disabilities, and death benefits, are transferred from the State Accumulation Account to the Annuity Reserve Account increasing the reserve credit to the 7.00% valuation assumption rate determined by the actuary. All administrative expenses necessary for the operation of the System, except for Premium Assistance, HOP, and Defined Contribution Plan expenses, are paid from the State Accumulation Account.

(B) Members' Savings Account

The Members' Savings Account is credited with all contributions made by active members of the System. Interest is added to the member's individual account at an annual rate of 4%. Upon a member's death or retirement, the accumulated contributions plus interest are transferred to the Annuity Reserve Account for subsequent payment of benefits.

(C) Annuity Reserve Account

The Annuity Reserve Account represents the amounts transferred from the Members' Savings and State Accumulation Accounts, plus additional contributions made by the Commonwealth and employers for the payment of supplemental annuities and cost-of-living increases. All death, disability, and retirement benefits are paid from this account. Annual interest of 5.50% is credited to the Annuity Reserve Account.

(D) School Employees' Defined Contribution Trust (Defined Contribution Plan)

The School Employees' Defined Contribution Trust accumulates DC participants and employer contributions, investment earnings and DC plan expenses of the School Employees' Defined Contribution Plan. The trust is comprised of individual investment accounts, all assets in those accounts and any assets held that are not allocated to the individual investment accounts. The assets of the plan are held in trust for the exclusive benefit of the participants and their beneficiaries and may be used for payment of fees, costs and expenses related to the administration and investment of the plan and the trust.

(E) Health Insurance Account

The Health Insurance Account is credited with contributions from the employers for Premium Assistance. The Health Insurance Account pays all administrative expenses necessary to operate the Premium Assistance Program.

(F) Health Insurance Program Account

The Health Insurance Program Account is credited with premiums from members of the HOP and from CMS. All benefits related to the HOP (premium payments to the insurance companies and self-funded benefits) are paid from this account. The Health Insurance Program Account pays all administrative expenses necessary to operate the HOP.

4. Investments

(A) Summary of Investments

The Board has the responsibility to invest and reinvest available funds of the System in accordance with the guidelines and limitations set forth in the Code and other applicable state law. The Board accomplishes the daily management of the System's investments through internal investment managers and through investment advisors who act as agents for the System.

The Board invests the funds of the System using the Prudent Investor Standard, as articulated in the Code, which means "the exercise of that degree of judgment, skill and care under the circumstances then prevailing which persons of prudence, discretion, and intelligence who are familiar with such matters exercise in the management of their own affairs not in regard to speculation, but in regard to the permanent disposition of the fund, considering the probable income to be derived therefrom as well as the probable safety of their capital." The Board has adopted its investment policy to formally document investment objectives and responsibilities. This policy, as well as applicable state law, establishes guidelines for permissible investments of the System.

(B) Fair Value of Investments

i. Fair Value Levels

PSERS measures and records its investments using fair value measurement guidelines established by generally accepted accounting principles. These guidelines recognize a three-tiered fair value hierarchy as follows:

- **Level 1 inputs:** Level 1 inputs are quoted prices (unadjusted) for identical assets or liabilities in active markets. A quoted price for an identical asset or liability in an active market (e.g., an equity security traded on a major exchange) provides the most reliable fair value measurement and, if available, should be used to measure fair value in that particular market.

- **Level 2 inputs:** Level 2 inputs are prices that are observable either directly or indirectly. Level 2 inputs may include quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model- derived valuations in which all significant inputs are observable, such as interest rates, yield curves, implied volatilities, credit spreads, or market-corroborated inputs.

- **Level 3 inputs:** Reporting entities may use unobservable inputs to measure fair value if relevant observable inputs are not available, allowing for situations in which there is little, if any, market activity for the asset or liability at the measurement date. These unobservable inputs are considered Level 3.

Debt, equity, and derivative instrument securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Debt securities classified in Level 2 of the fair value hierarchy are valued using a matrix pricing technique. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices and recently published security specific trading levels. Short-term securities are carried at cost, which approximates fair value, unless they have published market prices or quotations from national securities exchanges or securities pricing services, in which case they are valued at the published market price. Fixed income securities and equities are generally valued based on published market prices and quotations from national securities exchanges or securities pricing services. Securities which are not traded on a national securities exchange are valued by the respective fund manager or other third parties based on similar sales.

For Collective Trust Fund (CTF) investments, PSERS' management, in consultation with investment advisors has determined the fair value based upon the reported share value of the respective fund. The reported share value of the fund is based upon each respective fund's administrator statement.

Private equity, private equity real estate, private credit, private infrastructure, and absolute return are generally organized as limited partnerships. The fair value of investments, which are organized as limited partnerships, and have no readily available daily fair value, have been determined by using the net asset value per share (or its equivalent) of PSERS' ownership interest in partners' capital. These net asset values are based on the individual investor's June 30, 2024, capital account balance reported at fair value by the general partner of the respective limited partnership, or the most recently available reporting period, adjusted for subsequent contributions, distributions, management fees, changes in values of foreign currency, and published market prices for certain securities.

The limited partnerships' annual financial statements, which include estimates of fair values, are audited by independent certified public accounting firms. It is possible that these estimates could change in the near-term, or upon the sale of the assets, resulting in valuations that could differ from the June 30, 2024, reported net asset value.

Directly-owned real estate investments are valued based upon the June 30th financial statements completed by the asset manager. The directly-owned real estate investments are appraised annually by an independent third-party appraiser as of calendar year-end.

Derivative instruments classified in Level 1 of the fair value hierarchy are valued using observable exchange, dealer, or broker market pricing.

1.) Pension

i. Investments at Net Asset Value (NAV)

(a) Collective trust fund investments consist primarily of domestic and international institutional funds. The CTF's fair value is based on the reported share value of the respective fund by the fund administrator. Redemption frequency for these assets range from monthly, to quarterly, to annual.

(b) Private equity real estate is implemented through investment structures that provide limited liability to PSERS. These investments are across multiple asset types such as industrial, multi-family, office, retail, hotels, agriculture (permanent crops), and other real estate related assets.

Private equity real estate investments utilize core, value-added, and opportunistic strategies. Core real estate strategies are expected to deliver a significant percentage of their return from income and should demonstrate lower volatility than opportunistic and value-added strategies due to lower leverage, higher levels of occupancy, and asset location in primary markets. Value-added real estate strategies typically have near-term leasing, repositioning, and/or renovation risk. Value-added strategies are expected to have modest initial operating revenues with potential for substantial income growth and will likely encounter greater volatility than core strategies, but lower volatility than opportunistic strategies. Opportunistic real estate strategies typically have significant development, lease-up, financial restructuring, and/or liquidity risk with little or no initial operating income. Opportunistic real estate strategies typically utilize higher levels of leverage, are expected to achieve most of the return from future capital gains, and are likely to encounter greater volatility than core and value-added strategies. The fair value of these investments have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. Distributions may be received as: cash flows from operations or return of capital from dispositions, which can take, on average, up to 10 years.

(c) Private equity is implemented through investment structures that provide limited liability to PSERS. Strategies include buyout, growth equity, venture capital, and special situations strategies. Buyout strategies typically seek controlling interests in established companies that are further along in the business cycle. Venture capital strategies typically target companies in early phases of the business cycle and may be classified as seed, early, middle or late stage. These companies generally are not yet profitable and therefore are higher on the risk/return spectrum. Growth equity strategies sit between buyout and venture capital, and typically consist of companies with high revenue growth, free cash flow generation, and are typically profitable. Special situations strategies typically refer to mezzanine and distressed debt-for-control. The fair value of these investments have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. Distributions may be received as: cash flows from operations or return of capital from dispositions, which can take, on average, up to 10 years.

(d) Private credit is implemented through investment structures that provide limited liability to PSERS. Private credit strategies include direct lending, mezzanine lending, distressed and special situations, specialty finance, structured credit, real estate credit, and real assets credit. Direct lending is focused on providing senior secured loans to middle-market businesses. Mezzanine is primarily focused on providing subordinated debt capital to private businesses. Distressed and special situations is focused on issuing loans to companies undergoing financial challenges or that are in need of a solution to optimize a capital structure or purchasing publicly listed, stressed securities. Specialty finance is a set of niche lending strategies that provide financing to consumers, small businesses, and other borrowers. Structured credit is a set of strategies that target investments in securitized debt obligations, such as collateralized loan obligations and collateralized debt obligations. Real estate credit is focused on commercial real estate collateral or residential mortgage origination. Real assets credit is focused on providing debt capital to companies operating within the real asset space with loans typically secured by real assets. The fair value of these investments have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. Distributions may be received as: cash flows from operations or return of capital from dispositions, which can take, on average, up to 10 years.

(e) Private infrastructure is implemented through investment structures that provide limited liability to PSERS. Investments generally consist of private companies and assets that provide essential services to the economy, including regulated assets, contracted energy assets, and transportation assets with high barriers to entry and stable and predictable long-term cash flows. Regulated assets generally include electricity transmission and distribution facilities, gas distribution systems, pipelines, water distribution, and wastewater collection and processing facilities. Contracted energy assets generally include renewable and conventional generation, pipelines, and storage. Transportation assets generally include toll roads, bridges and tunnels, airports, seaports, parking facilities, and rail lines. The fair value of these investments have been determined using the NAV per share (or its equivalent) of the System's ownership interest in partners' capital. These investments cannot be easily redeemed. Distributions may be received as: cash flows from operations or return of capital from dispositions, which can take, on average, up to 10 years.

(f) Absolute return is implemented through investment structures that provide limited liability to PSERS. Absolute return includes investments that are private investment funds that seek to produce absolute returns generally using event-driven, tactical trading, and relative value strategies. Event-driven funds seek to gain an advantage from pricing inefficiencies that may occur before or after a corporate action or related event, such as a merger, spinoff, earnings call, bankruptcy, or restructuring. Tactical trading funds invest their holdings in indexes, commodities, interest rate instruments, and currencies as a result of relative value or directional forecasts from a systematic or discretionary approach. Relative value strategies use a range of fixed income arbitrage, insurance linked, long-short credit, and/or quantitative strategies that seek to take advantage of price differentials. The fair values of the investments in this type have been determined using the NAV per share of the investments. With the most recently approved strategic asset allocation, the absolute return portfolio is in liquidation. While many of the investments can be redeemed within 12 months of June 30, 2024, there are investments that include restrictions that do not allow for redemption during the next 12 months and could take longer.

(2.) Defined Contribution

i. Investments at Net Asset Value (NAV)

(a) DC Collective Trust Fund investments (DC-CTF) consist primarily of domestic and international institutional funds. The fair value of DC-CTF is based on the reported share value of the respective fund. DC-CTF are managed by state chartered banks for which various state banking departments have regulatory oversight and investment advisors for which regulatory agencies such as the Securities and Exchange Commission have regulatory oversight. Investments that are not subject to this oversight are subject to annual independent audits. Redemption frequency for these assets range from monthly, to quarterly, to annual.

(C) Deposit and Investment Risk Disclosures

i. Deposits

Custodial credit risk for deposits is the risk that, in the event of a financial institution failure, the System would not be able to recover the value of the deposits. The Commonwealth's Treasury Department is the custodian of the System's funds. Commonwealth Treasury Department deposits must be held in insured depositories approved by the Commonwealth's Board of Finance and Revenue and must be fully collateralized. The deposit and investment policies of the Treasury Department are governed by Sections 301, 301.1, and 505 of the Pennsylvania Fiscal Code (Act of 1929, P.L. 343), and Section 321.1 of the Pennsylvania Administrative Code (Act of 1929, P.L. 177, No. 175).

The System, through its third-party administrator, maintains certain bank deposits for the operation of its voluntary HOP. These deposits are not required to be collateralized by statute or policy. These deposits totaled $356,653,000 and $324,187,000, at June 30, 2024 and 2023, respectively, and are under the custody of M&T Bank which has a BB+ rating by Standard and Poor's (S&P) and an Baa3 rating by Moody's Investor Services (Moody's).

ii. Investment Risks

The System's investments, including derivatives and other similar investments, may be subject to various risks. Among these risks are concentration of credit risk, custodial credit risk, credit risk, interest rate risk, and foreign currency risk. The policies addressing each one of these risks, discussed in more detail below, are contained within the Investment Policy Statement, Objectives, and Guidelines reviewed and approved by the Board. Due to the level of risk associated with certain investments, it is possible that changes in the values of investments may occur in the near term and that such changes could materially affect the amounts reported in the Statements of Fiduciary Net Position.

At June 30, 2024, the System had the following recurring fair value measurements in the Pension Plan.

Pension Investments

Investments and Derivative Instruments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2024	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 6,039,011**	$ 4,341,913	$ 1,697,098	$ —
Other domestic short-term	**482,003**	421,951	60,052	—
International short-term	**51,470**	43,410	8,060	—
	6,572,484	4,807,274	1,765,210	—
Fixed:				
Domestic asset-backed and mortgage-backed securities	**712,763**	—	712,763	—
U.S. government and agency obligations	**11,810,875**	11,229,405	581,470	—
Domestic corporate and taxable municipal bonds	**1,777,152**	928,831	848,321	—
International fixed income	**336,531**	—	336,531	—
	14,637,321	12,158,236	2,479,085	—
Equity:				
Domestic equity	**13,767,270**	13,767,220	50	—
International equity	**8,164,642**	8,164,642	—	—
	21,931,912	21,931,862	50	—
Directly-owned real estate	**1,482,406**	—	—	1,482,406
Total investments by fair value level	**44,624,123**	$ 38,897,372	$ 4,244,345	$ 1,482,406
Investments measured at the net asset value (NAV)				
Collective trust funds - Fixed income	**2,518,078**			
Collective trust funds - Equity	**2,424,671**			
Collective trust funds - Other	**905,424**			
Private equity real estate	**4,220,550**			
Private infrastructure	**2,443,640**			
Alternative investments:				
Private equity	**12,481,672**			
Private credit	**5,700,508**			
Absolute return	**253,965**			
	18,436,145			
Total investments measured at the NAV	**30,948,508**			
Total investments measured at fair value	**$ 75,572,631**			
Investment derivative instruments				
Futures	**$ 62,547**	$ 62,547	$ —	$ —
Total return type swaps	**(16,880)**	(16,880)	—	—
Foreign exchange contracts	**40,745**	40,745	—	—
Options	**4,157**	4,157	—	—
Total investment derivative instruments	**$ 90,569**	$ 90,569	$ —	$ —

At June 30, 2023, the System had the following recurring fair value measurements in the Pension Plan.

Pension Investments

Investments and Derivative Instruments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2023	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 4,834,819	$ 2,986,284	$ 1,848,535	$ —
Other domestic short-term	1,259,656	1,150,294	109,362	—
International short-term	24,337	9,946	14,391	—
	6,118,812	4,146,524	1,972,288	—
Fixed income:				
Domestic asset-backed and mortgage-backed securities	579,899	—	579,899	—
U.S. government and agency obligations	10,993,228	10,987,314	5,914	—
Domestic corporate and taxable municipal bonds	1,494,012	538,188	955,824	—
International fixed income	289,365	—	289,365	—
	13,356,504	11,525,502	1,831,002	—
Equity:				
Domestic equity	11,753,219	11,753,219	—	—
International equity	7,604,593	7,604,593	—	—
	19,357,812	19,357,812	—	—
Directly-owned real estate	1,496,700	—	—	1,496,700
Total investments by fair value level	40,329,828	$ 35,029,838	$ 3,803,290	$ 1,496,700
Investments measured at the net asset value (NAV)				
Collective trust funds - Fixed Income	2,302,137			
Collective trust funds - Equity	2,148,483			
Collective trust funds - Other	2,117,309			
Private equity real estate	4,258,716			
Private infrastructure	1,682,316			
Alternative investments:				
Private equity	12,789,319			
Private credit	5,175,199			
Absolute return	198,556			
	18,163,074			
Total investments measured at the NAV	30,672,035			
Total investments measured at fair value	$ 71,001,863			
Investment derivative instruments				
Futures	$ 43,857	$ 43,857	$ —	$ —
Total return type swaps	(85,897)	(85,897)	—	—
Foreign exchange contracts	33,865	33,865	—	—
Options	2,291	2,291	—	—
Total investment derivative instruments	$ (5,884)	$ (5,884)	$ —	$ —

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2024 and 2023 are presented in the following tables.

Pension Investments

Fair Value of Investments

Investments measured at the NAV

(Dollar Amounts in Thousands)

	2024			
	Fair Value	**Unfunded Commitments**	**Redemption Frequency***	**Redemption Notice Period***
	$ 2,518,078	$ —	see note (a)	see note (a)
Collective trust funds - Equity (a)	**2,424,671**	—	see note (a)	see note (a)
Collective trust funds - Other (a)	**905,424**	—	see note (a)	see note (a)
Private equity real estate (b)	**4,220,550**	2,221,484	see note (b)	see note (b)
Private infrastructure (e)	**2,443,640**	2,102,767	see note (e)	see note (e)
Alternative investments:				
Private equity (c)	**12,481,672**	3,274,555	see note (c)	see note (c)
Private credit (d)	**5,700,508**	3,106,344	see note (d)	see note (d)
Absolute return (f)	**253,965**	—	see note (f)	see note (f)
	18,436,145			
Total investments measured at the NAV	**$ 30,948,508**			

Pension Investments

Fair Value of Investments

Investments measured at the NAV

(Dollar Amounts in Thousands)

	2023			
	Fair Value	**Unfunded Commitments**	**Redemption Frequency***	**Redemption Notice Period***
Collective trust funds - Fixed income (a)	$ 2,302,137	$ —	see note (a)	see note (a)
Collective trust funds - Equity (a)	2,148,483	—	see note (a)	see note (a)
Collective trust funds - Other (a)	2,117,309	—	see note (a)	see note (a)
Private equity real estate (b)	4,258,716	2,508,928	see note (b)	see note (b)
Private infrastructure (e)	1,682,316	1,276,473	see note (e)	see note (e)
Alternative investments:				
Private equity (c)	12,789,319	3,777,403	see note (c)	see note (c)
Private credit (d)	5,175,199	3,083,132	see note (d)	see note (d)
Absolute return (f)	198,556	207,733	see note (f)	see note (f)
	18,163,074			
Total investments measured at the NAV	$ 30,672,035			

*See note 4(B)(a)(ii) (a) through (f) for additional details.

At June 30, 2024, the System had the following recurring fair value measurements in the Premium Assistance Program.

Premium Assistance Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2024	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 109,873**	$ 78,999	$ 30,874	$ —
Total investments measured at fair value	**$ 109,873**	$ 78,999	$ 30,874	$ —

At June 30, 2023, the System had the following recurring fair value measurements in the Premium Assistance Program.

Premium Assistance Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2023	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 108,367	$ 66,934	$ 41,433	$ —
Total investments measured at fair value	$ 108,367	$ 66,934	$ 41,433	$ —

At June 30, 2024, the System had the following recurring fair value measurements in the Health Options Program.

Health Options Program Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2024	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 100,964**	$ 72,593	$ 28,371	$ —
Other domestic short-term	**356,653**	356,653	—	—
Total investments measured at fair value	**$ 457,617**	$ 429,246	$ 28,371	$ —

At June 30, 2023, the System had the following recurring fair value measurements in the Health Options Program.

Health Options Program Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2023	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 96,693	$ 59,724	$ 36,969	$ —
Other domestic short-term	324,187	324,187	—	—
Total investments measured at fair value	$ 420,880	$ 383,911	$ 36,969	$ —

At June 30, 2024, the System had the following recurring fair value measurements in the DC Plan.

Defined Contribution Plan Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2024	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 4,079**	**$ 2,933**	**$ 1,146**	**$ —**
Other domestic short-term	**9,634**	**9,634**	**—**	**—**
Total investments by fair value level	**13,713**	**12,567**	**1,146**	$ —
Investments measured at the net asset value (NAV)				
Collective trust funds	**342,535**			
Total investments measured at the NAV	**342,535**			
Total investments measured at fair value	**$ 356,248**			

At June 30, 2023, the System had the following recurring fair value measurements in the DC Plan.

Defined Contribution Plan Investments

Investments Measured at Fair Value
(Dollar Amounts in Thousands)

		Fair Value Measurements Using		
	2023	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 4,843	$ 2,991	$ 1,852	$ —
Other domestic short-term	6,388	6,388	—	—
Total investments by fair value level	11,231	$ 9,379	$ 1,852	$ —
Investments measured at the net asset value (NAV)				
Collective trust funds	191,535			
Total investments measured at the NAV	191,535			
Total investments measured at fair value	$ 202,766			

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2024 is presented in the following table.

Defined Contribution Plan Investments

Fair Value of Investments

Defined Contribution Plan investments measured at the NAV

(Dollar Amounts in Thousands)

	2024			
	Fair Value	**Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds (g)	**$ 342,535**	$ —	see note (g)	see note (g)
Total investments measured at the NAV	**$ 342,535**			

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2023 is presented in the following table.

Defined Contribution Plan Investments

Fair Value of Investments

Defined Contribution Plan investments measured at the NAV

(Dollar Amounts in Thousands)

	2023			
	Fair Value	**Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds (g)	$ 191,535	$ —	see note (g)	see note (g)
Total investments measured at the NAV	$ 191,535			

The following table discloses aggregate market value for the System's Short-term and Fixed Income assets by credit quality rating category. Many securities have ratings from more than one NRSRO*** and sometimes those ratings differ from one NRSRO to another. The data listed below uses the rating (expressed as S&P equivalent) available from Moody's and/or S&P that indicates the lowest credit quality at June 30, 2024 and 2023.

	(Dollar Amounts in Thousands)	
	2024	2023
Quality Rating	**Fair Value**	Fair Value
AAA	**$ 1,731,000**	$ 541,764
AA	**2,225,626**	3,204,630
A	**707,925**	791,723
BBB	**361,271**	312,250
BB and Below	**674,883**	881,233
NR*	**3,949,095**	5,427,923
Total Exposed to Credit Risk	**9,649,800**	11,159,523
U.S. Government Guaranteed**	**14,659,286**	11,158,408
Total Fixed Income and Short-Term Investments	**$ 24,309,086**	$ 22,317,931

*Not Rated securities include $828,136 and $2,518,078 in collective trust funds and $1,171,432 and $93,853 in PSERS Short-Term Investment Fund assets at June 30, 2023 and 2024 respectively.

**Comprised of U.S government and agency obligations explicitly guaranteed by the U.S. government and not considered to have credit risk.

***nationally recognized statistical rating organizations (NRSRO)

At June 30, 2024 and 2023, the System's fixed income portfolio had the following option-adjusted durations by fixed income sector:

	(Dollar Amounts in Thousands)			
	2024		**2023**	
Investment Type	**Option-Adjusted Duration**	**Fair Value**	Option-Adjusted Duration	Fair Value
Domestic asset-backed and mortgage-backed	**0.9**	**$ 712,763**	0.2	$ 579,899
U.S. government and agency obligations	**10.0**	**11,810,875**	11.1	10,993,228
Domestic corporate and taxable municipal bonds	**1.2**	**1,777,152**	0.5	1,494,012
International fixed income	**4.2**	**336,531**	1.9	289,365
Collective trust funds*	**11.9**	**2,518,078**	10.1	2,302,137
PSERS Short-Term Investment Fund	**0.1**	**6,253,927**	0.1	5,044,722
Other Short-Term Assets	**0.1**	**899,760**	0.1	1,614,568
Total	**6.3****	**$ 24,309,086**	**6.6****	$ 22,317,931

* Represents funds holding fixed income assets.

** Fixed income investment managers enter into futures contracts to adjust the durations of their portfolios as a whole rather than any particular investment type within the portfolio. In total, the futures contracts have adjusted PSERS' total portfolio duration upward by 0.1 at June 30, 2024 and 2023. The total portfolio option adjusted duration is calculated by weighting each investment type by fair value.

(a) Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer. As of June 30, 2024 and 2023, the System had no single issuer that exceeded 5% of total investments. Investments issued or explicitly guaranteed by the U.S. government and investments in mutual funds, external investment pools, and other pooled investments were excluded.

(b) Custodial Credit Risk

Custodial credit risk for investments is the risk that, in the event of the failure of the counterparty to a transaction, the System would not be able to recover the value of investment or collateral securities that are in the possession of an outside party. In accordance with a contractual relationship between the Commonwealth's Treasury Department and its custodial agent, substantially all investments, where securities are used as evidence of the investment, are held by the custodian in book-entry form in the System's name. Those investments are defined as insured or registered investments for which the securities are held by the System or its agent and, therefore, have a very minimal level of custodial credit risk. The remaining investments, which do not have securities that are used as evidence of the investment, are primarily in collective trust funds and limited partnerships, which include real estate and alternative investments.

(c) Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The credit risk of a debt instrument is measured by nationally recognized statistical rating organizations (NRSRO) such as Moody's, and S&P. Annually, the Board establishes an asset allocation plan. This plan manages the overall credit risk of the fixed income asset class through a clearly defined long-term asset allocation policy. This policy establishes a long-term target allocation of the fixed income asset class at 33.5% of the investment portfolio. The fixed income target allocation consists of:

- An allocation of 14.0% of the portfolio has been made to the investment grade segment of the fixed income asset class benchmarked to the Bloomberg U.S. Aggregate Bond TR Index (6.0%) and the Bloomberg U.S. Long Treasury TR Index (8.0%). Within this segment, the U.S. long treasury allocation (8.0%) is composed of primarily long duration U.S. Treasury securities issued by the U.S. government. The U.S. core fixed allocation (6.0%) is composed of primarily investment grade, relatively liquid, public domestic and government-related bonds with an overall weighted-average NRSRO credit rating of A or better.
- An allocation of 6.0% of the portfolio has been made to the private fixed income segment of the fixed income asset class benchmarked to the S&P LSTA U.S. Leveraged Loan TR Index plus 200 basis points one quarter lagged. The private fixed income allocation is composed of primarily investments in limited partnerships focusing on direct lending, mezzanine, distressed and special situations, specialty finance and structured credit strategies.
- An allocation of 9.0% of the portfolio has been made to the inflation protected segment of the fixed income asset class benchmarked to the Bloomberg U.S. Government Inflation-Linked Bond All Maturities TR Index which is composed of primarily government issued Treasury Inflation Protected Securities (TIPS) with an overall weighted-average NRSRO credit rating of AA or better. The portfolio manager is permitted to leverage the portfolio using TIPS total return swaps up to 3:1.
- An allocation of 4.5% of the portfolio has been made to the credit-related segment of the fixed income asset class with 3.5% benchmarked to the Bloomberg U.S. Corporate High Yield Bond Index and 1.0% benchmarked to the JP Morgan EMD Aggregate Total Return Index.

For derivatives exposed to credit risk, the table below presents aggregate market value by the least favorable credit rating provided by NRSROs at June 30, 2024 and 2023.

	(Dollar Amounts in Thousands)	
	2024	2023
Quality Rating	**Fair Value**	Fair Value
A	**$ (16,880)**	$ (85,897)
Total Swaps - Total Return	**$ (16,880)**	$ (85,897)

PSERS applies leverage opportunistically in implementing its asset allocation policy, providing an additional mechanism to increase expected volatility in order to target higher expected return when warranted. Total Leverage is allocated at (4.5%); Leverage is benchmarked to 3-Month Term SOFR, and is netted against the System's Cash allocation of 4.5% for a Net Leverage Allocation of (0.0%).

- An allocation of 4.50% of the portfolio has been made to cash benchmarked to the ICE BofAML 0-3 Month U.S. Treasury Bill Index composed of primarily investment grade, relatively liquid U.S. public bonds with an overall weighted-average NRSRO credit rating of AA or better.

(d) Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of a fixed income investment. The System manages its interest rate risk by diversifying the fixed income portfolio and maintaining the fixed income portfolio at a Board-approved effective duration range of the benchmark index.

Duration is a measure of the approximate sensitivity of a bond's value to interest rate changes. The higher the duration, the greater the changes in fair value when interest rates change. For example, a duration of 4.0 would mean that, given a 100-basis point change up/down in rates, a bond's price would move down/up approximately 4.0%. PSERS measures interest rate risk using option-adjusted duration, which recognizes the fact that yield changes may change the expected cash flows due to embedded options.

(e) Foreign Currency Risk

Foreign currency risk is the risk that fluctuations in exchange rates will adversely affect the fair value of an investment. As part of the System's program to manage risk and enhance returns, the System invests in non-U.S. markets. Investment managers in non-U.S. equity and global fixed income may hedge their non-U.S. foreign currency exposure back to U.S. dollars. In addition, the System partially hedges non-U.S. developed market currency exposure not hedged by the investment managers back to U.S. dollars.

(D) Securities Lending

The System participated in a securities lending program with a third party agent for part of the fiscal year ended June 30, 2024, and for the entire fiscal year ended June 30, 2023. The securities lending program was suspended as of October 31, 2023. Under this program, the lending agent loaned securities (equities, fixed income, and money market instruments) to independent brokers and dealers in exchange for U.S. dollar cash collateral, which was required to be in an amount not less than 102% of the fair value of any securities loaned. Collateral was marked-to-market daily. If the fair value of the held collateral fell below the minimum guidelines for securities loaned, additional collateral was obtained. The lending agent invested the cash collateral in accordance with reinvestment guidelines approved by the System.

The System minimized its credit risk exposure by requiring borrowers to provide collateralization in excess of 100% of the fair value of the securities loaned. Under the securities lending program, the lending agent provided indemnification to the System if a borrower failed to return borrowed securities (and the collateral was inadequate to replace the loaned securities) or failed to pay income distributions on them. The lending agent also provided indemnification to the System if investment of cash collateral resulted in investment loss. There were no losses during the fiscal years ended June 30, 2024 and 2023, resulting from a default of the borrowers or the lending agent.

All securitized loans can be terminated on demand by either the System or the borrower, although the average term of the loan was one day. There were no term loans as of June 30, 2024 and 2023.

Cash collateral was invested in a tri-party repurchase agreement that was managed by the lending agent, was segregated from all other clients of the lending agent, and was not subject to custodial credit risk. The System's securities lending income represented the earnings from the cash collateral provided by the borrower less a fee paid to the third-party agent minus a negotiated rebate of a portion of the earnings on the cash collateral. The weighted-average maturity of the investments in the pool was one day at June 30, 2023. During the fiscal years ended June 30, 2024 and 2023, the mismatch between the maturities of the investments made with cash collateral and the maturities of the securities loans may have posed some interest rate risk to the System. In the event of a default, the lending agent had the ability to use the collateral to replace the loaned securities.

As of June 30, 2024, the fair value of loaned securities was $0. As of June 30, 2023, the fair value of loaned securities was $6,021,858,000, and the fair value of the associated collateral was $6,147,770,000, all of which was cash.

Non-U.S. currency exposures at June 30, 2024 and 2023:

	2024** (Dollar Amounts in Thousands)					
Currency	**Equity**	**Fixed Income**	**Alternative Investments & Real Estate**	**Short-Term***	**Currency Hedge**	**Total Fair Value**
British pound sterling	**$ 961,996**	**$ —**	**$ 489,277**	**$ 1,191**	**$ (930,064)**	**$ 522,400**
Japanese yen	**1,212,571**	**9,817**	**81,425**	**2,922**	**(869,659)**	**437,076**
Euro	**1,933,415**	**52,444**	**1,362,036**	**58,065**	**(3,060,081)**	**345,879**
Indian rupee	**235,615**	**—**	**—**	**(376)**	**—**	**235,239**
Taiwan new dollar	**226,965**	**—**	**—**	**(1,575)**	**—**	**225,390**
Canadian dollar	**856,061**	**—**	**—**	**1,048**	**(714,214)**	**142,895**
Danish krone	**205,200**	**—**	**—**	**2,867**	**(81,401)**	**126,666**
Swiss franc	**397,657**	**—**	**—**	**7,099**	**(305,392)**	**99,364**
South Korean Won	**97,627**	**—**	**—**	**(240)**	**—**	**97,387**
Other non-U.S. currencies	**1,438,232**	**102,667**	**—**	**11,200**	**(1,059,846)**	**492,253**
Total	**$ 7,565,339**	**$ 164,928**	**$ 1,932,738**	**$ 82,201**	**$ (7,020,657)**	**$ 2,724,549**

	2023** (Dollar Amounts in Thousands)					
Currency	**Equity**	**Fixed Income**	**Alternative Investments & Real Estate**	**Short-Term***	**Currency Hedge**	**Total Fair Value**
Japanese yen	$ 1,110,755	$ 5,389	$ 69,674	$ 1,880	$ (816,392)	$ 371,306
British pound sterling	821,241	—	411,382	(2,331)	(868,736)	361,556
Euro	1,721,140	43,767	1,342,955	15,791	(2,873,229)	250,424
Taiwan new dollar	203,295	—	—	557	(254)	203,598
Indian rupee	189,367	—	—	483	—	189,850
Canadian dollar	848,246	—	—	6,088	(700,736)	153,598
Swiss franc	397,407	—	—	5,690	(293,153)	109,944
Danish krone	155,910	—	—	2,421	(62,991)	95,340
Hong Kong dollar	262,260	—	—	1,445	(177,068)	86,637
Other non-U.S. currencies	1,270,939	106,455	—	19,930	(974,046)	423,278
Total	$ 6,980,560	$ 155,611	$ 1,824,011	$ 51,954	$ (6,766,605)	$ 2,245,531

* Includes investment receivables and payables

** To determine the level of currency risk, the currency hedge program uses a country of risk method. This table is prepared using currency risk based on investments held in a foreign currency.

The following table summarizes the System's foreign exchange contracts by currency at June 30, 2024 and 2023:

	2024 (Dollar Amounts in Thousands)			
Currency	**Buys**	**Unrealized Gain/(Loss)**	**Sells**	**Unrealized Gain/(Loss)**
Euro	**$ 3,187**	**$ 2**	**$ 3,063,268**	**$ 8,280**
Japanese yen	**2,074**	**(1)**	**871,734**	**18,643**
Swiss franc	**—**	**—**	**305,005**	**5,372**
Australian dollar	**—**	**—**	**559,439**	**(444)**
Swedish krona	**627**	**—**	**100,960**	**1,609**
Canadian dollar	**334**	**—**	**714,548**	**(1,562)**
Singapore dollar	**61**	**—**	**61,394**	**254**
Hong Kong dollar	**407**	**—**	**141,979**	**58**
British pound sterling	**2,736**	**(1)**	**931,068**	**6,649**
New Zealand dollar	**—**	**—**	**151,470**	**1,136**
Other non-U.S. currencies	**1,729**	**(3)**	**128,197**	**753**
Total	**$ 11,155**	**$ (3)**	**$ 7,029,062**	**$ 40,748**

	2023 (Dollar Amounts in Thousands)			
Currency	Buys	Unrealized Gain/(Loss)	Sells	Unrealized Gain/(Loss)
Euro	$ 6,678	$ —	$ 2,879,907	$ 4,531
Japanese yen	7,669	—	824,061	15,979
Swiss franc	662	—	296,058	(557)
Australian dollar	802	(1)	606,391	9,651
Swedish krona	1,159	(2)	93,133	365
Canadian dollar	684	1	698,213	28
Singapore dollar	—	—	75,325	558
Hong Kong dollar	—	—	177,068	192
British pound sterling	—	—	872,569	1,426
New Zealand dollar	—	—	160,594	920
Other non-U.S. currencies	6,722	21	104,418	753
Total	$ 24,376	$ 19	$ 6,787,737	$ 33,846

5. Derivative and Other Similar Investments

The System enters into a variety of financial contracts, which include options and futures. The System also enters into foreign exchange positions, such as forward and spot contracts to obtain or hedge foreign currency exposure; swap agreements to gain exposure to certain sectors of the equity and fixed income markets; collateralized mortgage obligations (CMOs); other forward contracts; and U.S. Treasury STRIPS. The System is not a dealer, but an end user of these instruments. The contracts are used primarily to enhance performance and/or reduce the volatility of the portfolio. The System is exposed to credit risk in the event of non-performance by counterparties to financial instruments. The System generally enters into transactions only with high quality institutions. Legal risk is mitigated through selection of executing brokers and review of all documentation. The System is exposed to market risk, the risk that future changes in market conditions may make an instrument less valuable. Exposure to market risk is managed in accordance with risk limits set by senior management, through buying or selling instruments or entering into offsetting positions.

The notional or contractual amounts of derivatives indicate the extent of the System's involvement in the various types and uses of derivative financial instruments and do not measure the System's exposure to credit or market risks and do not necessarily represent amounts exchanged by the parties. The amounts exchanged are determined by reference to the notional amounts and the other terms of the derivatives.

Futures contracts are contracts in which the buyer agrees to purchase and the seller agrees to make delivery of a specific financial instrument at a predetermined date and price. Gains and losses on futures contracts are settled daily based on a notional (underlying) principal value and do not involve an actual transfer of the specific instrument. Futures contracts are standardized and are traded on exchanges. The exchange assumes the risk that a counterparty will not pay and generally requires margin payments to minimize such risk. In addition, the System enters into short sales, sales of securities it does not presently own, to neutralize the market risk of certain equity positions. Initial margin requirements on futures contracts and collateral for short sales are provided by investment securities pledged as collateral and by cash held by various brokers. Although the System has the right to access individual pledged securities, it must maintain the amount pledged by substituting other securities for those accessed. The value of securities pledged and the amount of cash held at June 30, 2024 and 2023 represent a restriction on the amount of assets available at year-end for other purposes.

Option contracts provide the option purchaser with the right, but not the obligation, to buy or sell the underlying security at a set price during a period or at a specified date. The option writer is obligated to buy or sell the underlying security if the option purchaser chooses to exercise the option. The System generally uses exchange listed currency, index, stock, and futures options. In FY2024, the System purchased over-the-counter put options on the S&P 500 Index and call options on the CBOE Volatility Index. In FY2023, the System purchased over-the-counter put options on the S&P 500 Index. The fair value of these option contracts of $4,157,000 and $2,291,000, at June 30, 2024 and 2023, respectively, is included in the Statements of Fiduciary Net Position.

Foreign exchange contracts involve an agreement to exchange the currency of one country for the currency of another country at an agreed-upon price and settlement date. To reduce the risk of counterparty non-performance, the investment managers generally enter into these contracts with institutions regarded as meeting high standards of credit worthiness. The contracts reported in Table 5 primarily include forwards. The $7,040,217,000 of foreign currency contracts outstanding at June 30, 2024, consist of "buy" contracts, which represent the U.S. dollar equivalents of commitments to purchase foreign currencies of $11,155,000 and "sell" contracts, which represent U.S. dollar equivalents of commitments to sell foreign currencies of $7,029,062,000. The $6,812,113,000 of foreign currency contracts outstanding at June 30, 2023, consist of "buy" contracts of $24,376,000 and "sell" contracts of $6,787,737,000. The unrealized gain on contracts of $40,745,000 and $33,865,000 at June 30, 2024 and 2023, respectively, is included in the Statements of Fiduciary Net Position and represents the fair value of the contracts.

Swap agreements provide for periodic payments at predetermined future dates between parties based on the change in value of underlying securities, indexes, or interest rates. During the year ended June 30, 2024 and 2023, the System entered into total return type swaps. Under the total return type swap arrangements, the System receives the net return of certain equity securities or indexes in exchange for a short-term rate minus a spread or a predetermined fixed charge. The payable on the total return type swap contracts of $(16,880,000) and $(85,897,000) at June 30, 2024 and

Table 5 - Notional Amounts of Derivatives

The table presented below summarizes the aggregate notional or contractual amounts for the System's derivative financial instruments at June 30, 2024 and 2023.

(Dollar Amounts in Thousands)

	2024	2023
Futures contracts - long:		
Treasury futures	**$ 323,652**	$ 234,651
U.S. equity futures	**173,375**	258,299
Commodity futures	**471,939**	443,132
Futures contracts - short:		
Treasury futures	**6,894**	—
Foreign exchange forward and spot contracts, gross	**7,040,217**	6,812,113
Options - puts purchased	**7,145,000**	4,325,000
Options - calls purchased	**(2,000)**	—
Swaps - total return type	**6,366,903**	9,873,910

The fair values of derivative instruments outstanding at June 30, 2024 and 2023 are classified by type and by the changes in fair value of the derivative instrument in the table below.

(Dollar Amounts in Thousands)

	Change in Fair Value Gain/(Loss) FY 2024		**Fair Value at June 30, 2024**	
Investment Derivative Type	**Classification**	**Amount**	**Classification**	**Amount**
Futures	Investment income	**$ 62,547**	Receivable/(Payable)	**$ 62,547**
Total return type swaps	Investment income	**(16,880)**	Receivable/(Payable)	**(16,880)**
Foreign exchange contracts	Investment income	**40,745**	Receivable/(Payable)	**40,745**
Options	Investment income	**(3,855)**	Investment	**4,157**
Total		**$ 82,557**		**$ 90,569**

	Change in Fair Value Gain/(Loss) FY 2023		Fair Value at June 30, 2023	
Investment Derivative Type	Classification	Amount	Classification	Amount
Futures	Investment income	$ 43,857	Receivable/(Payable)	$ 43,857
Total return type swaps	Investment income	(85,897)	Receivable/(Payable)	(85,897)
Foreign exchange contracts	Investment income	33,865	Receivable/(Payable)	33,865
Options	Investment income	(4,939)	Investment	2,291
Total		$ (13,114)		$ (5,884)

2023, respectively, is included in the Statements of Fiduciary Net Position and represents the fair value of the contracts. The contracts have varying maturity dates ranging from July 31, 2024 to June 30, 2025.

The System also invests in mortgage-backed securities (MBS) such as CMOs and MBS forwards to maximize yields. These securities are sensitive to prepayments of mortgages, which may result from a drop in interest rates. The MBS forwards are subject to credit risk in the event of nonperformance by counterparties. The fair value of CMOs at June 30, 2024 and 2023 is $686,504,000 and $128,344,000, respectively.

The System invests in U.S. Treasury STRIPS which essentially act as zero-coupon bonds and are subject to market volatility from a rise or drop in interest rates.

Through certain hedge funds, the System also indirectly holds various derivative financial instruments. The hedge funds invest in futures and options thereon; forward foreign currency contracts; options; interest rate, currency, equity, index, and total return swaps; interest-only STRIPS; and CMOs, to enhance the performance and/or reduce the volatility of their portfolios.

6. Net Pension Liability of Participating Employers

The components of the net pension liability of the participating employers at June 30, 2024 were as follows: (Dollar amounts in thousands)	
Total pension liability	$ 118,347,937
Less: Plan fiduciary net position	76,492,994
Employer net pension liability	$ 41,854,943
Plan fiduciary net position as a percentage of the total pension liability	64.63%

Actuarial Assumptions

The total pension liability at June 30, 2024 was determined by rolling forward the System's total pension liability at June 30, 2023 to June 30, 2024 using the following actuarial assumptions, which are applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 7.00%, includes inflation at 2.50%.
- Salary growth - Effective average of 4.50%, comprised of inflation of 2.50% and 2.00% for real wage growth and for merit or seniority increases.
- Payroll growth assumption 3.25%.
- Mortality rates were modified from the RP-2014 Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.
- PSERS Board-approved new actuarial assumptions effective for the June 30, 2021 actuarial valuation. The new assumptions were used to calculate the net pension liability at June 30, 2024 and are reflected above.

Investments

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 plan 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.

The pension plan's policy in regard to the allocation of invested plan assets is established and may be amended by the Board. Plan assets are managed with a long-term objective of achieving and maintaining a fully funded status for the benefits provided through the pension.

For the year ended June 30, 2024, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 8.08%. The money- weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested. Table 6 shows the Board's adopted asset allocation policy and best estimates of geometric real rates of return for each major asset class at June 30, 2024.

Discount Rate

The discount rate used to measure the total pension liability was 7.00%. The projection of cash flows used to determine the discount rate assumed that contributions from plan members will be made at the current contribution rate and that contributions from employers will be made at actuarially determined rates. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make all the projected future benefit payments of current plan members to determine the total pension liability. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.

Table 6 - Pension Asset Allocation		
Pension -Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Global public equity	30.0%	4.8 %
Private equity	12.0%	6.7 %
Fixed income	33.5%	3.9 %
Commodities	5.0%	2.5 %
Infrastructure	10.0%	6.4 %
Real estate	9.5%	5.9 %
	100.0%	

Sensitivity of the Net Pension Liability

Table 7 presents the net pension liability as of June 30, 2024, calculated using the discount rate of 7.00%, as well as what the net pension liability 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:

Table 7 - Sensitivity of the Net Pension Liability (Dollar amounts in thousands)			
	1% Decrease	Current Discount	1% Increase
	6.00%	7.00%	8.00%
Net pension liability	$55,135,720	$41,854,943	$30,640,267

For additional information on the total pension liability, net pension liability, plan fiduciary net position as a percentage of the total pension liability, actuarial assumptions, and money-weighted returns please refer to the multiple year Required Supplementary Information Schedule 1, Schedule 2, Schedule 3, Schedule 7 and Notes to Required Supplementary Information.

7. Net Other Postemployment Benefits (OPEB) Liability of Participating Employers

The components of the net OPEB liability of the participating employers at June 30, 2024 were as follows: (Dollar amounts in thousands)	
Total OPEB liability	$1,912,907
Less: Plan fiduciary net position	136,448
Employer net OPEB liability	$1,776,459
Plan fiduciary net position as a percentage of the total OPEB liability	7.13%

Postemployment Healthcare Plans

PSERS provides a Health Insurance Premium Assistance program funded by employer contributions, which makes up the OPEB liability.

HOP is a PSERS sponsored voluntary health insurance program funded exclusively by the premiums paid by its participants for benefit coverage they elect. The HOP is not part of the OPEB liability.

Change in Actuarial Assumptions

The following change in assumption was used in the measurement of the Total OPEB Liability beginning June 30, 2024. The Investment Rate of Return was adjusted from 4.13% to 4.21% which represents the S&P 20-Year Municipal Bond Rate.

Actuarial Assumptions

The total OPEB liability at June 30, 2024, was determined by rolling forward the System's total OPEB liability at June 30, 2023, to June 30, 2024, using the following actuarial assumptions, which are applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 4.21% - S&P 20-Year Municipal Bond Rate.
- Salary growth - Effective average of 4.50%, comprised of inflation of 2.50% and 2.00% for real wage growth and for merit or seniority increases.
- Payroll growth assumption 3.25%.
- Premium Assistance reimbursement is capped at $1,200 per year.
- Assumed Healthcare cost trends were applied to retirees with less than $1,200 in premium assistance per year.
- Mortality rates were modified from the RP-2014 Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS'

experience and projected using a modified version MP-2020.

- PSERS Board-approved new actuarial assumptions effective for the June 30, 2021 actuarial valuation. The new assumptions were used to calculate the net pension liability at June 30, 2024 and are reflected above.

Investments

The Board's policy for its Other Post-Employment Benefits (OPEB) asset allocation consists primarily of short-term assets designed to protect the principal of the plan assets. Table 8 reflects the System's OPEB asset allocation policy and best estimates of geometric real rates of return for each asset class at June 30, 2024.

Under the program, employer contribution rates for Premium Assistance are established to provide reserves in the Health Insurance Account that are sufficient for the payment of Premium Assistance benefits for each succeeding year.

For the year ended June 30, 2024, the annual money-weighted rate of return on OPEB plan investments, net of OPEB plan investment expense, was 5.72%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

Discount Rate

The discount rate used to measure the total OPEB liability was 4.21%. The Health Insurance Premium Assistance Program is funded by employer contributions. Under the plan's funding method, the OPEB plan's fiduciary net position was not projected to be sufficient to meet projected future benefit payments. Therefore, the plan is considered a "pay-as-you go" plan and a discount rate of 4.21%, which represents the S&P 20-year Municipal Bond Rate at June 30, 2024 was applied to all projected benefit payments to measure the total OPEB liability.

Table 8 - OPEB Asset Allocation

OPEB - Asset Class	Target Allocation	Long Term Expected Real Rate of Return
Cash	100.0%	1.7%
	100.0%	

Sensitivity of the Net OPEB Liability

Table 9 presents the net OPEB liability, calculated using the discount rate of 4.21%, as well as what the net OPEB liability 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:

Table 9 - Sensitivity of the Net OPEB Liability
(Dollar amounts in thousands)

	1% Decrease	Current Discount Rate	1% Increase
	3.21%	4.21%	5.21%
Net OPEB liability	$ 2,006,859	$ 1,776,459	$ 1,583,510

Healthcare Cost Trend Rates

Healthcare cost trends were applied to retirees with less than $1,200 in Premium Assistance per year. Premium Assistance is capped at a maximum of $1,200 per year. At June 30, 2023, there were 92,677 members receiving the maximum amount allowed of $1,200 in Premium Assistance per year and their Premium Assistance benefits are not subject to future healthcare cost increases. At June 30, 2023, there were 522 members receiving less than the maximum amount allowed of $1,200 per year. The actual number of retirees receiving less than the $1,200 per year cap is a small percentage of the total population and has a minimal impact from Healthcare Cost Trends, as depicted in Table 10, which discloses the effect of a 1% increase or decrease in the rate.

Table 10 - Sensitivity of the Net OPEB Liability to Change in Healthcare Cost Trend Rates
(Dollar amounts in thousands)

	1% Decrease	Current Discount Rate	1% Increase
Net OPEB liability	$ 1,776,302	$ 1,776,459	$ 1,776,586

For additional information on the total OPEB liability, net OPEB liability, plan fiduciary net position as a percentage of the total OPEB liability, actuarial assumptions, and money-weighted returns please refer to the multiple year Required Supplementary Information Schedule 4, Schedule 5, Schedule 6, Schedule 7 and Notes to Required Supplementary Information.

8. Pension Plan for Employees of the System

(A) SERS' Plan Description

As an employer, the System contributes to SERS, a cost-sharing multiple-employer Defined Benefit Pension Plan established by the Commonwealth to provide pension benefits for employees of state government and certain independent agencies. SERS is a component unit of the

Commonwealth and is included in the Commonwealth's financial report as a pension trust fund.

Membership in SERS is mandatory for most state employees. SERS provides retirement, death, and disability benefits. Article II of the Commonwealth's Constitution assigns the authority to establish and amend the benefit provision of the plan to the General Assembly.

(B) SERS Benefits Provided to Employees of the System

SERS member retirement benefits are generally determined by taking years of credited service times final average salary times 1.0%, 1.25%, 2% or 2.5%, depending on date of hire. The normal retirement age ranges from 50 - 65, depending on the membership class. According to the State Employees' Retirement Code (SERC), all obligations of SERS will be assumed by the Commonwealth should SERS terminate.

(C) Contributions to SERS

The contribution requirements of SERS plan members is mandated by Commonwealth statute. The member contribution rate for the majority of SERS' members is 6.25%. At December 31, 2023 and 2022 the blended employer contribution rates were 28.42% and 27.64%, respectively. PSERS' contributed $10.9 million to SERS for FY 2024.

(D) Proportionate Share of Pension Liabilities, Pension Expense, and Deferred Inflows of Resources and Deferred Outflows of Resources

At June 30, 2024, PSERS reported a liability of $91.5 million and $97.3 million at June 30, 2023, for its proportionate share of the net pension liability for the SERS plan in Other liabilities on the Statement of Fiduciary Net Position. The net pension liability was measured at December 31, 2023 and 2022, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation at December 31, 2023 and 2022. PSERS' proportion of the net pension liability was calculated utilizing a projected-contribution method. At December 31, 2023, PSERS' proportion was 0.43285471 percent and 0.42564084 percent at December 31, 2022.

PSERS' recognized total pension expense of $12.8 million in FY 2024 and is included in the Statement of Changes in Fiduciary Net Position. Of the $12.8 million of pension expense, $7.7 million was reflected in Pension administrative expenses, $0.3 million in Postemployment Healthcare, $0.2 million in Defined Contribution and $4.6 million was reflected in Investment Expenses. Deferred inflows of resources of $632,000 and $944,000 at June 30, 2024, and June 30, 2023, respectively, are reported in Other liabilities on the Statement of Fiduciary Net Position. Deferred outflows of resources of $22.8 million and $30.8 million at June 30, 2024, and 2023, respectively, are reported in Miscellaneous assets. Of the $22.8 million of deferred outflows of resources at June 30, 2024, PSERS recorded $5.9 million for contributions subsequent to the measurement date which will be recognized as a reduction of the net pension liability in the year ending June 30, 2025. Other amounts reported as deferred outflows of resources and deferred inflows of resources will be recognized in pension expense as follows:

Years Ending June 30:	Dollar Amounts in Thousands
2025	$ 3,967
2026	5,872
2027	4,662
2028	7,018
Thereafter	(780)

(E) SERS' Pension Plan Fiduciary Net Position

Detailed information about SERS' fiduciary net position is available in SERS' Annual Comprehensive Financial Report which can be found on SERS' website at www.SERS.pa.gov.

9. Postemployment Healthcare Plan for Employees of the System

(A) REHP Plan Description

As an employer, PSERS participates in the Commonwealth's REHP (Retired Employees Health Program). The REHP is a single employer plan and provides certain healthcare benefits to qualifying individuals meeting specified age and/or service requirements. The Commonwealth's Office of Administration (OA), in its sole discretion, determines available REHP benefits on an ongoing basis. The Pennsylvania Employees Benefit Trust Fund (PEBTF) is a third-party administrator for the REHP under the provisions of an Administration Agreement between OA and PEBTF.

(B) OPEB Benefits Provided to Employees of the System

The Commonwealth sponsors the REHP for eligible retirees and their dependents to receive subsidized health coverage for the retiree's lifetime. The REHP is provided as part of collective bargaining agreements with most Commonwealth labor unions. All policy decisions, types and levels of benefits for the REHP fall under the purview of the Commonwealth's Executive Board and the Secretary of Administration.

(C) Contributions to the REHP

Employer costs for retiree healthcare benefits are charged as a component of payroll expenditures, on a "pay as you go" basis. All employing agencies and certain plan members contributed $275 per biweekly pay period for each current REHP eligible active employee during fiscal year ended June 30, 2024 to the REHP Trust. PSERS' contributed $2.4 million to the REHP for FY 2024. Plan members who retired after June 30, 2005, contribute to the plan based on a percentage of their final annual gross base salary at the time of retirement. Plan member contribution rates vary based on their REHP enrollment date.

(D) Proportionate Share of OPEB Liabilities, OPEB Expense and Deferred Inflows of Resources and Deferred Outflows of Resources

At June 30, 2024, PSERS reported a liability of $30.3 million and $44.7 million at June 30, 2023 for its proportionate share of net OPEB liability for the REHP plan in Other Liabilities on the Statement of Fiduciary Net Position. The current liability portion of the net OPEB liability is $1.1 million. The net OPEB liability was measured at June 30, 2023, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation at June 30, 2023. Since the REHP has insufficient assets to meet next year's projected benefit payments, the discount rate used to measure the total OPEB liability is based on the 20-year tax-exempt general obligation municipal bond index rate, which was 5.65% on June 30, 2024. PSERS' proportion of the net OPEB liability was calculated utilizing a contribution method. At June 30, 2023, PSERS' proportion was 0.389070 percent and at June 30, 2022 PSERS' proportion was 0.453418 percent.

REHP had a decrease in Total OPEB Liability of approximately $1.96 billion. The primary cause was due to changes in actuarial assumptions driven by an increase in the discount rate from 4.67% to 5.65%, and positive experience gains from decreases in per capita claims costs.

PSERS recognized total OPEB expense of $(5.1) million in FY 2024 is included in the Statement of Changes in Fiduciary Net Position. Of the $(5.1) million of OPEB expense, $(4.2) million was reflected in Pension administrative expenses, $0.1 million in Postemployment Healthcare, $0.1 million in Defined Contribution and $(1.1) million was reflected in Investment Expenses. Deferred outflows of resources of $10.9 million and $13.9 million at June 30, 2024 and 2023, respectively, are reported in Miscellaneous assets. Of the $10.9 million of deferred outflows at June 30, 2024, PSERS recorded $2.4 million for contributions subsequent to the measurement date which will be recognized as a reduction of the net OPEB liability in the year ending June 30, 2024. Deferred inflows of resources of $25.5 million and $21.6 million at June 30, 2024 and 2023, respectively, are reported in Other liabilities on the Statement of Fiduciary Net Position and will be recognized in OPEB expense as follows:

Years Ending June 30:	Dollar Amounts in Thousands
2025	$(4,282)
2026	(2,861)
2027	(3,543)
2028	(2,445)
Thereafter	—

(E) REHP Plan Fiduciary Net Position

Detailed information about the REHP fiduciary net position is available in the Commonwealth's Annual Comprehensive Financial Report which can be found at www.budget.pa.gov.

10. Litigation and Contingencies

The System is subject to various threatened and pending lawsuits. These lawsuits include issues related to benefit calculations and eligibility. The System is also exposed to various other liabilities and risks related to fiduciary responsibilities of directors and officers.

In 2021, the System received subpoenas from the Department of Justice ("DOJ") and the Securities and Exchange Commission ("SEC") regarding the certification of the shared risk member contribution rate in December 2020, as well as the purchase and valuation of certain directly held properties. PSERS' Board retained outside counsel to conduct an independent internal investigation of the shared risk calculation and the purchase and valuation of certain directly held properties. The independent internal investigation concluded in January 2022 with no findings of wrongdoing. In August 2022, PSERS was informed by the DOJ that it has closed its investigation of PSERS with no criminal or civil charges. In January of 2024, the SEC informed PSERS by letter that based on the information received to date, it has concluded its investigation of PSERS without recommending any enforcement actions be taken.

It is the opinion of management that the ultimate liability arising from such threatened, pending litigation and investigations will not have a material effect on the financial position of the System.

Required Supplementary Information

Schedule 1
Schedule of Changes in the Employer Net Pension Liability
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2024	2023	2022	2021	2020
Total pension liability					
Service cost	**$ 1,833,996**	$ 1,822,768	$ 1,826,693	$ 1,963,645	$ 1,949,427
Interest	**8,024,358**	7,915,834	7,789,946	7,703,465	7,546,367
Changes of benefit terms	**—**	—	—	—	—
Differences between expected and actual experience	**(380,382)**	(545,873)	(399,385)	40,322	(339,969)
Changes of assumptions		—	—	2,655,180	—
Benefit payments	**(7,728,745)**	(7,580,983)	(7,254,372)	(7,134,332)	(6,876,515)
Net change in total pension liability	**1,749,227**	1,611,746	1,962,882	5,228,280	2,279,310
Total pension liability - beginning	**116,598,710**	114,986,964	113,024,082	107,795,802	105,516,492
Total pension liability - ending (a)	**$118,347,937**	$ 116,598,710	$ 114,986,964	$ 113,024,082	$ 107,795,802
Plan fiduciary net position					
Contributions - employer	**$ 5,262,714**	$ 5,249,018	$ 4,997,912	$ 4,759,189	$ 4,676,413
Contributions - member	**1,197,871**	1,174,580	1,134,051	1,080,701	1,067,957
Net investment income	**5,704,271**	2,795,296	(267,250)	14,754,624	1,001,846
Benefit payments	**(7,728,745)**	(7,580,983)	(7,254,372)	(7,134,332)	(6,876,515)
Administrative expense	**(55,447)**	(53,823)	(49,451)	(49,616)	(46,799)
Net change in plan fiduciary net position	**4,380,664**	1,584,088	(1,439,110)	13,410,566	(177,098)
Plan fiduciary net position - beginning	**72,112,330**	70,528,242	71,967,352	58,556,786	58,733,884
Effect of change in accounting principle	**—**	—	—	—	—
Plan fiduciary net position - beginning restated	**72,112,330**	70,528,242	71,967,352	58,556,786	58,733,884
Plan fiduciary net position - ending (b)	**$ 76,492,994**	$ 72,112,330	$ 70,528,242	$ 71,967,352	$ 58,556,786
Employer net pension liability - ending (a)-(b)	**$ 41,854,943**	$ 44,486,380	$ 44,458,722	$ 41,056,730	$ 49,239,016

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 1
Schedule of Changes in the Employer Net Pension Liability
(continued)
(Unaudited – See Accompanying Independent Public Accountant's Report)
(Dollar Amounts in Thousands)

	2019	2018	2017	2016	2015
Total pension liability					
Service cost	$ 1,921,417	$ 1,890,906	$ 1,873,844	$ 1,932,401	$ 1,926,539
Interest	7,465,228	7,334,484	7,110,987	7,028,292	6,857,497
Changes of benefit terms	—	—	(449)	—	—
Differences between expected and actual experience	(1,477,660)	(745,306)	644,051	(348,429)	(223,437)
Changes of assumptions	—	—	—	2,236,118	—
Benefit payments	(6,761,172)	(6,655,146)	(6,473,579)	(6,360,325)	(6,220,601)
Net change in total pension liability	1,147,813	1,824,938	3,154,854	4,488,057	2,339,998
Total pension liability - beginning	104,368,679	102,543,741	99,388,887	94,900,830	92,560,832
Total pension liability - ending (a)	$ 105,516,492	$ 104,368,679	$ 102,543,741	$ 99,388,887	$ 94,900,830
Plan fiduciary net position					
Contributions - employer	$ 4,487,520	$ 4,249,611	$ 3,832,773	$ 3,189,510	$ 2,596,731
Contributions - member	1,064,043	1,026,375	1,013,847	989,266	984,634
Net investment income	3,628,710	4,714,158	4,995,362	473,206	1,328,516
Benefit payments	(6,761,172)	(6,655,146)	(6,473,579)	(6,360,325)	(6,220,601)
Administrative expense	(48,931)	(46,544)	(45,127)	(45,118)	(42,331)
Net Change in plan fiduciary net position	2,370,170	3,288,454	3,323,276	(1,753,461)	(1,353,051)
Plan fiduciary net position - beginning	56,363,714	53,155,336	49,832,060	51,585,521	52,980,115
Effect of change in accounting principle	—	(80,076)	—	—	(41,543)
Plan fiduciary net position - beginning restated	56,363,714	53,075,260	49,832,060	51,585,521	52,938,572
Plan fiduciary net position - ending (b)	$ 58,733,884	$ 56,363,714	$ 53,155,336	$ 49,832,060	$ 51,585,521
Employer net pension liability - ending (a)-(b)	$ 46,782,608	$ 48,004,965	$ 49,388,405	$ 49,556,827	$ 43,315,309

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 2
Schedule of Employer Net Pension Liability
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2024	2023	2022	2021	2020
Total pension liability	**$118,347,937**	$116,598,710	$114,986,964	$113,024,082	$107,795,802
Less: Plan fiduciary net position	**76,492,994**	72,112,330	70,528,242	71,967,352	58,556,786
Employer Net Pension liability	**$ 41,854,943**	$ 44,486,380	$ 44,458,722	$ 41,056,730	$ 49,239,016
Plan fiduciary net position as a percentage of the total pension liability	**64.63%**	61.85%	61.34%	63.67%	54.32%
Covered Payroll	**$ 15,872,930**	$15,320,427	$ 14,704,344	$ 14,176,097	$ 14,036,006
Employer net pension liability as a percentage of covered payroll	**263.69%**	290.37%	302.35%	289.62%	350.81%

	2019	2018	2017	2016	2015
Total pension liability	$ 105,516,492	$104,368,679	$102,543,741	$ 99,388,887	$ 94,900,830
Less: Plan fiduciary net position	58,733,884	56,363,714	53,155,336	49,832,060	51,585,521
Employer Net Pension liability	$ 46,782,608	$ 48,004,965	$ 49,388,405	$ 49,556,827	$ 43,315,309
Plan fiduciary net position as a percentage of the total pension liability	55.66%	54.00%	51.84%	50.14%	54.36%
Covered Payroll	$13,791,197	$13,466,526	$ 13,313,900	$ 12,951,077	$ 12,866,473
Employer net pension liability as a percentage of covered payroll	339.22%	356.48%	370.95%	382.65%	336.65%

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 3
Schedule of Employer Pension Contributions
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2024	2023	2022	2021	2020
Actuarially determined contribution	**$5,249,563**	$ 5,237,092	$ 4,985,571	$ 4,752,338	$ 4,671,931
Less: Contributions in relation to the actuarially determined contribution (1)	**5,249,563**	5,237,092	4,985,571	4,752,338	4,671,931
Contribution deficiency	**$ —**	$ —	$ —	$ —	$ —
Covered payroll	**$15,872,930**	$15,320,427	$14,704,344	$14,176,097	$14,036,006
Contributions as a percentage of covered payroll	**33.07%**	34.18%	33.91%	33.52%	33.29%

	2019	2018	2017	2016	2015
Actuarially determined contribution	$ 4,478,236	$ 4,243,328	$ 3,824,908	$ 3,540,304	$ 3,289,615
Less: Contributions in relation to the actuarially determined contribution (1)	4,478,236	4,243,328	3,824,908	3,181,438	2,582,114
Contribution deficiency	$ —	$ —	$ —	$ 358,866	$ 707,501
Covered payroll	$ 13,791,197	$13,466,526	$13,313,900	$12,951,077	$12,866,473
Contributions as a percentage of covered payroll	32.47%	31.51%	28.73%	24.57%	20.07%

(1) Same as contractually required contributions.

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 4
Schedule of Changes in the Employer Net OPEB (Premium Assistance) Liability
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

Total OPEB liability	**2024**	2023	2022	2021	2020	2019	2018	2017
Service cost	**$ 27,445**	$ 27,596	$ 47,563	$ 44,699	$ 42,643	$ 40,201	$ 37,809	42,038
Interest	**79,384**	79,672	54,361	60,632	62,452	65,319	67,091	61,404
Differences between expected and actual experience	**(15,262)**	(12,047)	(11,835)	7,272	11,987	1,435	15,019	—
Changes of assumptions	**(16,943)**	(8,656)	(502,733)	212,419	35,284	50,166	38,456	(110,610)
Benefit payments	**(111,659)**	(112,870)	(113,707)	(113,538)	(113,279)	(112,777)	(111,847)	(110,229)
Net change in total OPEB liability	**(37,035)**	(26,305)	(526,351)	211,484	39,087	44,344	46,528	(117,397)
Total OPEB liability - beginning	**1,949,942**	1,976,247	2,502,598	2,291,114	2,252,027	2,207,683	2,161,155	2,278,552
Total OPEB liability - ending (a)	**$ 1,912,907**	$ 1,949,942	$ 1,976,247	$ 2,502.598	$ 2,291,114	$ 2,252,027	$ 2,207,683	$ 2,161,155
Plan fiduciary net position								
Contributions - employer	**$ 102,211**	$ 114,721	$ 117,178	$ 116,519	$ 117,907	$ 114,829	$ 111,986	$ 110,985
Net investment income	**6,184**	4,474	316	260	1,752	2,313	1,455	663
Benefit payments	**(111,659)**	(112,870)	(113,707)	(113,538)	(113,279)	(112,777)	(111,847)	(110,229)
Administrative expense	**(1,004)**	(1,085)	(826)	(1,143)	(1,148)	(1,914)	(2,602)	(2,239)
Net change in plan fiduciary net position	**(4,268)**	5,240	2,961	2,098	5,232	2,451	(1,008)	(820)
Plan fiduciary net position - beginning	**140,716**	135,476	132,515	130,417	125,185	122,735	123,743	124,563
Plan fiduciary net position - ending (b)	**$ 136,448**	$ 140,716	$ 135,476	$ 132,515	$ 130,417	$ 125,185	$ 122,735	$ 123,743
Employer net OPEB liability - ending (a) - (b)	**$ 1,776,459**	$ 1,809,226	$ 1,840,771	$ 2,370,083	$ 2,160,697	$ 2,126,842	$ 2,084,948	$ 2,037,412

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 5
Schedule of Employer Net OPEB (Premium Assistance) Liability
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2024	2023	2022	2021
Total OPEB Liability	$ 1,912,907	$ 1,949,942	$ 1,976,247	$ 2,502,598
Less: Plan fiduciary net position	136,448	140,716	135,476	132,515
Employer Net OPEB Liability	$ 1,776,459	$ 1,809,226	$ 1,840,771	$ 2,370,083
Plan fiduciary net position as a percentage of the total OPEB liability	7.13%	7.22%	6.86%	5.30%
Covered Payroll	$15,872,930	$15,320,427	$ 14,704,344	$ 14,176,097
Employer net OPEB liability as a percentage of covered payroll	11.19%	11.81%	12.52%	16.72%

	2020	2019	2018	2017	2016
Total OPEB Liability	$ 2,291,114	$ 2,252,027	$ 2,207,683	$ 2,161,155	$ 2,278,552
Less: Plan fiduciary net position	130,417	125,185	122,734	123,743	124,563
Employer Net OPEB Liability	$ 2,160,697	$ 2,126,842	$ 2,084,949	$ 2,037,412	$ 2,153,989
Plan fiduciary net position as a percentage of the total OPEB liability	5.69%	5.56%	5.56%	5.73%	5.47%
Covered Payroll	$14,036,006	$ 13,791,197	$13,466,526	$13,313,900	$ 12,951,077
Employer net OPEB liability as a percentage of covered payroll	15.39%	15.42%	15.48%	15.30%	16.63%

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditor's report and notes to the required supplementary information.

Schedule 6
Schedule of Employer OPEB (Premium Assistance) Contributions
Unaudited – See Accompanying Independent Public Accountant's Report
(Dollar Amounts in Thousands)

	2024	2023	2022	2021
Actuarially determined contribution	**$ 113,769**	$ 119,084	$ 147,312	$ 133,971
Less: Contributions in relation to the actuarially determined contribution (1)	**101,879**	114,358	116,773	116,365
Contribution deficiency	**$ 11,890**	$ 4,726	$ 30,539	$ 17,606
Covered payroll	$ 15,872,930	$ 15,320,427	$ 14,704,344	$ 14,176,097
Contributions as a percentage of covered payroll	0.64%	0.75%	0.79%	0.82%

	2020	2019	2018	2017	2016
Actuarially determined contribution	$ 138,776	$ 139,484	$ 134,607	$ 125,694	$ 129,494
Less: Contributions in relation to the actuarially determined contribution (1)	117,723	114,571	111,724	110,558	112,557
Contribution deficiency	$ 21,053	$ 24,913	$ 22,883	$ 15,136	$ 16,937
Covered payroll	$14,036,006	$ 13,791,197	$ 13,466,526	$13,313,900	$12,951,077
Contributions as a percentage of covered payroll	0.84%	0.83%	0.83%	0.83%	0.87%

(1) Same as contractually required contributions.

Required Supplementary Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

See accompanying independent auditor's report and notes to the required supplementary information.

Required Supplementary Information

Schedule 7
Schedule of Investment Returns - Pension and OPEB
Unaudited – See Accompanying Independent Public Accountant's Report

	2024	2023	2022	2021	2020	2019	2018	2017	2016	2015
Annual money-weighted rate of return, net of investment expense-Pension	8.08%	3.54%	2.40%	24.57%	1.14%	6.58%	9.30%	10.15%	1.11%	3.08%
Annual money-weighted rate of return, net of investment expense-OPEB	5.72%	4.36%	0.35%	0.31%	1.97%	2.68%	1.63%	0.90%	0.65%	0.30%

See accompanying independent auditor's report and notes to the required supplementary information.

Notes to Required Supplementary Information for the Years Ended June 30, 2015 thru June 30, 2024

Pension

Changes in benefit terms
With the passage of Act 5 on June 12, 2017, class T-E & T-F members are now permitted to elect a lump sum payment of member contributions upon retirement.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2022, June 30, 2023, and June 30, 2024
None.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2021
The Discount Rate decreased from 7.25% to 7.00%. The inflation assumption was decreased from 2.75% to 2.50%. Payroll growth assumption decreased from 3.50% to 3.25%.

Salary growth changed from an effective average of 5.00%, which was comprised of inflation of 2.75%, real wage growth and for merit or seniority increases of 2.25%, to an effective average of 4.50%, comprised of inflation of 2.50% and 2.00% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2014 Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.

For disabled annuitants the rates were modified from the RP-2014 Mortality Tables for Males and Females to Pub-2010 Disability Mortality Non-Safety Headcount Weighted table, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2020.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2017, beginning June 30, 2018, beginning June 30, 2019 & beginning June 30, 2020
None.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2016
The Investment Rate of Return was adjusted from 7.50% to 7.25%. The inflation assumption was decreased from 3.00% to 2.75%.

Salary growth changed from an effective average of 5.50%, which was comprised of inflation of 3.00%, real wage growth and for merit or seniority increases of 2.50%, to an effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2000 Combined Healthy Annuitant Tables (male and female) with age set back 3 years for both males and females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale. For disabled annuitants the RP-2000 Combined Disabled Tables (male and female) with age set back 7 years for males and 3 years for females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

Method and assumptions used in calculations of actuarially determined contributions
The actuarially determined contributions are calculated as of the June 30 preceding the fiscal year in which contributions are made. That is, the contribution calculated as of the June 30, 2023 actuarial valuation will be made during the fiscal year ending June 30, 2025. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule.

Notes to Required Supplementary Information
for the Years Ended June 30, 2015 thru June 30, 2024 (continued)

Pension

- Investment return - 7.00%, includes inflation at 2.50% and the real rate of return 4.50%.
- Salary growth - Effective average of 4.50%, which reflects an allowance for inflation of 2.50%, real wage growth and merit or seniority of 2.00%.
- Benefit payments - no postretirement benefit increases assumed in the future.
- Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.

Changes in assumptions used in measurement of the Total Pension Liability beginning June 30, 2015
None.

Method and assumptions used in calculations of actuarially determined contributions
The actuarially determined contributions are calculated as of the June 30 preceding the fiscal year in which contributions are made. That is, the contribution calculated as of the June 30, 2014 actuarial valuation will be made during the fiscal year ended June 30, 2016. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

- Investment return - 7.50%, includes inflation at 3.00%
- Salary increases - Effective average of 5.50%, which reflects an allowance for inflation of 3.00%, real wage growth of 1%, and merit or seniority increases of 1.50%
- Benefit payments - no postretirement benefit increases assumed in the future
- Multiple decrement tables - mortality, vesting, retirement age, and withdrawal estimates are based upon tables provided by the actuary

The *Accounting Valuation*
The GASB 67 accounting valuation can be found on PSERS' website at www.psers.pa.gov.

Notes to Required Supplementary Information for the Years Ended June 30, 2016 thru June 30, 2024

OPEB

Changes in benefit terms
None.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2024
The Discount Rate increased from 4.13% to 4.21%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2023
The Discount Rate increased from 4.09% to 4.13%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2022
The Discount Rate increased from 2.18% to 4.09%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2021
The Discount Rate decreased from 2.66% to 2.18%.The inflation assumption was decreased from 2.75% to 2.50%. Payroll growth assumption decrease from 3.50% to 3.25%.

Salary growth changed from an effective average of 5.00%, which was comprised of inflation of 2.75%, real wage growth and for merit or seniority increases of 2.25%, to an effective average of 4.50%, comprised of inflation of 2.50% and 2.00% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2014 Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.

For disabled annuitants the rates were modified from the RP-2014 Mortality Tables for Males and Females to Pub-2010 Disability Mortality Non-Safety Headcount Weighted table, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2020.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2020
The Discount Rate decreased from 2.79% to 2.66%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2019
The Discount Rate decreased from 2.98% to 2.79%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2018
The Discount Rate decreased from 3.13% to 2.98%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2017
The Discount Rate increased from 2.71% to 3.13%.

Changes in assumptions used in measurement of the Total OPEB Liability beginning June 30, 2016
Salary growth changed from an effective average of 5.50%, which was comprised of inflation of 3.00%, real wage growth and for merit or seniority increases of 2.50%, to an effective average of 5.00%, comprised of inflation of 2.75% and 2.25% for real wage growth and for merit or seniority increases.

Mortality rates were modified from the RP-2000 Combined Healthy Annuitant Tables (male and female) with age set back 3 years for both males and females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale. For disabled annuitants the RP-2000 Combined Disabled Tables (male and female) with age set back 7 years for males and 3

Notes to Required Supplementary Information for the Years Ended June 30, 2016 thru June 30, 2024 (continued)

OPEB

years for females to the RP-2014 Mortality Tables for Males and Females, adjusted to reflect PSERS' experience and projected using a modified version of the MP-2015 Mortality Improvement Scale.

Method and assumptions used in calculations of actuarially determined contributions

The actuarially determined contributions are calculated as of the June 30 preceding the fiscal year in which contributions are made. That is, the contribution calculated as of the June 30, 2022 actuarial valuation will be made during the fiscal year ended June 30, 2024. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

- Investment return - 4.21% - 20-year S&P Municipal Bond Rate.
- Salary growth - Effective average of 4.50%, which reflects an allowance for inflation of 2.50%, real wage growth and merit or seniority of 2.00%.
- Benefit payments - no postretirement benefit increases assumed in the future.
- Mortality Tables for Males and Females to a blended table based on 50% PubT-2010 Employee (Total Teacher dataset) and 50% PubG-2010 (Total General Employees data), adjusted to reflect PSERS' experience and projected using a modified version MP-2020.
- Assumed Healthcare cost trends were applied to retirees with less than $1,200 in premium assistance per year.

10-year reporting requirements

Required Supplementary Schedules 4-7, as related to OPEB, are intended to show information for 10 years. Additional years will be displayed as they become available.

The Accounting Valuation

The GASB 74 accounting valuation can be found on PSERS' website at www.psers.pa.gov.

Supplementary Schedule 1
Schedule of Administrative and Investment Expenses
Year Ended June 30, 2024
(Dollar Amounts in Thousands)

	Administrative Expenses				
	Pension	**Defined Contribution**	**Postemployment Healthcare (1)**	**Investment Expenses (2)**	**Total**
Personnel costs:					
Salaries and wages	$ 21,448	$ 523	$ 573	$ 11,415	**$ 33,959**
Employee benefits	13,532	386	344	5,544	**19,806**
Total personnel costs	34,980	909	917	16,959	**53,765**
Operating costs:					
Investment managers' fees	—	—	—	374,874	**374,874**
Custodian fees	—	—	—	2,702	**2,702**
Specialized services	77	2,396	141	—	**2,614**
Investment systems	—	—	—	2,285	**2,285**
Third-party administrator	—	—	32,777	—	**32,777**
Fitness program administrator	—	—	856	—	**856**
Healthcare project management	—	—	3,847	—	**3,847**
Real estate rental, electricity	1,457	—	247	253	**1,957**
Consultant and legal fees	3,720	97	1,322	6,365	**11,504**
Treasury and other Commonwealth services	1,926	—	—	212	**2,138**
Postage	561	—	138	—	**699**
Contracted maintenance and repair services	3,427	—	—	341	**3,768**
Printing and office supplies	270	—	18	—	**288**
Equipment and software rental	2,301	—	994	—	**3,295**
Travel and training	181	2	94	57	**334**
Telecommunications	451	—	29	94	**574**
Equipment (non-capital assets)	491	—	—	—	**491**
Subscriptions	130	—	—	1,483	**1,613**
Miscellaneous	1,306	23	138	172	**1,639**
Total operating costs	16,298	2,518	40,601	388,838	**448,255**
Other charges:					
Depreciation	9,093	—	—	6,079	**15,172**
Total Administrative and Investment Expenses Before Pension, OPEB Expense	60,371	3,427	41,518	411,876	**517,192**
Pension expense (3)	1,158	27	38	692	**1,915**
OPEB expense (4)	(6,082)	84	46	(1,598)	**(7,550)**
Total Administrative and Investment Expenses	$ 55,447	$ 3,538	$ 41,602	$ 410,970	**$ 511,557**

(1) Administrative expenses for Postemployment Healthcare includes $1,004 related to Premium Assistance and $40,598 related to Health Options Program for the fiscal year ended June 30, 2024.

(2) Includes investment expenses of $49 related to Postemployment Healthcare Premium Assistance, $44 related to Health Options Program and $523 for DC for the fiscal year ended June 30, 2024 and does not include $3,123 in capitalized broker commissions for the fiscal year ended June 30, 2024.

(3) Total GASB 68 pension expense is $12.8 million and is reflected under Employee benefits and Pension expense. Employer contributions of $10.9 million are included as Employee benefits under Personnel costs and $1.9 million is reflected as Pension expense.

(4) Total GASB 75 OPEB expense is $(5.1) million and is reflected under Employee benefits and OPEB expense. Employer contributions of $2.4 million are included as Employee benefits under Personnel costs and $(7.6) million is reflected as OPEB expense.

Supplementary Schedule 2
Summary of Investment Expenses*
Year Ended June 30, 2024
(Dollar Amounts in Thousands)

	Investment Management			
	Base	Performance	Other Expenses	Total
External management:				
Public Equity	$ 22,148	$ 32,152	$ —	**$ 54,300**
Private Equity	110,916	—	—	**110,916**
Public Fixed Income	13,087	8,719	—	**21,806**
Private Fixed Income	58,108	—	—	**58,108**
Public Real Assets	6,105	—	—	**6,105**
Private Real Assets	79,290	—	—	**79,290**
Absolute Return	24,480	15,987	—	**40,467**
Tail Risk Mitigation	3,363	—	—	**3,363**
Defined Contribution	519	—	—	**519**
Total external management	318,016	56,858	—	**374,874**
Total internal management	—	—	27,029	**27,029**
Total investment management	318,016	56,858	27,029	**401,903**
Custodian fees	—	—	2,702	**2,702**
Consultant and legal fees	—	—	6,365	**6,365**
Total investment expenses	$ 318,016	$ 56,858	$ 36,096	**$ 410,970**

*External investment management fees classified on an asset allocation basis.

Supplementary Schedule 3
Schedule of Payments to Non-Investment Consultants
Year Ended June 30, 2024
(Dollar Amounts Greater than $100,000)

Non-Investment Consultants	Fees	Services Provided
Luminare Administration	$ 32,777,135	Postemployment Healthcare benefits Administration and claims adjudication
Optum Rx, Inc.	7,288,091	Administration of post employment healthcare benefits and prescription drug plan
Vitech Systems Group, Inc.	5,917,106	Pension administration system services
The Segal Company, Inc.	3,988,529	Actuarial services and consulting for HOP and prescription drug plan
Gallagher Benefit Services, Inc.	1,313,019	Pharmacy benefit consulting services
OST Inc.	977,297	Information technology, training, testing, and consulting services
Tivity Health	855,985	Administration of the Silver Sneakers Fitness program
Buck Global, LLC	377,990	Pension benefit actuarial services