Financial Section

CliftonLarsonAllen LLP
CLAconnect.com

INDEPENDENT AUDITORS' REPORT

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 financial statements of the Commonwealth of Pennsylvania Public School Employees' Retirement System (PSERS), a component unit of the Commonwealth of Pennsylvania, as of and for the years ended June 30, 2022 and 2021, and the related notes to the financial statements, which collectively comprise PSERS' basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of PSERS as of June 30, 2022 and 2021, and the respective changes in its financial 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 audits in accordance with auditing standards generally accepted in the United States of America (GAAS). Our responsibilities under those standards are further described in the Auditors' 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's 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.

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

Auditors' 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 auditors' 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 and Government Auditing Standards 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 control. 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 and Government Auditing Standards, we:

a. Exercise professional judgment and maintain professional skepticism throughout the audit.

b. 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.

c. 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's internal controls. Accordingly, no such opinion is expressed.

d. 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.

e. Conclude whether, in our judgment, there are conditions or events, considered in the aggregate, that raise substantial doubt about PSERS's 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 control 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 and the Schedules of 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, Investment Returns – Pension and OPEB, and related Notes, as listed in the table of contents, 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 GAAS, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the basic financial statements, and other knowledge we obtained during our audit of the basic financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

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

Supplementary Information

Our audit was conducted for the purpose of forming opinions on the financial statements that collectively comprise PSERS's basic financial statements. The Schedule of Administrative and Investment Expenses, Summary of Investment Expenses, and the Schedule of Payments to Non-Investment Consultants (collectively, the supplementary information), as listed in the table of contents, for the year ended June 30, 2022 are presented for purposes of additional analysis and are not a required part of the basic financial statements. Such 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. The 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 GAAS. In our opinion, the accompanying supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

Management is responsible for the other information included in the annual report. The other information comprises the introductory, investment, actuarial, and statistical sections, as listed in the table of contents, but does not include the basic financial statements and our auditors' report thereon. Our opinions on the basic financial statements do not cover the other information, and we do not express an opinion or any form of assurance thereon.

In connection with our audit of the basic financial statements, our responsibility is to read the other information and consider whether a material inconsistency exists between the other information and the basic financial statements, or the other information otherwise appears to be materially misstated. If, based on the work performed, we conclude that an uncorrected material misstatement of the other information exists, we are required to describe it in our report.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Baltimore, Maryland
October 4, 2022

Management's Discussion and Analysis

Management's Discussion and Analysis (MD&A) of the Commonwealth of Pennsylvania Public School Employees' Retirement System (PSERS, System, Fund) for the fiscal year ended June 30, 2022 (FY 2022) 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 is primarily responsible for administering a defined benefit pension plan for public school employees in the Commonwealth of Pennsylvania. PSERS also administers a Defined Contribution (DC) plan and two voluntary postemployment healthcare programs, the Health Insurance Premium Assistance Program (Premium Assistance) and the Health Options Program (HOP), for its annuitants. As part of the HOP, PSERS has an Employer/Union Direct Contract with the Centers for Medicare and Medicaid Services (CMS) to provide a Medicare Part D Prescription Drug Plan to participants. The financial statements present the financial position and activities for the pension plan, the DC plan and the two postemployment healthcare programs.

The ***Statements of Fiduciary Net Position*** provide a snapshot of the financial position of PSERS at June 30, 2022 and 2021. 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, 2021 to June 30, 2022 and from July 1, 2020 to June 30, 2021. 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 provide 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 remaining supplementary schedules 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 progress of PSERS in accumulating assets sufficient to pay benefits when due. All of this supplementary information is considered useful in understanding and evaluating the financial activities of PSERS.

Financial Highlights

- The time-weighted rate of return on investments was 2.23% for FY 2022, 24.58% for the fiscal year ended June 30, 2021 (FY 2021), and 1.12% for the fiscal year ended June 30, 2020 (FY 2020). FY 2022 investment rate of return of 2.23% is in the top percentile of investment performance for PSERS public pension peer group. PSERS investment rate of return is well above Aon's public pension peer group median investment rate of return of (7.21)%. The return for the ten-year period ended June 30, 2022 was 7.91%, which exceeded the 7.00% actuarial investment rate of return assumption. Unless otherwise noted, all rates of return are net of fees.
- PSERS' total net position decreased $1.3 billion from $72.5 billion at June 30, 2021 to $71.2 billion at June 30, 2022. The decrease at June 30, 2022 was due mostly to deductions for benefits, administrative expenses and net investment loss exceeding member and employer contributions. The 2.23% investment return for fiscal year 2022 was well below the Fund's 7.00% actuarial investment rate of return assumption due to a challenging environment for financial markets from growing inflation concerns, tighter monetary policy, the Russian invasion of Ukraine and the associated uncertain economic implications. The change in total net position from June 30, 2020 to June 30, 2021 was an increase by an all time high of $13.5 billion from $59.0 billion at June 30, 2020 to $72.5 billion at June 30, 2021. The increase at June 30, 2021 was due mostly to record net investment income plus member and employer contributions exceeding deductions for benefit and administrative expenses.
- PSERS' Plan fiduciary net position as a percentage of the total pension liability (market value funded ratio) decreased from 63.67% at June 30, 2021 to 61.34% at June 30, 2022 due to investment returns below the actuarial investment return assumption. Over the past six years, the longer term trend of the market value funded ratio has increased from 50.14% at June 30, 2016 to 61.34% at June 30, 2022 due primarily to PSERS receiving the full actuarially required

Management's Discussion and Analysis (continued)

contributions in each of the past six years and strong positive investment performance.

- Total employer contributions increased from $4.9 billion in FY 2021 to $5.1 billion in FY 2022. This increase was primarily attributable to employer payroll growth and a small increase in the total employer contribution rate from 34.51% in FY 2021 to 34.94% in FY 2022.
- PSERS' employers fully funded the actuarially required contributions from FY 2016 to FY 2022. These contributions continue to make a positive difference in PSERS' longer term funding trends as PSERS Net Pension Liability has declined more than 10% from $49.6 billion at June 30, 2016 to $44.5 billion at June 30, 2022.
- PSERS' total benefit expense increased from $7.6 billion in FY 2021 to $7.8 billion in FY 2022. The average monthly pension benefit and the number of members receiving benefits increased in FY 2022.

Progress of Act 120 on PSERS' Funding

On November 23, 2010, the Governor signed HB 2497 into law. The legislation is now known as Act 120 of 2010. Act 120 preserved the benefits of existing members and included a series of actuarial and funding changes to PSERS and benefit reductions for individuals who became new members of PSERS on or after July 1, 2011 to June 30, 2019.

The Act created two new membership classes, T-E and T-F. T-E and T-F members are "shared-risk," meaning that their employee contributions can increase or decrease due to investment performance. Act 120 addressed the pending employer contribution rate spike projected for FY 2013 by smoothing the projected rate increases over a five- to nine-year time period using rate collars. Instead of a large rate spike in one year, under Act 120, the employer contribution rate increased steadily each year from the 5.64% in effect when Act 120 became law to the 34.94% rate in FY 2022. Prior to Act 120, PSERS' Annual Required Contribution (ARC) percentage of contributions received under Governmental Accounting Standards Board (GASB) standards was only 27%. As a result of the Act 120 funding increases, on July 1, 2016, PSERS began receiving 100% of actuarially required contributions based on sound actuarial practices and principles for the first time in 15 years. This marked a significant milestone in PSERS' contribution history and established a path to full funding. PSERS received the actuarially required contributions from FY 2016 to FY 2022, and the large annual employer contribution rate increases that occurred from FY 2012 to FY 2018 are now complete. Employer contribution rate increases in the future are expected to be in line with or less than inflation.

Analysis of Fiduciary Net Position

(Dollar Amounts in Thousands)

Summary of Fiduciary Net Position	FY 2022	Increase (Decrease)	FY 2021	Increase (Decrease)	FY 2020
Assets:					
Receivables	**$ 2,472,480**	$ (73,438)	$ 2,545,918	$ (48,628)	$ 2,594,546
Investments	**70,904,736**	(1,256,048)	72,160,784	14,387,083	57,773,701
Securities lending collateral pool	**9,828,590**	1,966,303	7,862,287	3,371,050	4,491,237
Capital assets	**14,886**	(2,135)	17,021	(2,162)	19,183
Miscellaneous	**31,559**	(5,156)	36,715	13,719	22,996
Total Assets	**83,252,251**	629,526	82,622,725	17,721,062	64,901,663
Liabilities:					
Payables and other liabilities	**2,271,183**	43,564	2,227,619	846,979	1,380,640
Obligations under securities lending	**9,828,590**	1,966,303	7,862,287	3,371,050	4,491,237
Total Liabilities	**12,099,773**	2,009,867	10,089,906	4,218,029	5,871,877
Net Position	**$ 71,152,478**	$ (1,380,341)	$ 72,532,819	$ 13,503,033	$ 59,029,786
Summary of Changes in Fiduciary Net Position					
Additions:					
Contributions	**$ 6,307,440**	$ 316,803	$ 5,990,637	$ 113,431	$ 5,877,206
Participant premiums and CMS	**480,843**	10,086	470,757	(1,374)	472,131
Net investment income (loss)	**(282,401)**	(15,046,813)	14,764,412	13,757,695	1,006,717
Total Additions	**6,505,882**	(14,719,924)	21,225,806	13,869,752	7,356,054
Deductions:					
Benefit expense	**7,794,495**	163,119	7,631,376	260,034	7,371,342
Administrative expenses	**91,728**	331	91,397	1,254	90,143
Total Deductions	**7,886,223**	163,450	7,722,773	261,288	7,461,485
Changes in Net Position	**$ (1,380,341)**	$ (14,883,374)	$ 13,503,033	$ 13,608,464	$ (105,431)

Management's Discussion and Analysis (continued)

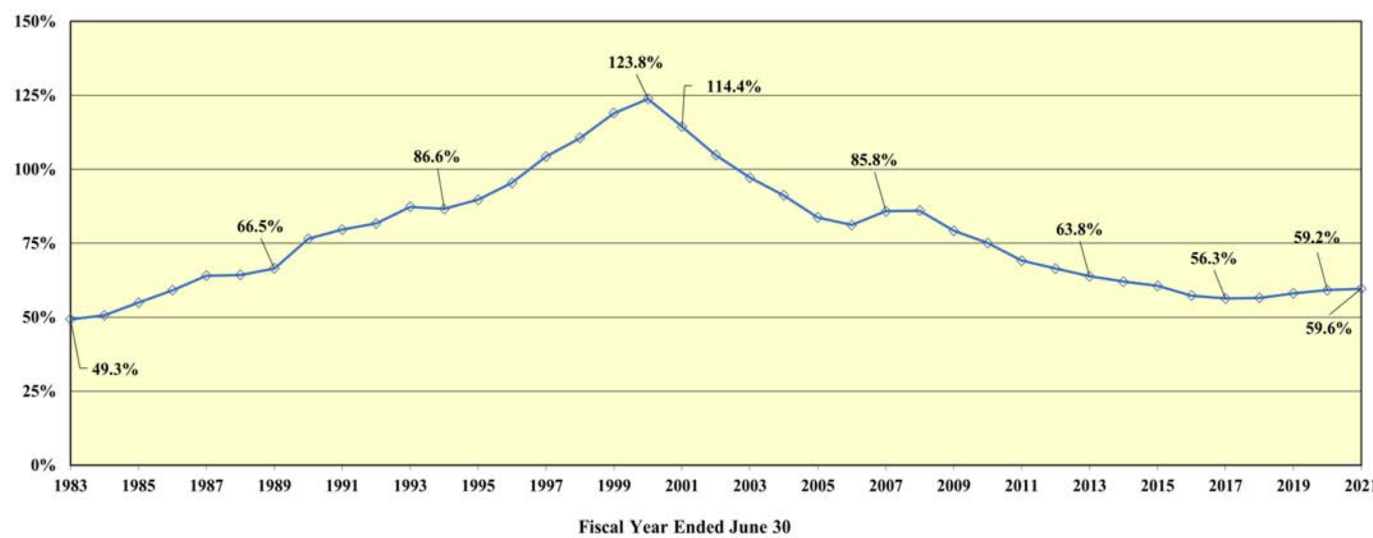
Act 5 of 2017 (Act 5) introduced a hybrid benefit with two membership classes and a separate defined contribution plan for individuals who become new members on or after July 1, 2019. Act 5 maintained the Act 120 employer contribution payment schedule and expanded shared risk.

Funded Status and State Accumulation Account

PSERS uses an actuarial reserve type of funding that is financed by member contributions, employer contributions, and earnings from invested assets. Figure 1 illustrates a thirty eight-year history of PSERS' funded status. An independent actuarial valuation of PSERS' actuarial assets and liabilities is performed annually. 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' funded ratio increased from 59.2% at June 30, 2020 to 59.6% as of June 30, 2021, the most recent actuarial valuation, due to fully funded employer contributions, favorable demographic experience, and positive investment returns. These factors were offset by the impact of the adoption of new actuarial assumptions that included lowering the investment return assumption from 7.25% to 7.00% at June 30, 2021. The actuarial funded ratio improved to 59.6% as of June 30, 2021 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 now improving and is projected to continue to rise in the future.

The results of operations for FY 2022 will be reflected in the actuarial valuation for the year ended June 30, 2022. Due to the normal lag time for completion of the actuarial valuation, the resulting funded status will be available at the end of the 2022 calendar year and will be reported in the financial statements for the fiscal year ending June 30, 2023 (FY 23). Based on the investment performance for the ten-year period ended June 30, 2022, which is above the investment rate of return assumption during that time period, and due to receiving the full actuarially required contributions the funded ratio at June 30, 2022 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, decreased from 63.67% at June 30, 2021 to 61.34% at June 30, 2022 due to investment returns trailing the actuarial investment return assumption. Unlike the actuarial funded ratio which recognizes the investment performance over 10 years, the market value funded ratio is expected to fluctuate more every year due to the immediate recognition of the fund's fiscal year investment performance. Over the past six years, the longer term trend of the market value funded ratio increased from 50.14% at June 30, 2016 to 61.34% at June 30, 2022 due primarily to PSERS receiving the full actuarially required contributions for all six years and strong positive investment returns. All the ingredients are in place and, based on the current actuarial assumptions, PSERS remains on a longer term path to full funding.

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



*2021 is most recent actuarial valuation available

Management's Discussion and Analysis (continued)

PSERS' State Accumulation Account declined from $(7.4) billion at June 30, 2021 to $(10.5) billion at June 30, 2022 due to benefit payments, administrative expenses and net investment loss exceeding employer contributions. Investment earnings and actuarially required employer contributions will reduce the deficit in this account in the future (See Note 3).

Investments

The combined aggressive response from monetary policy (central banks) and fiscal policy (governments) to the COVID-19 pandemic successfully transitioned economies from collapse in fiscal year 2020, to lift off in fiscal year 2021, to a more uncertain state in fiscal year 2022. This heightened uncertainty in fiscal year 2022 was due to the emergence of three powerful forces: inflation, geopolitical instability from Russia's invasion of the Ukraine, and the continued mutation of COVID-19 into new variants. Each, on its own, would have been plenty for policy makers and investors to deal with. Together, they made the cone of potential outcomes far wider than normal and the job of policy makers and investors that much harder.

Despite most every country and region of the world facing the same three powerful forces, specific conditions differed somewhat from country to country and region to region. The United States arguably had the largest monetary and fiscal response to COVID-19. The United States saw a significant rise in the level and stickiness of inflation and witnessed growing tightness in labor market conditions (where the demand for labor far exceeded the supply). As a result, the Federal Reserve (the U.S. central bank) increased its hawkish rhetoric and began to move to increase interest rates in an effort to subdue inflation. Nominal GDP growth remained healthy, giving the Federal Reserve some room to maneuver without inducing a recession.

Europe confronted a more dire set of conditions. It faced the same inflationary and labor market dynamics, but saw nominal GDP growth nowhere near as healthy as in the United States Europe was also far closer, geographically and economically, to the fallout of the Russia/Ukraine war, than the United States was. Europe's dependence on imports of oil and natural gas from Russia made it especially vulnerable to supply interruptions and spikes in energy prices. Finally, Europe's own political and economic heterogeneity among its constituent countries made a unified monetary and fiscal response very difficult to achieve, with the risk growing of the disintegration of the Eurozone.

China saw its "zero COVID" policy exact a material toll on economic growth, helping to keep China's inflation rate moored at relatively modest levels compared to the rest of the world. Coupled with a weakening commercial and residential real estate sector – a large sector in China's economy – China's policymakers were concerned with preventing deflation and maintaining economic growth, admittedly at a growth rate lower than the high growth rate of the past two decades. In addition, leading up to the party congress in late 2022, policymakers were focused on maintaining political stability.

Reflecting the turbulent macroeconomic picture, the return picture for investors was a tale of two halves for fiscal year 2022. Returns for the first half were markedly different from returns for the second half. In the first half, nearly all asset classes had positive returns. In the second half, nearly all asset classes had negative returns. See the table below for the public market returns of some common benchmarks.

ASSET CLASS	1H FY 2022	2H FY 2022
U.S. Large Cap Stocks	11.7%	(20.0%)
U.S. Mid Cap Stocks	6.1%	(19.5%)
U.S. Small Cap Stocks	2.6%	(18.9%)
Non-U.S. Developed Markets Stocks	(0.4%)	(16.5%)
Emerging Markets Stocks	(8.3%)	(17.9%)
U.S. Investment Grade Bonds	0.1%	(10.3%)
U.S. Long Maturity Treasury Bonds	3.6%	(21.3%)
Emerging Markets Bonds	(1.9%)	(15.6%)
U.S. High Yield Bonds	1.6%	(14.2%)
U.S. Inflation Linked Bonds	4.4%	(9.7%)
Non-U.S. Inflation Linked Bonds	6.0%	(14.7%)
Infrastructure Stocks	9.9%	(0.7%)
Commodities	4.9%	18.4%
Gold	2.9%	(1.5%)
REITS Stocks	12.1%	(16.2%)

The sharp dichotomy in performance between the first half of the fiscal year and the second half of the fiscal year was evidence of the difficulty in navigating a world driven by the three powerful forces mentioned above. In the second half, there was no place to hide and it was hard to make money. In the first half, there was no need to hide and it was hard not to make money.

We expect these quick and large shifts in performance to continue for the foreseeable future. They will be hard to anticipate and hard to manage. Heightened volatility is likely to be a persistent feature of the investing landscape.

It warrants highlighting that PSERS is a long-term investor and manages the pension fund with long-term objectives in mind. A primary element of PSERS' investment philosophy is diversification among various asset classes, which is the best way to achieve its goals and deal with the macroeconomic, geopolitical, and other forces that may come along. PSERS makes estimates of future long-term market returns and establishes an asset allocation plan taking into account the risk associated with each asset class as well as the financial objectives of the Fund.

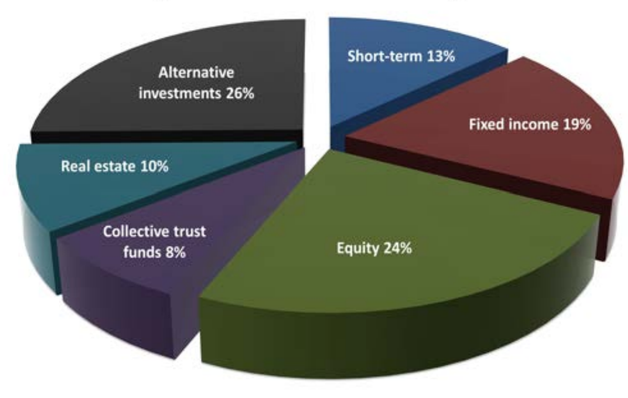
The 2.23% investment return for FY 2022, was well below the Fund's 7.00% actuarial investment rate of return assumption due to a challenging environment for financial markets from growing inflation concerns, tighter monetary policy, the Russian invasion of Ukraine and the associated uncertain economic implications. PSERS' FY 2022, time-weighted rate of return on investments was 2.23%; however, it was above PSERS' total fund Policy Index of (0.19)% for the same time period as PSERS active managers out-performed their benchmarks. A time-weighted rate of return considers investment performance of a hypothetical dollar invested from the beginning of an investment period to the period's end. The Policy Index is a custom benchmark, based on the Board-established asset allocation structure, that seeks to generate a return that meets the actuarial rate of return assumption. Net investment loss of $(282.4) million in FY 2022 decreased significantly from a net investment income of $14.8 billion in FY 2021. FY 2022 return of 2.23% was substantially below the FY 2021 return of 24.58%.

Investment Return Reporting vs. Financial Statement Reporting

The FY 2022 time-weighted investment rate of return is a positive 2.28% in contrast to the FY 2022 net investment (loss) of $(282.4) million. This difference is due to the Pension industry's use of quarter lag reporting for certain asset classes for investment return reporting. For financial statement reporting purposes, nearly all Real estate and Alternative investments are valued based on June 30, 2022 valuations. For investment return reporting, the Real estate and Alternative investments are based on quarter lag valuations as of March 31, 2022. As a result, the financial statements include a net valuation decrease of $(317) million at June 30, 2022 that will not be recognized in the investment returns for FY 2022. In FY 2021, the financial statements included a June 30, 2021 Real estate and Alternative investment valuation increase of $1.9 billion which was not recognized in the investment returns until FY 2022. The combined impact of the FY 2021 and FY 2022 quarter lag valuation adjustments is $2.2 billion. As a result, the FY 2022 investment returns are higher than the net investment loss recognized in the financial statements. This combined impact is the reason why the financial statements have a Net Investment Loss of $(282.4) million and FY 2022 investment returns are a positive 2.28%.

The time-weighted annualized rate of return over the past three- and five-year periods ended June 30, 2022 was 8.80% and 8.46%, respectively. The time-weighted return for the three-year period and five-year period exceeded the total fund Policy Index return by 137 basis points and 80 basis points, respectively. The annualized time-weighted rates of return for the ten- and twenty five-year periods ended June 30, 2022 were 7.91% and 7.05%, respectively.

Figure 2 - Asset Distribution June 30, 2022



The asset distribution of PSERS' investment portfolio at June 30, 2022, including defined contribution and postemployment healthcare assets, is presented in Figure 2 and Table 1. For comparison purposes, the prior two fiscal years are also presented in Table 1.

FY 2022

- ***Short-term investments*** (cash and cash equivalents) slightly decreased by $0.1 billion from $9.5 billion at June 30, 2021 to $9.4 billion June 30, 2022.
- ***Fixed income investments*** increased by $0.5 billion from $13.3 billion at June 30, 2021 to $13.8 billion at June 30, 2022 mainly due to a reallocation of exposure from other asset classes which was offset by negative investment performance.
- ***Equity investments*** decreased by $1.3 billion from $18.4 billion at June 30, 2021 to $17.1 billion at June 30, 2022 mainly due to negative investment performance which was offset by reallocation of exposure from other asset classes.
- ***Collective trust funds*** decreased by $1.8 billion from $7.4 billion at June 30, 2021 to $5.6 billion at June 30, 2022 due to the unwinding of the absolute return program.
- ***Real estate investments*** increased by $1.1 billion from $6.0 billion at June 30, 2021 to $7.1 billion at June 30, 2022 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant distributions. After the conclusion of the audit, the Board accepted the appraisals for certain directly-owned properties. The difference between the valuations in the appraisals and the valuations included in the financial statements was determined to be immaterial, so no adjustments were made to the financial statements.

Management's Discussion and Analysis (continued)

Table 1 - Investment Balances by Asset Class

(Dollar Amount in Thousands)

Asset Class	2022	%	2021	%	2020	%
Short-term	**$ 9,420,478**	**13.3**	$ 9,479,700	13.1	$ 6,239,539	10.8
Fixed income	**13,752,793**	**19.4**	13,253,332	18.4	11,719,860	20.3
Equity	**17,136,393**	**24.2**	18,437,873	25.6	11,024,133	19.1
Collective trust funds	**5,571,997**	**7.9**	7,377,281	10.2	9,863,496	17.0
Real estate	**7,122,100**	**10.0**	5,986,463	8.3	5,478,122	9.5
Alternative investments	**17,900,975**	**25.2**	17,626,135	24.4	13,448,551	23.3
Total	**$ 70,904,736**	**100.0**	$ 72,160,784	100.0	$ 57,773,701	100.0

- ***Alternative investments*** increased by $0.3 billion from $17.6 billion at June 30, 2021 to $17.9 billion at June 30, 2022 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant distributions.

FY 2021

- ***Short-term investments*** (cash and cash equivalents) increased by $3.3 billion from $6.2 billion at June 30, 2020 to $9.5 billion June 30, 2021 mainly due to a reallocation of exposure from other asset classes.
- ***Fixed income investments*** increased by $1.6 billion from $11.7 billion at June 30, 2020 to $13.3 billion at June 30, 2021 mainly due to a reallocation of exposure from other asset classes and positive investment performance.
- ***Equity investments*** increased by $7.4 billion from $11.0 billion at June 30, 2020 to $18.4 billion at June 30, 2021. Due to a reallocation of exposure from other asset classes and strong investment performance, PSERS equity investments significantly increased during FY 2021.
- ***Collective trust funds*** decreased by $2.5 billion from $9.9 billion at June 30, 2020 to $7.4 billion at June 30, 2021 due to the elimination of the risk parity allocation program which was partially offset by positive investment performance.
- ***Real estate investments*** increased by $0.5 billion from $5.5 billion at June 30, 2020 to $6.0 billion at June 30, 2021 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant distributions.
- ***Alternative investments*** increased by $4.2 billion from $13.4 billion at June 30, 2020 to $17.6 billion at June 30, 2021 due to contributions to new and existing partnerships combined with valuation increases in partnership portfolio holdings which exceeded significant distributions.

Securities Lending

The System's net income from securities lending activities increased from $19.8 million in FY 2021 to $25.7 million in FY 2022. Lending income and expense both increased significantly as the economy in general moved from a lower to higher interest rate environment. The spread increased from FY 2021 to FY 2022 as gross earnings on the borrowers' collateral outpaced the amounts rebated to the borrowers.

Contributions

Employer contributions increased from $4.9 billion in FY 2021 to $5.1 billion in FY 2022. This increase was primarily attributable to employer payroll growth and a small increase in the total employer contribution rate from 34.51% in FY 2021 to 34.94% in FY 2022. Total employer contributions increased from $4.8 billion in FY 2020 to $4.9 billion in FY 2021 due primarily to an increase in the total employer contribution rate from 34.29% in FY 2020 to 34.51% in FY 2021.

Figure 3 - PSERS' Sources of Funding Twenty Five-Year History (1998-2022)

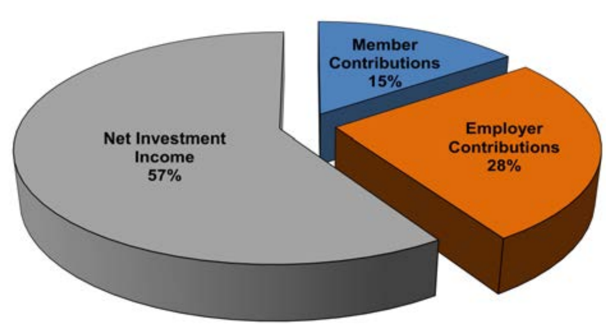
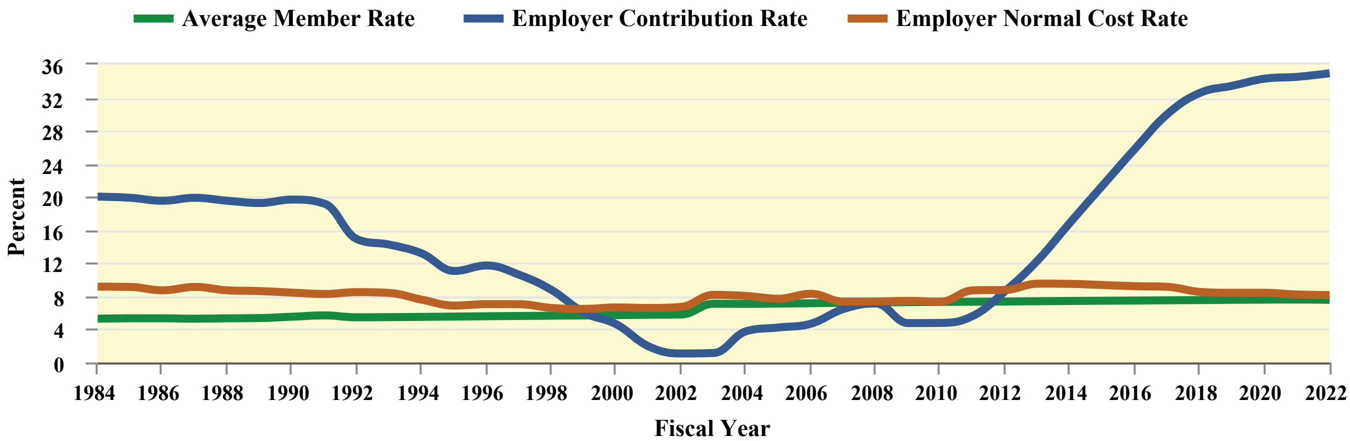


Figure 4- History of PSERS' Contribution Rates as a Percent of Payroll*
Fiscal Year Ending June 30



* Includes Premium Assistance & DC

Total member contributions increased from $1.10 billion in FY 2021 to $1.17 billion in FY 2022 mainly due to an increase in member contributions from active member payroll and an additional $22 million increase due to the member shared risk contribution rate increases. Total member contributions increased from $1.08 billion in FY 2020 to $1.10 billion in FY 2021 mainly due to an increase in member contributions from active member payroll.

Member contribution receivables increased from $368.8 million at June 30, 2021 to $382.6 million at June 30, 2022 as a result of an increase in member purchase of service contributions and active member payroll that was partially offset by a decrease in the average member contribution rate from 7.61% in FY 2021 to 7.56% in FY 2022. Member contribution receivables increased from $356.4 million at June 30, 2020 to $368.8 million at June 30, 2021 as a result of an increase in member purchase of service contributions, active member payroll, and the average member contribution rate from 7.59% in FY 2020 to 7.61% in FY 2021. The employer contribution receivables remained consistent at $1.4 billion at June 30, 2021 and June 30, 2022. See Figure 4 for a history of PSERS contribution rates.

Commonwealth Share of Employer Contributions

The Commonwealth reimburses all school entity employers (school districts, intermediate units and vocational technical schools) a portion of all employer contributions paid to the System. The Commonwealth reimburses at least 50% of school entities' contributions. The Commonwealth reimbursement rate, however, could be larger based on its Market Value/Personal Income Aid Ratio, which is a Commonwealth of Pennsylvania Department of Education calculation of local tax rates and socioeconomic factors. This reimbursement that school entities receive from the Commonwealth is referred to as the Commonwealth Share of employer contributions. The Commonwealth Share of contributions is paid to the school entities approximately 75 days after the end of each quarter. School entities have five days after receiving the Commonwealth Share to pay the total employer contributions to PSERS. Total employer contributions are comprised of the Commonwealth Share and remaining contributions which are referred to as the school and non-school entity share.

For non-school entity employers (state colleges/universities, community colleges, and state agencies) the Commonwealth remits directly to the System 50% of total employer contributions due, and the non-school entity employer remits 50% of the total employer contributions due directly to the System.

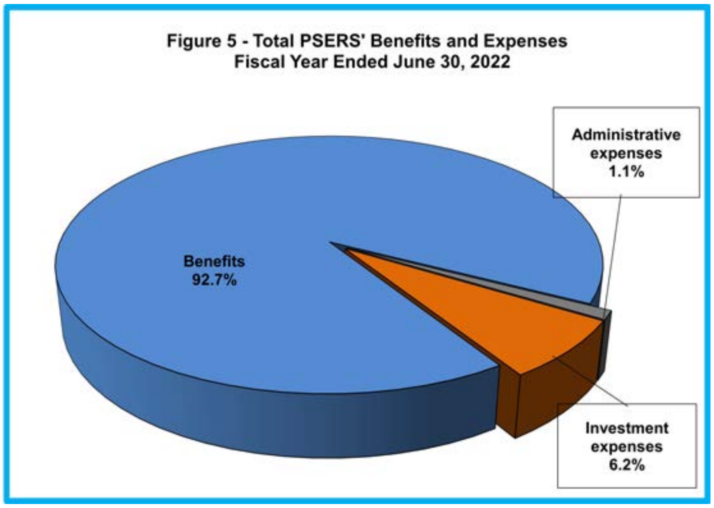
The Commonwealth Share of total employer contributions for FY 2022 was $2.8 billion and for FY 2021 was $2.7 billion. The school and non-school entity share of total employer contributions for FY 2022 was $2.3 billion and for FY 2021 was $2.2 billion. For FY 2022 total employer contributions were $5.1 billion and for FY 2021 were $4.9 billion.

Investment Income

Net investment loss of $(282.4) million in FY 2022 decreased significantly from a net investment income of $14.8 billion in FY 2021 which is consistent with the decrease in the time-weighted investment rate of return from 24.58% for FY 2021 to 2.28% for FY 2022.

Net investment income increased from $1.0 billion in FY 2020 to $14.8 billion in FY 2021, which is consistent with

Management's Discussion and Analysis (continued)



the increase in the time-weighted investment rate of return from 1.12% for FY 2020 to 24.58% for FY 2021. As depicted in Figure 3, investment earnings provided 57% of PSERS' funding over the past 25 years. Net investment income also includes investment expenses as a deduction. The "Total PSERS' Benefits and Expenses" section that follows includes an analysis of investment expenses.

Total PSERS' Benefits and Expenses

The primary source of expense during FY 2022 was for the payment of pension and healthcare benefits approximating $7.8 billion. The breakdown consisted of $7.3 billion for Pension, $4.0 million for Defined Contribution, $113.7 million for Premium Assistance, and $422.8 million for HOP benefits. Figure 5 illustrates the significant portion of expenses attributable to benefit payments.

Total PSERS' benefit expense increased from $7.6 billion in FY 2021 to $7.8 billion in FY 2022. The increase is attributable to an ongoing increase to the average monthly benefit. Pension benefits payable decreased from $576.3 million at June 30, 2021 to $542.0 million at June 30, 2022. This decrease was mainly attributable to a decrease in pension payments payable from a lower number of retirements in the 4th quarter of FY 2022. Total PSERS' benefit expense slightly increased from $7.4 billion in FY 2020 to $7.6 billion in FY 2021. The increase is attributable to an ongoing increase to the average monthly benefit and an increase in pension lump sum rollover payments. Pension benefits payable decreased from $590.8 million at June 30, 2020 compared to $576.3 million at June 30, 2021. The decrease was mainly attributable to a decrease in pension and death payments payable.

Investment expenses decreased by $92.7 million from $618.1 million in FY 2021 to $525.4 million in FY 2022 mainly due to a decrease in management fees in collective trust funds of $89 million. The decrease in collective trust fund fees is mainly attributable to lower performance fees earned in FY 2022 and the reduction of the absolute return program. As a percentage of total benefits and expenses, investment expense decreased from 7.4% in FY 2021 to 6.2% in FY 2022.

As a percentage of total benefits and expenses, investment expense has decreased from a high of 8.2% in FY 2013 to 6.2% in FY 2022. During this same period net assets increased $22.5 billion from $48.7 billion at June 30, 2012 to $71.2 billion at June 30, 2022.

PSERS continues to be one of the most transparent among large public pension funds in the nation for the disclosure of management fees. For example, certain pension funds report no or very little management fees for alternative investments because they are considered part of the cost of the investment and are netted against performance rather than shown separately. PSERS, however, requests management fee information from each of its limited partnerships and collective trust fund investments, even if it is not specifically disclosed in the fund's standard reports or identified in capital call requests. Such management fee information includes both base and performance fees obtained from either the fund's administrator statement, capital account statement or financial statements. This information is then utilized to report all relevant management fees in the System's financial statements. While the national debate over what constitutes a "fee" continues, PSERS will endeavor to remain transparent and report fees in accordance with current GASB standards and prevailing public pension industry practices to keep PSERS' financial statements both meaningful and comparative to its peers. In addition, PSERS reports all other investment expenses, including staff compensation and overhead, consultant, legal, and bank expenses incurred.

Administrative expenses slightly increased by $0.3 million from $91.4 million during FY 2021 to $91.7 million during FY 2022. This increase was mainly attributable to an increase in consultant and legal fees offset by lower Pension expense and OPEB expense. As depicted in Figure 5, administrative expenses represent only 1.1% of total benefits and expenses.

Defined Contribution Plan (DC)

PSERS administers a defined contribution plan. The following paragraphs and summary financial data provide supplementary information to the financial statements which contain the financial position and activities for the defined contribution plan.

Financial Highlights

- Total net position increased by $36.7 million from June 30, 2021 to June 30, 2022. This increase is primarily due to participant and employer contributions and investments (additions) exceeding the benefits and administrative expenses (deductions).
- Investments increased from $62.6 million at June 30, 2021 to $99.6 million at June 30, 2022 as the defined contribution plan is relatively new and investments continue to grow at a rapid pace.

Contributions

Total member contributions increased from $19.3 million to $32.9 million, while total employer contributions increased from $14.9 million to $25.4 million for the years ended June 30, 2021 and 2022, respectively. Contributions increased due to an increase in participants from 29,300 in FY 2021 to 46,500 in FY 2022 resulting in an increase in member and employer contributions.

Investment Income (Loss)

Investment income (loss) decreased from $9.3 million to $(15.8) million for the years ended June 30, 2021, and 2022, respectively. Equity returns declined significantly in FY 2022 due to growing inflation concerns, tighter monetary policy, the Russian invasion of Ukraine and the associated uncertain economic implications.

Benefits and Expenses

Overall deductions increased from $2.6 million to $5.8 million for the years ended June 30, 2021, and 2022, respectively. Total distributions increased by $2.6 million due to a 94.4% increase in the number of participants receiving distributions. Overall DC administrative expenses increased due to a significant increase in the total number of participants in the plan and an increase in PSERS personnel cost.

Management's Discussion and Analysis (continued)

Defined Contribution Plan

Summary of Fiduciary Net Position (Dollar Amounts in Thousands)

Assets:	FY 2022	Increase (Decrease)	FY 2021	Increase (Decrease)	FY 2020
Receivables	**$ 601**	$ (68)	$ 669	$ 208	$ 461
Investments	**99,638**	36,993	62,645	41,080	21,565
Total Assets	**100,239**	36,925	63,314	41,288	22,026
Liabilities:					
Payables and other liabilities	**1,268**	230	1,038	373	665
Total Liabilities	**1,268**	230	1,038	373	665
Net Position	**$ 98,971**	$ 36,695	$ 62,276	$ 40,915	$ 21,361

Summary of Changes in Fiduciary Net Position (Dollar Amounts in Thousands)

Additions:	FY 2022	Increase (Decrease)	FY 2021	Increase (Decrease)	FY 2020
Contributions	**$ 58,299**	$ 24,071	$ 34,228	$ 19,299	$ 14,929
Net investment income (loss)	**(15,813)**	(25,127)	9,314	8,659	655
Total Additions	**42,486**	(1,056)	43,542	27,958	15,584
Deductions:					
Distributions	**3,630**	2,590	1,040	1,028	12
Administrative expenses	**2,161**	574	1,587	(1,580)	3,167
Total Deductions	**5,791**	3,164	2,627	(552)	3,179
Changes in Net Position	**$ 36,695**	$ (4,220)	$ 40,915	$ 28,510	$ 12,405

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 which contain the financial position and activities for the two postemployment healthcare programs.

Health Insurance Premium Assistance Program (Premium Assistance)

Financial Highlights

- Total net position increased by $3.0 million in FY 2022 mainly due to net investment income and employer contributions exceeding benefit expense deductions and administrative expenses. The total net position continues to be sufficient to fund one full year of benefits. The change in net position from June 30, 2020 to June 30, 2021 was an increase of $2.1 million due to net investment income and employer contributions exceeding benefit expense deductions. The employer contribution rate for FY 2022 was 0.80%, a reduction of 0.02% from the contribution rate of 0.82% for FY 2021.
- Net investments increased to $101.9 million at June 30, 2022 from $99.0 million at June 30, 2021 as Premium Assistance income exceeded expenses, producing more funds for investment.

Contributions

Employer contributions increased from $116.5 million in FY 2021 to $117.2 million in FY 2022 due to 2.9% growth in employer payroll partially offset by a 2.4% decrease in the contribution rate from 0.82% in FY 2021 to 0.80% in FY 2022.

Investment Income

Total investment income for Premium Assistance remained steady at $0.3 million for FY 2021 and FY 2022.

Benefits and Expenses

Premium Assistance deductions decreased slightly from $114.7 million in FY 2021 to $114.5 million in FY 2022. Administrative costs were lower due to reduced consulting costs while premium assistance benefit payments rose slightly by 0.15%.

Health Options Program (HOP)

Financial Highlights

- Total net position increased by $19.1 million in FY 2022 due to increases in participant premiums and CMS receipts which exceeded benefits and administrative expenses. Total net position increased from June 30, 2020 to June 30 2021 by $49.5 million primarily due to participant premiums and CMS receipts exceeding benefits and administrative expenses.
- Total receivables decreased from $76.1 million at June 30, 2021 to $64.4 million at June 30, 2022. This is due to a reduction in CMS reinsurance receivables and an increase in timely CMS receipts resulting in a reduced year-end receivable.
- Investments increased from $365.7 million at June 30, 2021 to $394.6 million at June 30, 2022. Both HOP income exceeding expenses and more timely receipts of CMS revenue were partially offset by more timely payments of administrative expenses. These factors produced more funds for investment.
- Total liabilities decreased 2.8% from $71.3 million at June 30, 2021 to $69.3 million at June 30, 2022. The decrease is due to timing of administrative expense payments partially offset by an increase in prescription drug and medical claims payable.

Participant and CMS Premiums

Total Participant and CMS premiums for HOP increased from $470.8 million for FY 2021 to $480.8 million for FY 2022 due to increased member premiums and CMS contributions.

Investment Income

Net investment income grew from $0.2 million for FY 2021 to $0.3 million in FY 2022 due to recent increased short-term investment rates.

Benefits and Expenses

HOP total deductions increased by 9.6% from $421.5 million in FY 2021 to $462.1 million in FY 2022. This is due to an 11.0% increase in medical claim costs along with increases in prescription drug claims and drug costs. Administrative expenses rose by 0.6% to $39.3 million for the year ended June 30, 2022.

Management's Discussion and Analysis (continued)

Premium Assistance

Summary of Fiduciary Net Position

(Dollar Amounts in Thousands)

Assets:	FY 2022	Increase (Decrease)	FY 2021	Increase (Decrease)	FY 2020
Receivables	**$ 34,173**	$ (988)	$ 35,161	$ (1,778)	$ 36,939
Investments	**101,907**	(4,274)	106,181	12,565	93,616
Miscellaneous	**—**	(400)	400	98	302
Total Assets	**136,080**	(5,662)	141,742	10,885	130,857
Liabilities:					
Payables and other liabilities	**604**	(8,623)	9,227	8,787	440
Total Liabilities	**604**	(8,623)	9,227	8,787	440
Net Position	**$ 135,476**	$ 2,961	$ 132,515	$ 2,098	$ 130,417

Summary of Changes in Fiduciary Net Position

(Dollar Amounts in Thousands)

Additions:	FY 2022	Increase (Decrease)	FY 2021	Increase (Decrease)	FY 2020
Contributions	**$ 117,178**	$ 659	$ 116,519	$ (1,388)	$ 117,907
Net investment income	**316**	56	260	(1,492)	1,752
Total Additions	**117,494**	715	116,779	(2,880)	119,659
Deductions:					
Benefit expenses	**113,707**	169	113,538	259	113,279
Administrative expenses	**826**	(317)	1,143	(5)	1,148
Total Deductions	**114,533**	(148)	114,681	254	114,427
Changes in Net Position	**$ 2,961**	$ 863	$ 2,098	$ (3,134)	$ 5,232

Health Options Program

Summary of Fiduciary Net Position

(Dollar Amounts in Thousands)

Assets:	FY 2022	Increase (Decrease)	FY 2021	Increase (Decrease)	FY 2020
Receivables	**$ 64,375**	$ (11,743)	$ 76,118	$ (828)	$ 76,946
Investments	**394,618**	28,893	365,725	47,899	317,826
Miscellaneous	**136**	40	96	(418)	514
Total Assets	**459,129**	17,190	441,939	46,653	340,637
Liabilities:					
Payables and other liabilities	**69,340**	(2,802)	71,263	(2,801)	74,064
Total Liabilities	**69,340**	(2,802)	71,263	(2,801)	73,445
Net Position	**$ 389,789**	$ 19,113	$ 370,676	$ 49,454	$ 267,192

Summary of Changes in Fiduciary Net Position

(Dollar Amounts in Thousands)

Additions:	FY 2022	Increase (Decrease)	FY 2021	Increase (Decrease)	FY 2020
Participant and CMS premiums	**$ 480,843**	$ 10,086	$ 470,757	$ (1,374)	$ 472,131
Net investment income	**346**	132	214	(2,250)	2,464
Total Additions	**481,189**	10,218	470,971	(3,624)	474,595
Deductions:					
Benefit expenses	**422,786**	40,320	382,466	930	381,536
Administrative expenses	**39,290**	239	39,051	22	39,029
Total Deductions	**462,076**	40,559	421,517	952	420,565
Changes in Net Position	**$ 19,113**	$ (30,341)	$ 49,454	$ (4,576)	$ 54,030

Statements of Fiduciary Net Position
June 30, 2022 and 2021
(Dollar Amounts in Thousands)

	2022				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Assets:					
Receivables:					
Members	$ 380,534	$ 340	$ 1,628	$ 123	$ 382,625
Employers	1,382,281	256	32,476	—	1,415,013
Investment income	200,975	5	69	110	201,159
Investment proceeds	408,568	—	—	—	408,568
CMS Part D and prescriptions	—	—	—	64,142	64,142
Interfund receivable	973	—	—	—	973
Total Receivables	2,373,331	601	34,173	64,375	2,472,480
Investments, at fair value:					
Short-term	8,915,210	8,743	101,907	394,618	9,420,478
Fixed income	13,752,793	—	—	—	13,752,793
Equity	17,136,393	—	—	—	17,136,393
Collective trust funds	5,481,102	90,895	—	—	5,571,997
Real estate	7,122,100	—	—	—	7,122,100
Alternative investments	17,900,975	—	—	—	17,900,975
Total Investments	70,308,573	99,638	101,907	394,618	70,904,736
Securities lending collateral pool	9,828,590	—	—	—	9,828,590
Capital assets (net of accumulated depreciation $42,983)	14,886	—	—	—	14,886
Miscellaneous	31,423	—	—	136	31,559
Total Assets	82,556,803	100,239	136,080	459,129	83,252,251
Liabilities:					
Accounts payable and accrued expenses	147,812	99	213	1,247	149,371
Benefits payable	541,983	—	60	33,902	575,945
HOP participant premium advances	—	—	—	34,157	34,157
Investment purchases and other payables	1,357,940	561	—	—	1,358,501
Obligations under securities lending	9,828,590	—	—	—	9,828,590
Interfund payable	—	608	331	34	973
Other liabilities	152,236	—	—	—	152,236
Total Liabilities	12,028,561	1,268	604	69,340	12,099,773
Net position restricted for pension, DC and postemployment healthcare benefits	$ 70,528,242	$ 98,971	$ 135,476	$ 389,789	$ 71,152,478

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

Statements of Fiduciary Net Position
June 30, 2022 and 2021
(Dollar Amounts in Thousands)

	2021				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Assets:					
Receivables:					
Members	$ 366,165	$ 382	$ 2,013	$ 195	$ 368,755
Employers	1,331,419	284	33,111	—	1,364,814
Investment income	459,975	1	37	19	460,032
Investment proceeds	274,186	2	—	—	274,188
CMS Part D and prescriptions	—	—	—	75,904	75,904
Interfund receivable	2,225	—	—	—	2,225
Total Receivables	2,433,970	669	35,161	76,118	2,545,918
Investments, at fair value:					
Short-term	9,000,456	7,338	106,181	365,725	9,479,700
Fixed income	13,253,332	—	—	—	13,253,332
Equity	18,437,873	—	—	—	18,437,873
Collective trust funds	7,321,974	55,307	—	—	7,377,281
Real estate	5,986,463	—	—	—	5,986,463
Alternative investments	17,626,135	—	—	—	17,626,135
Total Investments	71,626,233	62,645	106,181	365,725	72,160,784
Securities lending collateral pool	7,862,287	—	—	—	7,862,287
Capital assets (net of accumulated depreciation $34,515)	17,021	—	—	—	17,021
Miscellaneous	36,219	—	400	96	36,715
Total Assets	81,975,730	63,314	141,742	441,939	82,622,725
Liabilities:					
Accounts payable and accrued expenses	188,188	75	339	5,884	194,486
Benefits payable	576,347	—	52	31,275	607,674
HOP participant premium advances	—	—	—	34,068	34,068
Investment purchases and other payables	1,214,614	418	7,192	—	1,222,224
Obligations under securities lending	7,862,287	—	—	—	7,862,287
Interfund payable	—	545	1,644	36	2,225
Other liabilities	166,942	—	—	—	166,942
Total Liabilities	10,008,378	1,038	9,227	71,263	10,089,906
Net position restricted for pension, DC and postemployment healthcare benefits	$ 71,967,352	$ 62,276	$ 132,515	$ 370,676	$ 72,532,819

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

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2022 and 2021
(Dollar Amounts in Thousands)

	2022				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Additions:					
Contributions:					
Members	**$ 1,134,051**	**$ 32,875**	**$ —**	**$ —**	**$ 1,166,926**
Employers	**4,997,912**	**25,424**	**117,178**	**—**	**5,140,514**
Total contributions	**6,131,963**	**58,299**	**117,178**	**—**	**6,307,440**
HOP Participant premiums	**—**	**—**	**—**	**409,361**	**409,361**
Centers for Medicare & Medicaid Services premiums	**—**	**—**	**—**	**71,482**	**71,482**
Investment income:					
From investing activities:					
Net depreciation in fair value of investments	**(1,765,123)**	**(15,682)**	**(345)**	**—**	**(1,781,150)**
Short-term	**22,295**	**19**	**694**	**377**	**23,385**
Fixed income	**556,068**	**—**	**—**	**—**	**556,068**
Equity	**416,326**	**—**	**—**	**—**	**416,326**
Collective trust funds	**472**	**5**	**—**	**—**	**477**
Real estate	**455,027**	**—**	**—**	**—**	**455,027**
Alternative investments	**547,142**	**—**	**—**	**—**	**547,142**
Total investment activity income (loss)	**232,207**	**(15,658)**	**349**	**377**	**217,275**
Investment expenses	**(525,171)**	**(155)**	**(33)**	**(31)**	**(525,390)**
Net income (loss) from investing activities	**(292,964)**	**(15,813)**	**316**	**346**	**(308,115)**
From securities lending activities:					
Securities lending income	**54,711**	**—**	**—**	**—**	**54,711**
Securities lending expense	**(28,997)**	**—**	**—**	**—**	**(28,997)**
Net income from securities lending activities	**25,714**	**—**	**—**	**—**	**25,714**
Total net investment income (loss)	**(267,250)**	**(15,813)**	**316**	**346**	**(282,401)**
Total Additions	**5,864,713**	**42,486**	**117,494**	**481,189**	**6,505,882**
Deductions:					
Benefits	**7,217,812**	**—**	**113,707**	**422,786**	**7,754,305**
Refunds of contributions	**36,560**	**—**	**—**	**—**	**36,560**
Distributions	**—**	**3,630**	**—**	**—**	**3,630**
Administrative expenses	**49,451**	**2,161**	**826**	**39,290**	**91,728**
Total Deductions	**7,303,823**	**5,791**	**114,533**	**462,076**	**7,886,223**
Net increase (decrease)	**(1,439,110)**	**36,695**	**2,961**	**19,113**	**(1,380,341)**
Net position restricted for pension, DC and postemployment healthcare benefits:					
Balance, beginning of year	**71,967,352**	**62,276**	**132,515**	**370,677**	**72,532,819**
Balance, end of year	**$ 70,528,242**	**$ 98,971**	**$ 135,476**	**$ 389,789**	**$ 71,152,478**

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

Statements of Changes in Fiduciary Net Position
Years Ended June 30, 2022 and 2021
(Dollar Amounts in Thousands)

	2021				
			Postemployment Healthcare		
	Pension	Defined Contribution (DC)	Premium Assistance	Health Options Program	Totals
Additions:					
Contributions:					
Members	$ 1,080,701	$ 19,282	$ —	$ —	$ 1,099,983
Employers	4,759,189	14,946	116,519	—	4,890,654
Total contributions	5,839,890	34,228	116,519	—	5,990,637
HOP Participant premiums	—	—	—	402,945	402,945
Centers for Medicare & Medicaid Services premiums	—	—	—	67,812	67,812
Investment income:					
From investing activities:					
Net appreciation (depreciation) in fair value of investments	13,940,110	9,394	(417)	—	13,949,087
Short-term	11,710	17	714	250	12,691
Fixed income	294,417	—	—	—	294,417
Equity	272,651	—	—	—	272,651
Collective trust funds	913	—	—	—	913
Real estate	267,489	—	—	—	267,489
Alternative investments	565,392	—	—	—	565,392
Total investment activity income	15,352,682	9,411	297	250	15,362,640
Investment expenses	(617,882)	(97)	(37)	(36)	(618,052)
Net income from investing activities	14,734,800	9,314	260	214	14,744,588
From securities lending activities:					
Securities lending income	27,450	—	—	—	27,450
Securities lending expense	(7,626)	—	—	—	(7,626)
Net income from securities lending activities	19,824	—	—	—	19,824
Total net investment income	14,754,624	9,314	260	214	14,764,412
Total Additions	20,594,514	43,542	116,779	470,971	21,225,806
Deductions:					
Benefits	7,107,407	—	113,538	382,466	7,603,411
Refunds of contributions	26,925	—	—	—	26,925
Distributions	—	1,040	—	—	1,040
Administrative expenses	49,616	1,587	1,143	39,051	91,397
Total Deductions	7,183,948	2,627	114,681	421,517	7,722,773
Net increase (decrease)	13,410,566	40,915	2,098	49,454	13,503,033
Net position restricted for pension, DC and postemployment healthcare benefits:					
Balance, beginning of year	58,556,786	21,361	130,417	321,222	59,029,786
Balance, end of year	$ 71,967,352	$ 62,276	$ 132,515	$ 370,676	$ 72,532,819

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

Notes to Financial Statements
Years Ended June 30, 2022 and 2021

1. Organization and Description of the System

(A) Organization

The System was established on July 18, 1917, under the provisions of Pamphlet Law 1043, No. 343 as a governmental cost-sharing multiple-employer plan that provides retirement allowances and other benefits to its members. Membership in the System is mandatory for nearly all qualifying public school employees in the Commonwealth of Pennsylvania (Commonwealth). At June 30, 2022, there were 770 participating employers, generally school districts. Membership at June 30, 2022, the most recent year for which actual amounts are available, is presented in Table 2.

Table 2 - Membership as of June 30, 2022	
Active members:	
Vested	145,194
Nonvested	102,679
Total active members	**247,873**
Inactive members:	
Retirees and beneficiaries currently receiving benefits	246,901
Inactive members and vestees entitled to but not receiving benefits	26,836
Total retirees and other members	**273,737**
Total number of members	**521,610**

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. The Board has fifteen 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 State Treasurer is the custodian of the System's Fund. 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.

Based upon criterion of financial accountability as defined by governmental accounting standards, the System 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) Pension Plan

i. Pension Benefits

(a) Traditional Defined Benefit (DB) Plan

Under the provisions of the 1975 revision of the Code by the Pennsylvania General Assembly, members are eligible for monthly retirement benefits upon reaching (a) age 62 with at least 1 year of credited service; (b) age 60 with 30 or more years of credited service; or (c) 35 or more years of service regardless of age. Act 120 of 2010 (Act 120) preserves the benefits of existing members and introduced benefit reductions for individuals who became new members on or after July 1, 2011 through June 30, 2019. Act 120 created two new membership classes, Membership Class T-E (Class T-E) and Membership Class T-F (Class T-F). To qualify for normal retirement, Class T-E and Class T-F members must work until age 65 with a minimum of 3 years of service or attain a total combination of age and service that is equal to or greater than 92 with a minimum of 35 years of service. The Internal Revenue Code (IRC) limitation on the annual benefits for a defined benefit plan was $245,000 for 2022 and $230,000 for 2021.

(b) Hybrid DB/DC Benefit

Act 5 of 2017 (Act 5) introduced a hybrid benefit with two membership classes and a separate defined contribution plan for individuals who become new members on or after July 1, 2019. Act 5 created two new hybrid membership classes, Membership Class T-G (Class T-G) and Membership Class T-H (Class T-H) and the separate defined contribution membership class, Membership Class DC (Class DC). 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.

Notes to Financial Statements (continued)

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

(c) Benefits Attributable to both the Traditional DB & Hybrid DB/DC

As summarized in the table above, 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 years of credited service. A members' right to a defined benefit is vested in 5 to 10 years depending on membership class as summarized in the table above.

Active 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. Depending on membership class, members have 1 year or 3 years 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. Participants are eligible for disability retirement benefits after completion of five years of credited service.

Such benefits are generally between 2% to 2.5%, depending upon membership class, of the member's final average salary (as defined in the Code) multiplied by the number of years of credited service. Depending on membership class, certain minimum disability requirements apply. Members over normal retirement age may apply for disability benefits.

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 ten years of credited service for Class T-E, Class T-F, Class T-G, and Class T-H members. Such benefits are actuarially equivalent to the benefit that would have been effective if the member had retired on the day before death.

Members with credited service in the Commonwealth of Pennsylvania State Employees' Retirement System (SERS) may elect to have that 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 upon becoming a member of that system.

All members are fully vested in their individual balance 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.

ii. 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.

Notes to Financial Statements (continued)

Contribution rates for active members are set by law (redefined with the provisions of Act 9 of 2001, Act 120 and Act 5) and are dependent upon membership class. The IRC limitation on the annual compensation for a defined benefit plan was $305,000 for 2022 and $290,000 for 2021.

Active members who enrolled between July 1, 2001, the effective date of Act 9, and June 30, 2011 are Membership Class T-D (Class T-D). The contribution rates for all members in Class T-D were effective January 1, 2002. For Act 120 members, all new members automatically became Class T-E members. New members, however, had a one-time opportunity to elect Class T-F within 45 days of receiving written notification from PSERS. Failure to elect Class T-F at time of original eligibility made the member ineligible for Class T-F forever. For Act 5 members, all new members automatically become Class T-G members. New members, however, have a one-time opportunity to elect Class T-H or Class DC within 90 days of receiving written notification from PSERS. Failure to elect Class T-H or Class DC at time of original eligibility will make the member ineligible for Class T-H or Class DC forever.

Act 120 introduced shared risk for Class T-E and Class T-F members. Act 5 enhanced shared risk for T-E and T-F members and added T-G and T-H members. Under shared risk eligible members benefit when investments of the Fund are doing well and share some of the risk when investments underperform.

The member contribution rate will stay within the ranges specified in 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 member risk share assessment are performed by the System's General Investment Consultant and, consistent with current investment policy, use quarter lagged values for private market investments. For example, for the nine-year measurement period ended June 30, 2020, the investment performance was determined using June 30th valuations for the System's publicly traded investments and March 31st valuations, (on a quarter lag basis), for its private market investments. In the Statements of Fiduciary Net Position as of June 30, 2020, however, the System's investments are presented at June 30th valuations in accordance with the investment fair value policy as described in Note 4(B).

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

Member Contribution Rates

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% 6.25%
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 with shared risk provision	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 with shared risk provision	N/A	Prior to 7/1/21: 10.30% After 7/1/21: 10.8%
T-G	On or after July 1, 2019	5.50% base rate with shared risk provision	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 with shared risk provision	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%

Notes to Financial Statements (continued)

The most recent member risk share measurement for the nine-year period ended June 30, 2020 determined that PSERS investment performance did not meet the shared risk target return threshold. As a result membership Class T-E, Class T-F, Class T-G and Class T-H member defined benefit contribution rates increased starting on July 1, 2021. The Member Contribution Rates table shows the risk share impact to each class's contribution rate. The next member risk share measurement is for the ten-year period ending June 30, 2023 and may affect membership Classes T-E, T-F, T-G and T-H member contributions starting on July 1, 2024.

The total contribution rate for the employers and the Commonwealth was 34.94% and 34.51% (33.99% and 33.51% for pension component) of qualified compensation for the years ended June 30, 2022 and 2021, respectively.

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 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 2022 was $2.8 billion and for FY 2021 was $2.7 billion. The school and non-school entity share of total employer contributions for FY 2022 was $2.3 billion and for FY 2021 was $2.2 billion. For FY 2022 total employer contributions were $5.1 billion and for FY 2021 were $4.9 billion.

(C) Postemployment Healthcare Plans

i. Health Insurance Premium Assistance Program

(a) Premium Assistance Benefits

The System provides a Health Insurance Premium Assistance Program (Premium Assistance) for all eligible annuitants who qualify and elect to participate. Under this 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. Effective January 1, 2002, under the provisions of Act 9 of 2001, 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. To receive premium assistance, eligible annuitants must have an out-of-pocket premium expense from an approved plan. Plans approved for Premium Assistance are health insurance plans maintained by a Commonwealth School Employer or the PSERS sponsored Health Options Program. As of June 30, 2022 there were no assumed future benefit increases to participating eligible annuitants in the Premium Assistance program. Membership at June 30, 2021, the most recent year for which actual amounts are available, is presented in Table 3.

(b) Contributions

A portion of each employer contribution to the System is set aside for 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 0.80% for the year ended June 30, 2022 and 0.82% for the year ended June 30, 2021. Members do not contribute to Premium Assistance.

Table 3 - Premium Assistance Membership at June 30, 2022

Retirees and beneficiaries currently receiving benefits	93,875
Inactive members and vestees entitled to but not receiving benefits	551
Total retirees and other inactive members	**94,426**
Total active members	248,803
Total number of members	**343,229**

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 funded exclusively by the premiums paid by its participants for the benefit coverage they elect. The PSERS pension fund assets are not available to fund or satisfy obligations of the HOP.

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

Notes to Financial Statements (continued)

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. Medicare Advantage and managed care plans 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 96,000 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, 2022 and 2021 PSERS recorded $20,312,400 and $19,347,000, respectively, in IBNR. The IBNR is included in benefits payable.

(D) Defined Contribution Plan

On June 12, 2017, Commonwealth of Pennsylvania Act 5 of 2017 was signed into law. This legislation establishes a new hybrid defined benefit/defined contribution (DC) retirement benefit applicable to all school employees who become new members of PSERS on July 1, 2019 and thereafter. The three new plan design options under Act 5 include two hybrid benefits consisting of defined benefit and defined contribution components and a stand-alone defined contribution plan. A stand-alone defined benefit plan is no longer available to new members. The financial statements for FY 2022 and FY 2021 reflect the defined contribution plan activities for the second and third years of operations. All new members starting on July 1, 2019 and thereafter participate in the DC plan.

Defined Contribution Plan Membership at June 30, 2022	
Active members	43,579
Inactive members entitled to but not receiving distributions	2,934
Total number of members	**46,513**

PSERS DC Plan is a defined contribution 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).

i. DC Benefits

Under PSERS DC Plan the retirement benefit is based on the amount of contributions in the account and any investment performance less expenses. 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 contributions. DC account balances can grow based on investment earnings, however DC account balances are not guaranteed against loss in declining investment markets.

Death benefits are payable upon death of an active DC participant. DC participants who have at least three eligibility points in the DC plan receive participant and employer contributions with any investment gains, while participants with less than three eligibility points in the DC plan receive participants contributions and any investment gains. There is no disability benefit with PSERS DC Plan. 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.

Class DC participants with 24.5 or more eligibility points who have terminated school service, who are Medicare eligible, and who received all or a part of their distributions; and Class DC participants with 15 or more eligibility points who terminate school service on or after attaining age 67, and receive all or a part of their distributions are entitled to receive premium assistance benefits.

i. DC Contributions

Members hired after July 1, 2019 have a portion of each member and employer contribution to the system set aside for the DC plan. Member and employer rates are set by statute. A member may elect to make additional voluntary post-tax member contributions.

2. Summary of Significant Accounting Policies

(A) Basis of Accounting

The financial statements of the System 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

Notes to Financial Statements (continued)

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 accounting and reporting policies of the System 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 includes unsettled investment sales. Unsettled investment purchases are included in investment purchases and other payables.

(C) Capital Assets

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

(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 leave, 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, 2022 and 2021, $6,420,000 and $6,736,000

Notes to Financial Statements (continued)

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, 2022 and 2021 are for HOP premiums related to health care coverage to be provided in July of 2022 and 2021, 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 8 to 9 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) Reclassifications

Certain 2021 amounts have been reclassified in conformity with the 2022 presentation. These reclassifications had no effect on net position restricted for pension benefits or the change in fiduciary net position.

(L) 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, 2022 and 2021:

(Dollar Amounts in Thousands)

	2022	2021
Pension		
Member Contributions	**$ 78,895**	$ 77,278
Purchase of Service	**294,228**	282,668
Other	**7,411**	6,219
Total Pension	**$ 380,534**	$ 366,165
Defined Contribution Plan	**$ 340**	$ 382
Postemployment Healthcare:		
Premium Assistance	**$ 1,628**	$ 2,013
Health Options Program	**123**	195

(M) 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.

Notes to Financial Statements (continued)

(N) 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, 2022.

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.

(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 death or retirement of a member, 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.

Table 4 - Account Balance

(Dollar Amounts in Thousands)

	2022	2021
Pension:		
State Accumulation Account	**$ (10,504,636)**	$ (7,398,176)
Members' Savings Account	**18,802,945**	18,156,350
Annuity Reserve Account	**62,229,933**	61,209,178
	$ 70,528,242	$ 71,967,352
Defined Contribution Plan	**$ 98,971**	$ 62,276
Postemployment Healthcare:		
Health Insurance Account	**$ 135,476**	$ 132,515
Health Insurance Program Account	**$ 389,789**	$ 370,676

(E) Health Insurance Account

The Health Insurance Account is credited with contributions from the employers for Premium Assistance. Effective January 1, 2002, under the provisions of Act 9 of 2001, 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 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.

Notes to Financial Statements (continued)

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 investment advisors who act as agents for the System and through internal investment managers.

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, thereby 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 investments (CTF), 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.

Alternative investments, which include private equity, equity real estate, private credit, and private infrastructure, are generally organized as limited partnerships. The fair value of investments that are organized as limited partnerships, and has no readily available daily fair value, has 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, 2022 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, 2022, 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

Notes to Financial Statements (continued)

appraised annually by an independent third-party appraiser as of calendar year-end unless subject to a waiver as approved by the Deputy CIO or CIO. Properties not appraised are internally valued by the asset manager at fair market value. Certain properties acquired with no appraisal are held at cost. Directly-owned real estate investments are reported net of related debt borrowed against the market value of the property. The $132,000,000 of open-ended repurchase agreements that were netted against the related property valuations and classified as Level 1 in FY 2021 were paid in full during FY 2022. At June 30, 2022 and 2021, $136,235,000 of mortgage financings were netted against the related property valuations and classified as Level 1. Three mortgage loans totaling $102,000,000 have monthly interest-only payments at a fixed interest rate of 1.70% with all principal due at March 1, 2026. A fourth mortgage loan totaling $34,235,000 has monthly interest-only payments at a fixed interest rate of 3.97% with all principal due at March 1, 2026.

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

ii. Investments at Net Asset Value (NAV)

(a) Collective trust fund investments (CTF) consist primarily of domestic and international institutional funds. The fair value of CTF is based on the reported share value of the respective fund by the fund administrator. CTF are managed by 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.

(b) Equity real estate generally consists of real estate limited partnerships. These investments are across multiple asset types such as industrial, multi-family, office, retail, hotels, agriculture (permanent crops), and other real estate related assets.

The 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 its return from future capital gains, and are likely to encounter greater volatility than core and value-added strategies. The fair value of the equity real estate investments has 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 from each fund may be received as: 1) cash flows from operations or 2) return of capital from dispositions. It is expected that the underlying assets of the equity real estate investments will be liquidated over the next 7 to 12 years.

(c) Private equity includes limited partnerships that invest in private companies and utilize buyout, growth equity, and venture capital strategies. Buyout funds acquire shares of a private company in an attempt to gain a controlling interest. Venture capital funds invest in young, relatively small, rapidly growing companies, typically in either the health care or information technology sectors. Growth equity funds are in between venture capital and buyouts in that they tend to have positive revenue growth and earnings at times, but don't have the leverage that is typical in a buyout investment. The fair values of the investments in this type 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. Instead, the nature of the investments in private equity is that distributions are received through the orderly liquidation of the underlying assets of the fund throughout the stated term of the fund. It is expected that the underlying assets of the funds will be liquidated over the next 3 to 10 years in a typical private equity fund.

(d) Private credit includes limited partnerships and open-ended funds that invest in all types of credit which is not traditional investment grade government or corporate debt. 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.

Notes to Financial Statements (continued)

Distressed and special situations is focused on issuing loans to companies undergoing financial or operational challenges 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 the investments in this type 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 from each fund may be received as: 1) cash flows from operations or 2) return of capital from dispositions. It is expected that the underlying assets of the funds will be liquidated over the next 3 to 5 years.

(e) Private infrastructure investments generally consist of limited partnership vehicles which invest in 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 the private infrastructure investments has 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 from each infrastructure investment may be received as: 1) cash flows from operations or 2) return of capital from dispositions. It is expected that the underlying assets of the infrastructure investments will be liquidated over the next 7 to 12 years.

(f) 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, 2022, there are investments that include restrictions that do not allow for redemption during the next 12 months and could take as long as seven years to be fully liquidated.

(g) 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).

Notes to Financial Statements (continued)

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 $300,204,000 and $270,382,000 at June 30, 2022 and 2021, respectively, and are under the custody of M&T Bank which has an A rating by Standard and Poor's (S&P) and an Aa3 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.

Notes to Financial Statements (continued)

At June 30, 2022, 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		
	2022	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 8,145,521**	$ 6,876,768	$ 1,268,753	$ —
Other domestic short-term	**755,232**	751,519	3,713	—
International short-term	**14,457**	11,770	2,687	—
	8,915,210	7,640,057	1,275,153	—
Fixed income				
Domestic asset-backed and mortgage-backed securities	**603,577**	—	603,577	—
U.S. government and agency obligations	**10,513,307**	10,505,354	7,953	—
Domestic corporate and taxable municipal bonds	**766,260**	—	766,260	—
International fixed income	**255,118**	21,253	233,865	—
	12,138,262	10,526,607	1,611,655	—
Equity				
Domestic equity	**8,217,398**	8,217,398	—	—
International equity	**7,256,999**	7,256,996	—	3
	15,474,397	15,474,394	—	3
Directly-owned real estate	**1,721,215**	(136,235)	—	1,857,450
Total investments by fair value level	**38,249,084**	$ 33,504,823	$ 2,886,808	$ 1,857,453
Investments measured at the net asset value (NAV)				
Collective trust funds - Fixed Income	**1,614,531**			
Collective trust funds - Equity	**1,661,996**			
Collective trust funds - Other	**5,481,102**			
Equity real estate	**4,281,128**			
Private Infrastructure	**1,119,757**			
Alternative investments:				
Private equity	**12,459,390**			
Private credit	**5,257,782**			
Absolute return	**183,803**			
	17,900,975			
Total investments measured at the NAV	**32,059,489**			
Total investments measured at fair value	**$ 70,308,573**			
Investment derivative instruments				
Futures	**$ 64,144**	$ 64,144	$ —	$ —
Total return type swaps	**(859,392)**	(859,392)	—	—
Foreign exchange contracts	**10,685**	10,685	—	—
Options	**3,213**	3,213	—	—
Total investment derivative instruments	**$ (781,350)**	$ (781,350)	$ —	$ —

Notes to Financial Statements (continued)

At June 30, 2021, 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		
	2021	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 8,548,497	$ 7,216,976	$ 1,331,521	$ —
Other domestic short-term	421,723	409,030	12,693	—
International short-term	30,236	10,409	19,827	—
	9,000,456	7,636,415	1,364,041	—
Fixed income				
Domestic asset-backed and mortgage-backed securities	727,668	—	727,668	—
U.S. government and agency obligations	9,128,804	9,107,400	21,404	—
Domestic corporate and taxable municipal bonds	783,904	—	783,904	
International fixed income	264,200	—	264,200	—
	10,904,576	9,107,400	1,797,176	—
Equity				
Domestic equity	9,350,519	9,336,155	14,364	—
International equity	7,239,623	7,239,618	—	5
	16,590,142	16,575,773	14,364	5
Directly-owned real estate	1,224,906	(232,000)	—	1,456,906
Total investments by fair value level	37,720,080	$ 33,087,588	$ 3,175,581	$ 1,456,911
Investments measured at the net asset value (NAV)				
Collective trust funds - Fixed Income	2,348,756			
Collective trust funds - Equity	1,847,731			
Collective trust funds - Other	7,321,974			
Equity real estate	4,229,593			
Private Infrastructure	531,964			
Alternative investments:				
Private equity	12,206,056			
Private credit	5,285,350			
Absolute return	134,729			
	17,626,135			
Total investments measured at the NAV	33,906,153			
Total investments measured at fair value	$ 71,626,233			
Investment derivative instruments				
Futures	$ 75,247	$ 75,247	$ —	$ —
Total return type swaps	(65,756)	(65,756)	—	—
Foreign exchange contracts	45,319	45,319	—	—
Options	5,693	5,693	—	—
Total investment derivative instruments	$ 60,503	$ 60,503	$ —	$ —

Notes to Financial Statements (continued)

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2022 and 2021 are presented in the following tables.

Pension Investments

Fair Value of Investments

Investments measured at the NAV
(Dollar Amounts in Thousands)

	2022			
	Fair Value	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds - Fixed Income (a)	**$ 1,661,996**	$ —	see note (a)	see note (a)
Collective trust funds - Equity (a)	**1,614,531**	—	see note (a)	see note (a)
Collective trust funds - Other (a)	**5,481,102**	—	see note (a)	see note (a)
Equity real estate (b)	**4,281,128**	2,268,595	see note (b)	see note (b)
Private Infrastructure (e)	**1,119,757**	1,323,421	see note (e)	see note (e)
Alternative investments:				
Private equity (c)	**12,459,390**	4,440,134	see note (c)	see note (c)
Private credit (d)	**5,257,782**	3,271,248	see note (d)	see note (d)
Absolute return (f)	**183,803**	325,740	see note (f)	see note (f)
	17,900,975			
Total investments measured at the NAV	**$ 32,059,489**			

Pension Investments

Fair Value of Investments

Investments measured at the NAV
(Dollar Amounts in Thousands)

	2021			
	Fair Value	**Unfunded Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds - Fixed Income (a)	$ 2,348,756	$ —	see note (a)	see note (a)
Collective trust funds - Equity (a)	1,847,731	—	see note (a)	see note (a)
Collective trust funds - Other (a)	7,321,974	—	see note (a)	see note (a)
Equity real estate (b)	4,229,593	2,220,783	see note (b)	see note (b)
Private Infrastructure (e)	531,964	943,655	see note (e)	see note (e)
Alternative investments:				
Private equity (c)	12,206,056	5,552,444	see note (c)	see note (c)
Private credit (d)	5,285,350	2,902,087	see note (d)	see note (d)
Absolute return (f)	134,729	490,069	see note (f)	see note (f)
	17,626,135			
Total investments measured at the NAV	$ 33,906,153			

Notes to Financial Statements (continued)

At June 30, 2022, 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		
	2022	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 101,799**	$ 85,943	$ 15,856	$ —
Other domestic short-term	**108**	—	108	—
Total investments measured at fair value	**$ 101,907**	$ 85,943	$ 15,964	$ —

At June 30, 2021, 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		
	2021	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 84,064	$ 70,970	$ 13,094	$ —
Other domestic short-term	22,117	—	22,117	—
Total investments measured at fair value	$ 106,181	$ 70,970	$ 35,211	$ —

Notes to Financial Statements (continued)

At June 30, 2022, 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		
	2022	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 94,414**	$ 79,708	$ 14,706	$ —
Other domestic short-term	**300,204**	300,204	—	—
Total investments measured at fair value	**$ 394,618**	$ 379,912	$ 14,706	$ —

At June 30, 2021, 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		
	2021	Level 1	Level 2	Level 3
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	$ 95,343	$ 80,492	$ 14,851	$ —
Other domestic short-term	270,382	270,382	—	—
Total investments measured at fair value	$ 365,725	$ 350,874	$ 14,851	$ —

Notes to Financial Statements (continued)

At June 30, 2022, 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		
	2022	**Level 1**	**Level 2**	**Level 3**
Investments by fair value level				
Short-term:				
PSERS Short-Term Investment Fund	**$ 5,301**	$ 4,475	$ 826	$ —
Other domestic short-term	**3,442**	3,442	—	—
Total investments by fair value level	**8,743**	$ 7,917	$ 826	$ —
Investments measured at the net asset value (NAV)				
Collective trust funds	**90,895**			
Total investments measured at the NAV	**90,895**			
Total investments measured at fair value	**$ 99,638**			

At June 30, 2021, 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		
	2021	Level 1	Level 2	Level 3
Investments by fair value level				
PSERS Short-Term Investment Fund	$ 6,081	$ 5,134	$ 947	$ —
Other domestic short-term	1,257	1,257	—	—
Total investments by fair value level	7,338	$ 6,391	$ 947	$ —
Investments measured at the net asset value (NAV)				
Collective trust funds	55,307			
Total investments measured at the NAV	55,307			
Total investments measured at fair value	$ 62,645			

Notes to Financial Statements (continued)

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2022 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)

	2022			
	Fair Value	**Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds (g)	**$ 90,895**	$ —	see note (g)	see note (g)
Total investments measured at the NAV	**$ 90,895**			

The valuation method for investments measured at the net asset value (NAV) per share (or its equivalent) at June 30, 2021 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)

	2021			
	Fair Value	**Commitments**	**Redemption Frequency**	**Redemption Notice Period**
Collective trust funds (g)	$ 55,307	$ —	see note (g)	see note (g)
Total investments measured at the NAV	$ 55,307			

Notes to Financial Statements (continued)

The following table discloses aggregate market value for 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 Fitch, Moody's and/or S&P that indicates the lowest credit quality at June 30, 2022 and 2021.

	(Dollar Amounts in Thousands)	
	2022	2021
Quality Rating	**Fair Value**	Fair Value
AAA	**$ 4,113,419**	$ 7,681,352
AA	**2,712,774**	716,912
A	**875,885**	172,808
BBB	**802,534**	283,592
BB and Below	**365,691**	125,558
NR*	**3,629,077**	4,405,935
Total Exposed to Credit Risk	**12,499,380**	13,386,157
U.S. Government Guaranteed**	**10,673,891**	9,346,875
Total Fixed Income and Short-Term Investments	**$ 23,173,271**	$ 22,733,032

*Not Rated securities include $1,614,531 and $2,348,756 in collective trust funds and $724,869 and $205,340 in PSERS Short-Term Investment Fund assets at June 30, 2022 and 2021 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)

Notes to Financial Statements (continued)

(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, 2022 and 2021, 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 Fitch Investor Services (Fitch), 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 33.0% of the investment portfolio. The fixed income target allocation consists of:

- An allocation of 9.0% 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 (1%) and the Bloomberg U.S. Long Treasury TR Index (8%). 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 (1.0%) 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 Leveraged Loan TR Index plus 200 basis points. 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 12.0% of the portfolio has been made to the inflation protected securities segment of the fixed income asset class benchmarked to the Bloomberg U.S. Government Inflation-Linked Bond All Maturities TR Index and the Bloomberg World Government ex U.S. Inflation-Linked Bond All Maturities TR Index (Hedged to USD). Within this segment, the U.S. inflation protected allocation (10.0%) 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 2:1. The Non-U.S. inflation protected allocation (2.0%) is composed primarily of non-U.S. government related securities tied to inflationary measures.

- An allocation of 6.0% of the portfolio has been made to the credit related segment of the fixed income asset class with 4.0% benchmarked to the Bloomberg U.S. Corporate High Yield Bond Index and 2.0% benchmarked to the JP Morgan GBI-EM Broad Diversified Index (34.0%), JP Morgan EMBI Global Diversified Index (33.0%), and the Intercontinental Exchange (ICE) Bank of America/Merrill Lynch Emerging Markets Corporate Plus Index (Hedged to USD) (33.0%).

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, 2022 and 2021.

	(Dollar Amounts in Thousands)	
	2022	2021
Quality Rating	**Fair Value**	Fair Value
A	**$ (859,392)**	$ (72,139)
BBB	—	6,383
Total Swaps - Total Return	**$ (859,392)**	$ (65,756)

Notes to Financial Statements (continued)

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 (11.0%); Leverage is netted against the System's Cash allocation of 3% for a Net Leverage Allocation of (8.0%).

- An allocation of 3.0% of the portfolio has been made to cash benchmarked to the ICE Bank of America/Merrill Lynch U.S. 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 participates in a securities lending program with a third party agent. Under this program, the lending agent loans securities (equities, fixed income, and money market instruments) to independent brokers and dealers in exchange for U.S. dollar cash collateral in an amount not less than 102% of the fair value of any securities loaned. Collateral is marked-to-market daily. If the fair value of the collateral held falls below the minimum guidelines for securities loaned, additional collateral is obtained. The lending agent invests the cash collateral in accordance with reinvestment guidelines approved by the System.

The System minimizes 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 provides indemnification to the System if a borrower fails to return borrowed securities (and the collateral is inadequate to replace the loaned securities) or fails to pay income distributions on them. The lending agent also provides indemnification to the System if investment of cash collateral results in investment loss. There were no losses during the fiscal years ended June 30, 2022 and 2021 resulting from a default of the borrowers or the lending agent.

All securities loans can be terminated on demand by either the System or the borrower, although the average term of the loan is one day. There were no term loans as of June 30, 2022 and 2021.

At June 30, 2022 and 2021, the System's fixed income portfolio had the following option-adjusted durations by fixed income sector:

(Dollar Amounts in Thousands)

	2022			2021		
Investment Type	**Option-Adjusted Duration**		**Fair Value**	Option-Adjusted Duration		Fair Value
Domestic asset-backed and mortgage-backed securities	**1.0**	**$**	**3,898,511**	1.3	$	3,973,149
U.S. government and agency obligations	**11.5**		**7,218,373**	14.0		5,883,323
Domestic corporate and taxable municipal bonds	**3.0**		**766,260**	3.3		783,904
International fixed income	**2.0**		**255,118**	2.6		264,200
Collective trust funds*	**4.1**		**1,614,531**	3.6		2,348,756
PSERS Short-Term Investment Fund	**0.1**		**8,347,035**	0.1		8,733,986
Other Short-Term Assets	**0.1**		**1,073,443**	0.1		745,714
Total	**4.2****	**$**	**23,173,271**	4.4**	$	22,733,032

* 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, 2022 and 2021. The total portfolio option adjusted duration is calculated by weighting each investment type by fair value.

Notes to Financial Statements (continued)

Non-U.S. currency exposures at June 30, 2022 and 2021:

2022**

(Dollar Amounts in Thousands)

Currency	Equity	Fixed Income	Alternative Investments & Real Estate	Short-Term*	Currency Hedge	Total Fair Value
British pound sterling	**$ 770,689**	**$ —**	**$ 445,900**	**$ 647**	**$ (864,720)**	**$ 352,516**
Japanese yen	**906,040**	**6,721**	**48,436**	**4,539**	**(762,005)**	**203,731**
Taiwan new dollar	**182,810**	**—**	**—**	**44**	**—**	**182,854**
Indian rupee	**152,569**	**—**	**—**	**167**	**—**	**152,736**
South Korean won	**74,696**	**—**	**—**	**762**	**—**	**75,458**
Danish krone	**125,349**	**—**	**—**	**1,724**	**(52,060)**	**75,013**
Hong Kong dollar	**300,984**	**—**	**—**	**72**	**(226,963)**	**74,093**
Swiss Franc	**340,126**	**—**	**—**	**4,821**	**(274,238)**	**70,709**
Euro	**1,386,868**	**12,800**	**1,317,232**	**15,378**	**(2,817,021)**	**(84,743)**
Other non-U.S. currencies	**1,766,449**	**91,824**	**—**	**8,154**	**(1,695,102)**	**171,325**
Total	**$ 6,006,580**	**$ 111,345**	**$ 1,811,568**	**$ 36,308**	**$ (6,692,109)**	**$ 1,273,692**

**PSERS increased currency hedge ratios during FY 2022. 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.

2021

(Dollar Amounts in Thousands)

Currency	Equity	Fixed Income	Alternative Investments & Real Estate	Short-Term*	Currency Hedge	Total Fair Value
Euro	$ 1,448,747	$ 7,121	$ 1,586,131	$ 13,735	$ (1,785,403)	$ 1,270,331
British pound sterling	879,659	—	394,014	4,331	(423,288)	854,716
Japanese yen	1,159,064	10,306	27,585	7,681	(589,265)	615,371
Taiwan new dollar	307,935	—	—	1,763	—	309,698
Indian rupee	227,084	—	—	3,274	—	230,358
South Korean won	171,849	—	—	472	426	172,747
Hong Kong dollar	370,175	—	—	(1,738)	(209,740)	158,697
Danish krone	173,959	—	—	4,025	(28,670)	149,314
Swedish krona	209,181	—	—	355	(89,765)	119,771
Other non-U.S. currencies	1,532,182	89,793	—	25,019	(1,377,550)	269,444
Total	**$ 6,479,835**	**$ 107,220**	**$ 2,007,730**	**$ 58,917**	**$ (4,503,255)**	**$ 4,150,447**

* Includes investment receivables and payables

Notes to Financial Statements (continued)

The following table summarizes the System's foreign exchange contracts by currency at June 30, 2022 and 2021:

2022
(Dollar Amounts in Thousands)

Currency	Buys	Unrealized Gain/(Loss)	Sells	Unrealized Gain/(Loss)
Euro	**$ 14,520**	**$ 1**	**$ 2,831,541**	**$ 13,554**
Japanese yen	**599**	**2**	**762,604**	**(1,682)**
Swiss franc	**805**	—	**275,043**	**(2,860)**
Australian dollar	**1,769**	—	**595,482**	**1,532**
Swedish krona	**1,637**	—	**103,818**	**1,010**
Canadian dollar	**5,128**	**(2)**	**745,074**	**(4,737)**
Singapore dollar	—	—	**77,518**	**124**
Hong Kong dollar	—	—	**226,963**	**(30)**
British pound sterling	—	—	**865,528**	**2,767**
New Zealand dollar	—	—	**137,152**	**808**
Other non-U.S. currencies	**2,995**	**(9)**	**98,839**	**207**
Total	**$ 27,453**	**$ (8)**	**$ 6,719,562**	**$ 10,693**

2021
(Dollar Amounts in Thousands)

Currency	Buys	Unrealized Gain/(Loss)	Sells	Unrealized Gain/(Loss)
Euro	$ 49,100	$ 3	$ 1,834,502	$ 28,998
Japanese yen	4,416	(19)	593,680	5,286
Swiss franc	6	—	166,931	1,362
Australian dollar	2,746	1	495,617	1,948
Swedish krona	133	—	89,898	1,119
Canadian dollar	236	—	536,711	1,227
Singapore dollar	315	(6)	59,328	377
British pound sterling	16,836	10	440,124	4,698
New Zealand dollar	109	(4)	93,081	36
Hong Kong dollar	1,878	—	211,618	44
Other non-U.S. currencies	1,044	—	58,165	239
Total	$ 76,819	$ (15)	$ 4,579,655	$ 45,334

Notes to Financial Statements (continued)

Cash collateral is invested in a short-term collateral investment pool that is managed by the lending agent, is segregated from all other clients of the lending agent, and is not subject to custodial credit risk. The System's income from securities lending represents 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, 2022 and 2021. During the fiscal years ended June 30, 2022 and 2021 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 may use the collateral to replace the loaned securities.

As of June 30, 2022, the fair value of loaned securities was $9,665,650,000. The fair value of the associated collateral was $9,828,590,000, all of which was cash. As of June 30, 2021, the fair value of loaned securities was $7,734,304,000. The fair value of the associated collateral was $7,862,287,000, all of which was cash.

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, 2022 and 2021 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, equities, and futures options. In FY2022 and FY2021, the System purchased over-the-counter put options on the S&P 500 Index. The fair value of these option contracts of $3,213,000 and $5,693,000 at June 30, 2022 and 2021, 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 $ 6,747,015,000 of foreign currency contracts outstanding at June 30, 2022 consist of "buy" contracts, which represent the U.S. dollar equivalents of commitments to purchase foreign currencies of $27,453,000 and "sell" contracts, which represent U.S. dollar equivalents of commitments to sell foreign currencies of $6,719,562,000. The $4,656,474,000 of foreign currency contracts outstanding at June 30, 2021 consist of "buy" contracts of $76,819,000 and "sell" contracts of $4,579,655,000. The unrealized gain on contracts of $10,685,000 and $45,319,000 at June 30, 2022 and 2021, respectively, is included in the Statements of Fiduciary Net Position and represents the fair value of the contracts.

Notes to Financial Statements (continued)

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, 2022 and 2021.

	(Dollar Amounts in Thousands) 2022	2021
Futures contracts - long:		
Treasury futures	**$ 250,321**	**$ 320,823**
U.S. equity futures	**200,465**	**182,480**
Non-U.S. equity futures	**185,605**	**—**
Commodity futures	**502,872**	**400,014**
Futures contracts - short:		
Treasury futures	**5,402**	**37,271**
Foreign exchange forward and spot contracts, gross	**6,747,015**	**4,656,474**
Options - puts purchased	**918,350**	**4,880,200**
Swaps - total return type	**12,187,253**	**15,432,197**

The fair values of derivative instruments outstanding at June 30, 2022 and 2021 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 2022		**Fair Value at June 30, 2022**	
Investment Derivative Type	**Classification**	**Amount**	**Classification**	**Amount**
Futures	Investment income	**$ 64,144**	Receivable/(Payable)	**$ 64,144**
Total return type swaps	Investment income	**(859,392)**	Receivable/(Payable)	**(859,392)**
Foreign exchange contracts	Investment income	**10,685**	Receivable/(Payable)	**10,685**
Options	Investment income	**(1,890)**	Investment	**3,213**
Total		**$ (786,453)**		**$ (781,350)**

	Change in Fair Value Gain/(Loss) FY 2021		Fair Value at June 30, 2021	
Investment Derivative Type	Classification	Amount	Classification	Amount
Futures	Investment income	$ 75,247	Receivable/(Payable)	$ 75,247
Total return type swaps	Investment income	(65,756)	Receivable/(Payable)	(65,756)
Foreign exchange contracts	Investment income	45,319	Receivable/(Payable)	45,319
Options	Investment income	(10,473)	Investment	5,693
Total		$ 44,337		$ 60,503

Notes to Financial Statements (continued)

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, 2022 and 2021, 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 $(859,392,000) and $(65,756,000) at June 30, 2022 and 2021, 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 29, 2022 to August 31, 2023.

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, 2022 and 2021 is $116,279,000 and $172,285,000, 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, 2022 were as follows:

(Dollar amounts in thousands)

Total pension liability	$ 114,986,964
Less: Plan fiduciary net position	70,528,242
Employer net pension liability	$ 44,458,722
Plan fiduciary net position as a percentage of the total pension liability	61.34%

Actuarial Assumptions

The total pension liability at June 30, 2022 was determined by rolling forward the System's total pension liability at June 30, 2021 to June 30, 2022 using the following actuarial assumptions, applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 7.00%, includes inflation at 2.75%.
- 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 decreased from 3.50% to 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, 2022 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, 2022, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 2.40%. 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, 2022.

Notes to Financial Statements (continued)

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 contractually required rates, actuarially determined. 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	28.0 %	5.3 %
Private equity	12.0 %	8.0 %
Fixed income	33.0 %	2.3 %
Commodities	9.0 %	2.3 %
Infrastructure/MLPs	9.0 %	5.4 %
Real estate	11.0 %	4.6 %
Absolute Return	6.0 %	3.5 %
Cash	3.0 %	0.5 %
Leverage	(11.0)%	0.5 %
	100.0 %	

Sensitivity of the Net Pension Liability

Table 7 presents the net pension liability, 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 (6.00%) or 1-percentage point higher (8.00%) than the current rate:

Table 7 - Sensitivity of the Net Pension Liability
(Dollar amounts in thousands)

	1% Decrease	Current Discount Rate	1% Increase
	6.00%	7.00%	8.00%
Net pension liability	$57,504,316	$44,458,722	$33,459,707

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, 2022 were as follows:

(Dollar amounts in thousands)

Total OPEB liability	$1,976,247
Less: Plan fiduciary net position	135,476
Employer net OPEB liability	$1,840,771
Plan fiduciary net position as a percentage of the total OPEB liability	6.86%

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, 2022. The Investment Rate of Return was adjusted from 2.18% to 4.09% which represents the S&P 20 Year Municipal Bond Rate.

Actuarial Assumptions

The total OPEB liability at June 30, 2022 was determined by rolling forward the System's total OPEB liability at June 30, 2021 to June 30, 2022 using the following actuarial assumptions, applied to all periods included in the measurement:

- Actuarial cost method - Entry Age Normal - level % of pay.
- Investment return - 4.09% - 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 decreased from 3.50% to 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.

Notes to Financial Statements (continued)

- 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, 2022 and are reflected above.

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 investment advisors who act as agents for the System and through internal investment managers. Investments consist primarily of short-term assets designed to protect the principal of plan assets. Table 8 reflects the Fund's OPEB asset allocation policy and best estimates of geometric real rates of return for each asset class at June 30, 2022.

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, 2022, the annual money-weighted rate of return on OPEB plan investments, net of OPEB plan investment expense, was 0.35%. 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 4.09%. 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 4.09%, which represents the S&P 20 year Municipal Bond Rate at June 30, 2022 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%	0.5%
	100.0%	

Sensitivity of the Net OPEB Liability

Table 9 presents the net OPEB liability, calculated using the discount rate of 4.09%, as well as what the net OPEB liability would be if it were calculated using a discount rate that is 1-percentage point lower (3.09%) or 1-percentage point higher (5.09%) than the current rate:

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

	1% Decrease	Current Discount Rate	1% Increase
	3.09%	4.09%	5.09%
Net OPEB liability	$ 2,081,691	$ 1,840,771	$ 1,639,172

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, 2022, there were 93,293 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, 2022, there were 582 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	$ 1,840,584	$ 1,840,771	$ 1,840,921

Notes to Financial Statements (continued)

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, 2021 and 2020 the blended employer contribution rates were 26.94% and 27.03%, respectively. Contributions to SERS from PSERS were $9.4 million for the year ended June 30, 2022.

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

At June 30, 2022, PSERS reported a liability of $61.1 million and $77.5 million at June 30, 2021, 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, 2021 and 2020, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation at December 31, 2021 and 2020. PSERS' proportion of the net pension liability was calculated utilizing a projected-contribution method. At December 31, 2021, PSERS' proportion was 0.41907639 percent and 0.42345499 percent at December 31, 2020.

PSERS recognized total pension expense of $6.8 million in FY 2022 on the Statement of Changes in Fiduciary Net Position. Of the $6.8 million of pension expense, $3.9 million was reflected in administrative expenses, $0.1 million in Postemployment Healthcare, $0.1 million in defined contributions and $2.7 million was reflected in investment expenses. Deferred inflows of resources of $18.8 million and $10.2 million at June 30, 2022, and June 30, 2021, respectively, are reported in Other liabilities on the Statement of Fiduciary Net Position. Deferred outflows of resources of $17.7 million and $22.9 million at June 30, 2022, and June 30, 2021, respectively, are reported in Miscellaneous assets. Of the $17.7 million of deferred outflows of resources at June 30, 2022, PSERS recorded $5.3 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, 2023. Other amounts reported as deferred outflows of resources and deferred inflows of resources will be recognized in pension expense as follows:

Year Ending June 30:	(Dollar amounts in thousands)
2023	(281)
2024	862
2025	(2,912)
2026	(1,083)
Thereafter	(2,307)

(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, the System participates in the Commonwealth's REHP. 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

Notes to Financial Statements (continued)

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 contributed $120 per biweekly pay period for each current REHP eligible active employee during fiscal year ended June 30, 2022 to the REHP Trust. PSERS' contributions to the REHP for FY 2022 were $1.0 million. 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, 2022, PSERS reported a liability of $43.9 million and $50.9 million at June 30, 2021 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 $2.0 million. The net OPEB liability was measured at June 30, 2021, and the total OPEB liability used to calculate the net OPEB liability was determined by an actuarial valuation at June 30, 2021. 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 3.63% on June 30, 2022. PSERS' proportion of the net OPEB liability was calculated utilizing a contribution method. At June 30, 2021, PSERS' proportion was 0.429416 percent and at June 30, 2020 PSERS' proportion was 0.41302 percent.

REHP had a decrease in Total OPEB Liability of approximately $1.9 billion. The primary cause was due to changes in actuarial assumptions driven by an increase in the discount rate from 2.21% to 3.63%.

PSERS recognized total OPEB expense of $(5.3) million in FY 2022 on the Statement of Changes in Fiduciary Net Position. Of the $(5.3) million of OPEB expense, $(4.2) million was reflected in administrative expenses, $(0.1) million in Postemployment Healthcare, $0.1 million in defined contributions and $(1.1) million was reflected in investment expenses. Deferred outflows of resources of $13.7 million and $13.3 million at June 30, 2022 and June 30, 2021, respectively are reported in Miscellaneous assets. Of the $13.7 million of deferred outflows at June 30, 2022, PSERS recorded $0.4 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, 2023. Deferred inflows of resources of $28.4 million and $28.4 million at June 30, 2022 and June 30, 2021, respectively are reported in Other liabilities on the Statement of Fiduciary Net Position and will be recognized in OPEB expense as follows:

Year Ending June 30:	(Dollar amounts in thousands)
2023	(8,050)
2024	(5,478)
2025	(1,813)
2026	(178)
Thereafter	(898)

(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

Notes to Financial Statements (continued)

closed its investigation of PSERS with no criminal or civil charges. PSERS continues to cooperate fully with the SEC investigation which is ongoing.

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 Auditor's Report)
(Dollar Amounts in Thousands)

	2022	2021	2020	2019	2018
Total pension liability					
Service cost	**$ 1,826,693**	$ 1,963,645	$ 1,949,427	$ 1,921,417	$ 1,890,906
Interest	**7,789,946**	7,703,465	7,546,367	7,465,228	7,334,484
Changes of benefit terms	**—**	—	—	—	—
Differences between expected and actual experience	**(399,385)**	40,322	(339,969)	(1,477,660)	(745,306)
Changes of assumptions	**—**	2,655,180	—	—	—
Benefit payments	**(7,254,372)**	(7,134,332)	(6,876,515)	(6,761,172)	(6,655,146)
Net change in total pension liability	**1,962,882**	5,228,280	2,279,310	1,147,813	1,824,938
Total pension liability - beginning	**113,024,082**	107,795,802	105,516,492	104,368,679	102,543,741
Total pension liability - ending (a)	**$ 114,986,964**	$ 113,024,082	$ 107,795,802	$ 105,516,492	$ 104,368,679
Plan fiduciary net position					
Contributions - employer	**4,997,912**	4,759,189	4,676,413	4,487,520	4,249,611
Contributions - member	**1,134,051**	1,080,701	1,067,957	1,064,043	1,026,375
Net investment income	**(267,250)**	14,754,624	1,001,846	3,628,710	4,714,158
Benefit payments	**(7,254,372)**	(7,134,332)	(6,876,515)	(6,761,172)	(6,655,146)
Administrative expense	**(49,451)**	(49,616)	(46,799)	(48,931)	(46,544)
Net Change in plan fiduciary net position	**(1,439,110)**	13,410,566	(177,098)	2,370,170	3,288,454
Plan fiduciary net position - beginning	**71,967,352**	58,556,786	58,733,884	56,363,714	53,155,336
Effect of change in accounting principle	**—**	—	—	—	(80,076)
Plan fiduciary net position - beginning restated	**71,967,352**	58,556,786	58,733,884	56,363,714	53,075,260
Plan fiduciary net position - ending (b)	**$ 70,528,242**	$ 71,967,352	$ 58,556,786	$ 58,733,884	$ 56,363,714
Employer net pension liability - ending (a)-(b)	**$ 44,458,722**	$ 41,056,730	$ 49,239,016	$ 46,782,608	$ 48,004,965

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

	2017	2016	2015	2014
Total pension liability				
Service cost	$ 1,873,844	$ 1,932,401	$ 1,926,539	$ 2,139,037
Interest	7,110,987	7,028,292	6,857,497	6,523,484
Changes of benefit terms	(449)	—	—	—
Differences between expected and actual experience	644,051	(348,429)	(223,437)	—
Changes of assumptions	—	2,236,118	—	—
Benefit payments	(6,473,579)	(6,360,325)	(6,220,601)	(6,053,505)
Net change in total pension liability	3,154,854	4,488,057	2,339,998	2,609,016
Total pension liability - beginning	99,388,887	94,900,830	92,560,832	89,951,816
Total pension liability - ending (a)	$ 102,543,741	$ 99,388,887	$ 94,900,830	$ 92,560,832
Plan fiduciary net position				
Contributions - employer	3,832,773	3,189,510	2,596,731	1,992,084
Contributions - member	1,013,847	989,266	984,634	966,926
Net investment income	4,995,362	473,206	1,328,516	7,097,761
Benefit payments	(6,473,579)	(6,360,325)	(6,220,601)	(6,053,505)
Administrative expense	(45,127)	(45,118)	(42,331)	(38,712)
Net Change in plan fiduciary net position	3,323,276	(1,753,461)	(1,353,051)	3,964,554
Plan fiduciary net position - beginning	49,832,060	51,585,521	52,980,115	49,015,561
Effect of change in accounting principle	—	—	(41,543)	—
Plan fiduciary net position - beginning restated	49,832,060	51,585,521	52,938,572	49,015,561
Plan fiduciary net position - ending (b)	$ 53,155,336	$ 49,832,060	$ 51,585,521	$ 52,980,115
Employer net pension liability - ending (a)-(b)	$ 49,388,405	$ 49,556,827	$ 43,315,309	$ 39,580,717

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

	2022	2021	2020	2019	2018
Total pension liability	**$114,986,964**	$113,024,082	$107,795,802	$105,516,492	$104,368,679
Less: Plan fiduciary net position	**70,528,242**	71,967,352	58,556,786	58,733,884	56,363,714
Employer Net Pension liability	**$ 44,458,722**	$ 41,056,730	$ 49,239,016	$ 46,782,608	$ 48,004,965
Plan fiduciary net position as a percentage of the total pension liability	**61.34%**	63.67%	54.32%	55.66%	54.00%
Covered Payroll	**$ 14,704,344**	$ 14,176,097	$ 14,036,006	$ 13,791,197	$ 13,466,526
Employer net pension liability as a percentage of covered payroll	**302.35%**	289.62%	350.81%	339.22%	356.48%

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

	2017	2016	2015	2014
Total pension liability	$102,543,741	$ 99,388,887	$ 94,900,830	$ 92,560,832
Less: Plan fiduciary net position	53,155,336	49,832,060	51,585,521	52,980,115
Employer Net Pension liability	$ 49,388,405	$ 49,556,827	$ 43,315,309	$ 39,580,717
Plan fiduciary net position as a percentage of the total pension liability	51.84%	50.14%	54.36%	57.24%
Covered Payroll	$13,313,900	$12,951,077	$12,866,473	$12,760,785
Employer net pension liability as a percentage of covered payroll	370.95%	382.65%	336.65%	310.17%

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

	2022	2021	2020	2019
Actuarially determined contribution	**$ 4,985,571**	$ 4,752,338	$ 4,671,931	$ 4,478,236
Contributions in relation to the actuarially determined contribution (1)(2)	**4,985,571**	4,752,338	4,671,931	4,478,236
Contribution deficiency	—	—	—	—
Covered payroll	**$14,704,344**	$14,176,097	$14,036,006	$13,791,197
Contributions as a percentage of covered payroll	**33.91%**	33.52%	33.29%	32.47%

Schedule 3
Schedule of Employer Pension Contributions
(Unaudited – See Accompanying Auditor's Report)
(continued)
(Dollar Amounts in Thousands)

	2018	2017	2016	2015	2014
Actuarially determined contribution	$ 4,243,328	$ 3,824,908	$ 3,540,304	$ 3,289,615	$ 2,965,715
Contributions in relation to the actuarially determined contribution (1)(2)	4,243,328	3,824,908	3,181,438	2,582,114	1,992,084
Contribution deficiency	—	—	358,866	707,501	973,631
Covered payroll	$13,466,526	$13,313,900	$12,951,077	$12,866,473	$12,760,785
Contributions as a percentage of covered payroll	31.51%	28.73%	24.57%	20.07%	15.61%

(1) Amounts for 2015-2022 exclude purchase of service contributions.
(2) 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 4
Schedule of Changes in the Employer Net OPEB (Premium Assistance) Liability
(Unaudited – See Accompanying Auditor's Report)
(Dollar Amounts in Thousands)

Total OPEB liability	**2022**	2021	2020	2019	2018	2017
Service cost	**$ 47,563**	$ 44,699	$ 42,643	$ 40,201	$ 37,809	$ 42,038
Interest	**54,361**	60,632	62,452	65,319	67,091	61,404
Differences between expected and actual experience	**(11,835)**	7,272	11,987	1,435	15,019	—
Changes of assumptions	**(502,733)**	212,419	35,284	50,166	38,456	(110,610)
Benefit payments	**(113,707)**	(113,538)	(113,279)	(112,777)	(111,847)	(110,229)
Net change in total OPEB liability	**(526,351)**	211,484	39,087	44,344	46,528	(117,397)
Total OPEB liability - beginning	**2,502,598**	2,291,114	2,252,027	2,207,683	2,161,155	2,278,552
Total OPEB liability - ending (a)	**$ 1,976,247**	$ 2,502.598	$ 2,291,114	$ 2,252,027	$ 2,207,683	$ 2,161,155
Plan fiduciary net position						
Contributions - employer	**$ 117,178**	$ 116,519	$ 117,907	$ 114,829	$ 111,986	$ 110,985
Net investment income	**316**	260	1,752	2,313	1,455	663
Benefit payments	**(113,707)**	(113,538)	(113,279)	(112,777)	(111,847)	(110,229)
Administrative expense	**(826)**	(1,143)	(1,148)	(1,914)	(2,602)	(2,239)
Net Change in plan fiduciary net position	**2,961**	2,098	5,232	2,451	(1,008)	(820)
Plan fiduciary net position - beginning	**132,515**	130,417	125,185	122,734	123,743	124,563
Plan fiduciary net position - ending (b)	**$ 135,476**	$ 132,515	$ 130,417	$ 125,185	$ 122,735	$ 123,743
Employer net OPEB liability - ending (a) - (b)	**$ 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 Auditor's Report)
(Dollar Amounts in Thousands)

	2022	2021	2020	2019	2018	2017	2016
Total OPEB Liability	**$ 1,976,247**	$ 2,502,598	$ 2,291,114	$ 2,252,027	$ 2,207,683	$ 2,161,155	$ 2,278,552
Less: Plan fiduciary net position	**135,476**	132,515	130,417	125,185	122,734	123,743	124,563
Employer Net OPEB Liability	**$ 1,840,771**	$ 2,370,083	$ 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	**6.86%**	5.30%	5.69%	5.56%	5.56%	5.73%	5.47%
Covered Payroll	**$ 14,704,344**	$ 14,176,097	$ 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	**12.52%**	16.72%	15.39%	15.42%	15.48%	15.30%	16.63%

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

	2022	2021	2020	2019	2018	2017	2016
Actuarially determined contribution	**$ 147,312**	$ 133,971	$ 138,776	$ 139,484	$ 134,607	$ 125,694	$ 129,494
Contributions in relation to the actuarially determined contribution (1)(2)	**116,773**	116,365	117,723	114,571	111,724	110,558	112,557
Contribution deficiency	**$ 30,539**	$ 17,606	$ 21,053	$ 24,913	$ 22,883	$ 15,136	$ 16,937
Covered payroll	**$ 14,704,344**	$ 14,176,097	$ 14,036,006	$ 13,791,197	$ 13,466,526	$ 13,313,900	$ 12,951,077
Contributions as a percentage of covered payroll	**0.79%**	0.82%	0.84%	0.83%	0.83%	0.83%	0.87%

(1) Amounts exclude purchase of service contributions.
(2) 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 Auditor's Report)

	2022	2021	2020	2019	2018	2017	2016	2015	2014
Annual money-weighted rate of return, net of investment expense-Pension	2.40%	24.57%	1.14%	6.58%	9.30%	10.15%	1.11%	3.08%	14.98%
Annual money-weighted rate of return, net of investment expense- OPEB	0.35%	0.31%	1.97%	2.68%	1.63%	0.90%	0.65%	0.30%	-

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.

Notes to Required Supplementary Information for the Years Ended June 30, 2014 thru June 30, 2022

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
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, 2021 actuarial valuation will be made during the fiscal year ending June 30, 2023. 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, 2014 thru June 30, 2022 (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.

10-year reporting requirements

Required Supplementary Schedules 1-3 and 7, as related to pensions, are intended to show information for 10 years. Additional years will be displayed as they become available.

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, 2014 thru June 30, 2022

OPEB

Changes in benefit terms
None.

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 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, 2021 actuarial valuation will be made during the fiscal year ending

Notes to Required Supplementary Information
for the Years Ended June 30, 2014 thru June 30, 2022 (continued)

OPEB

June 30, 2023. The following actuarial methods and assumptions were used to determine contribution rates reported in that schedule:

- Investment return - 4.09% - 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, 2022
(Dollar Amounts in Thousands)

	Administrative Expenses				
	Pension	**Defined Contributions**	**Postemployment Healthcare (1)**	**Investment Expenses (2)**	**Total**
Personnel costs:					
Salaries and wages	$ 17,789	$ 428	$ 1,172	$ 10,913	**$ 30,302**
Employee benefits	11,524	263	748	5,191	**17,726**
Total personnel costs	29,313	691	1,920	16,104	**48,028**
Operating costs:					
Investment managers' fees	—	—	—	495,802	**495,802**
Custodian fees	—	—	—	2,522	**2,522**
Specialized services	74	1,298	104	494	**1,970**
Investment Systems	—	—	—	3,783	**3,783**
Investment Services	—	—	—	3,079	**3,079**
Third party administrator	—	—	31,984	—	**31,984**
Fitness program administrator	—	—	848	—	**848**
Healthcare project management	—	—	3,439	—	**3,439**
Real estate rental, electricity	1,947	—	233	224	**2,404**
Consultant and legal fees	8,366	85	1,401	4,131	**13,983**
Treasury and other Commonwealth services	2,094	—	—	183	**2,277**
Postage	553	—	68	—	**621**
Contracted maintenance and repair services	3,130	—	—	217	**3,347**
Printing and office supplies	222	—	23	1	**246**
Equipment and software rental	5,832	—	—	—	**5,832**
Travel and training	108	—	100	29	**237**
Telecommunications	395	—	28	80	**503**
Equipment (non-capital assets)	813	—	—	—	**813**
Subscriptions	25	—	4	925	**954**
Miscellaneous	1,117	21	158	117	**1,413**
Total operating costs	24,676	1,404	38,390	511,587	**576,057**
Other charges:					
Depreciation	2,908	—	—	—	**2,908**
Total Administrative and Investment Expenses Before Pension & OPEB Expense	56,897	2,095	40,310	527,691	**626,993**
Pension expense (3)	(1,655)	(27)	(32)	(838)	**(2,552)**
OPEB expense (4)	(5,791)	93	(162)	(1,463)	**(7,323)**
Total Administrative and Investment Expenses	$ 49,451	$ 2,161	$ 40,116	$ 525,390	**$ 617,118**

(1) Administrative expenses for Postemployment Healthcare includes $826 related to Premium Assistance and $39,290 related to Health Options Program for the fiscal year ended June 30, 2022.

(2) Includes investment expenses of $33 related to Postemployment Healthcare Premium Assistance, $31 related to Health Options Program and $155 for DC for the fiscal year ended June 30, 2022 and does not include $5,748 in capitalized broker commissions for the fiscal year ended June 30, 2022.

(3) Total GASB 68 pension expense is $6.8 million and is reflected under Employee benefits and Pension expense. Employer contributions of $9.4 million are included as Employee benefits under Personnel costs and $(2.6) million is reflected as Pension expense.

(4) Total GASB 75 OPEB expense is $(5.3) million and is reflected under Employee benefits and OPEB expense. Employer contributions of $2.0 million are included as Employee benefits under Personnel costs and $(7.3) million is reflected as OPEB expense.

Supplementary Schedule 2
Summary of Investment Expenses*
Year Ended June 30, 2022
(Dollar Amounts in Thousands)

	Investment Management			
	Base	**Performance**	**Other Expenses**	**Total**
External management:				
Domestic equity	$ —	$ —	$ —	**$ —**
International equity	25,547	73,509	—	**99,056**
Fixed income	32,164	7,922	—	**40,086**
Real estate	45,579	—	—	**45,579**
Alternative investments	106,573	—	—	**106,573**
Absolute return	81,504	45,115	—	**126,619**
Commodities	7,710	—	—	**7,710**
Infrastructure	9,035	—	—	**9,035**
Master limited partnership	365	1,248	—	**1,613**
Private credit	58,079	655	—	**58,734**
Tail Risk Mitigation	642	—	—	**642**
Defined Contribution	155	—	—	**155**
Total external management	367,353	128,449	—	**495,802**
Total internal management	—	—	22,935	**22,935**
Total investment management	367,353	128,449	22,935	**518,737**
Custodian fees	—	—	2,522	**2,522**
Consultant and legal fees	—	—	4,131	**4,131**
Total investment expenses	$ 367,353	$ 128,449	$ 29,588	**$ 525,390**

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

Supplementary Schedule 3
Schedule of Payments to Non-Investment Consultants
Year Ended June 30, 2022
(Dollar Amounts Greater than $100,000)

Non-Investment Consultants	Fees	Services Provided
Trustmark Health Benefits	$ 31,979,496	Postemployment Healthcare benefits administration and claims adjudication
Optum RX, Inc.	6,921,876	Administration of post employment healthcare benefits and prescription drug plan
Vitech Systems Group, Inc.	5,500,188	Pension administration system services
The Segal Company, Inc.	3,536,054	Actuarial services and consulting for HOP and prescription drug plan
Gallagher Benefit Services, Inc.	1,401,119	Pharmacy benefit consulting services
OST Inc.	862,702	Information technology, training, testing and consulting services
Tivity Health	847,858	Administration of the Silver Sneakers Fitness program
Buck Global, LLC	529,864	Pension benefit actuarial services
CliftonLarsonAllen LLP	140,730	Financial audit of pension system, defined contribution plan and postemployment healthcare programs