Financial Statements

South Carolina Retirement Systems

Year Ended June 30, 2019

Administered by the

South Carolina Public Employee Benefit Authority

Columbia, South Carolina

This page contains no other content.

SOUTH CAROLINA OFFICE OF THE STATE AUDITOR
1401 Main Street, Suite 1200 • Columbia, SC 29201

October 15, 2019

Members of the South Carolina Public Employee
Benefit Authority
State of South Carolina
Columbia, South Carolina

This report on the audit of the financial statements of the South Carolina Retirement Systems for the fiscal year ended June 30, 2019, was issued by CliftonLarsonAllen, LLP, Certified Public Accountants, under contract with the South Carolina Office of the State Auditor.

If you have any questions regarding this report, please let us know.

Respectfully submitted,

George L. Kennedy, III

George L. Kennedy, III, CPA
State Auditor

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INDEPENDENT AUDITORS' REPORT

The Honorable Henry D. McMaster, Governor
Mr. George L. Kennedy, CPA, State Auditor,
and Board of Directors
South Carolina Public Employee Benefit Authority
Columbia, South Carolina

Report on the Financial Statements

We have audited the accompanying financial statements of the South Carolina Retirement Systems (the Systems) as administered by the South Carolina Public Employee Benefit Authority, which comprise the statement of fiduciary net position as of June 30, 2019, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, as listed in the table of contents.

Management's Responsibility for the Financial Statements

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

Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

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

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The Honorable Henry D. McMaster, Governor
Mr. George L. Kennedy, CPA, State Auditor,
and Board of Directors
South Carolina Public Employee Benefit Authority

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

Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the financial position of the Systems as of June 30, 2019, and the respective changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Report on Summarized Comparative Information

We have previously audited the Systems' 2018 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated October 15, 2018. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2018 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Other Matters

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

Other Information

Our audit was conducted for the purpose of forming an opinion on the Systems' financial statements. The other supplementary information, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of the financial statements.

The Honorable Henry D. McMaster, Governor
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South Carolina Public Employee Benefit Authority

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

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 15, 2019 on our consideration of the Systems' internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is solely to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on the effectiveness of the South Carolina Retirement Systems' internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Systems' internal control over financial reporting and compliance.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Baltimore, Maryland
October 15, 2019

Management's Discussion and Analysis

This section presents management's discussion and analysis of the financial position and performance for the year ended June 30, 2019, for the South Carolina Retirement Systems' pension trust funds (Systems), and is offered as an introduction and analytical overview. This narrative is intended as a supplement and should be read in conjunction with the financial statements and other information presented in the *Comprehensive Annual Financial Report*.

The Systems' financial statements provide information about the activities of the five defined benefit pension plans administered, which are listed below, in addition to comparative summary information about the activities of the Systems as a whole:

- The South Carolina Retirement System (SCRS) - A member contributory multiple-employer plan covering teachers, as well as state and municipal employees;
- The Police Officers Retirement System (PORS) - A member contributory multiple-employer plan covering state and local law enforcement personnel and firefighters;
- The Retirement System for Members of the General Assembly of the State of South Carolina (GARS) - A member contributory plan providing benefits to members of the South Carolina General Assembly, which is closed to persons first elected to the South Carolina General Assembly at or after the general election in November 2012;
- The Retirement System for Judges and Solicitors of the State of South Carolina (JSRS) - A member contributory plan covering Judges, Solicitors, Public Defenders and Administrative Law Judges; and
- The South Carolina National Guard Supplemental Retirement Plan (SCNG) - A non-contributory supplemental benefit plan for members of the South Carolina National Guard.

Overview of the Financial Statements

The Systems represents the collective retirement funds that are held in a group trust for the plans and are protected by the state's constitution. The South Carolina Public Employee Benefit Authority (PEBA) was created July 1, 2012 and operates a Retirement Division to administer the various retirement systems and retirement programs. PEBA has an 11-member Board of Directors, appointed by the Governor and General Assembly leadership, which serves as custodian, co-trustee and co-fiduciary of the Systems and the assets of the retirement trust funds. The Retirement System Investment Commission (Commission as the governing body, RSIC as the agency), created by the General Assembly in 2005, has exclusive authority to invest and manage the retirement trust funds' assets. The Commission, an eight-member board, serves as co-trustee and co-fiduciary for the assets of the retirement trust funds. By law, the State Fiscal Accountability Authority (SFAA), which consists of five elected officials, also reviews certain PEBA Board decisions regarding the actuary of the Systems.

PEBA is considered a division of the primary government of the state of South Carolina and therefore, retirement trust fund financial information is also included in the comprehensive annual financial report of the state. Financial statements prepared on behalf of the Systems, include the following information, for the fiscal year ended June 30, 2019, with combined total comparative information for the fiscal year ended June 30, 2018:

- Statement of Fiduciary Net Position
- Statement of Changes in Fiduciary Net Position
- Notes to the Financial Statements
- Required Supplementary Information
- Other Supplementary Information

The Statement of Fiduciary Net Position presents the Systems' assets and liabilities and the resulting net position restricted for pensions. This statement reflects a year-end snapshot of the Systems' investments, at fair value, along with cash and short-term investments, receivables and other assets and liabilities.

The Statement of Changes in Fiduciary Net Position presents information showing how the Systems' net positions restricted for pensions changed during the year. This statement includes additions for members, employers, nonemployer and state appropriated contributions and investment earnings (losses) and deductions for retirement benefit payments, refunded contributions, death benefit payments and administrative expenses.

Notes to the Financial Statements are an integral part of the basic financial statements and provide additional information that is necessary in order to gain a comprehensive understanding of data reported in the basic financial statements.

Required Supplementary Information presents schedules pertaining to the employers' net pension liability, changes in employers' net pension liability, employers' and nonemployer's contributions, and the money-weighted rate of return on investments. These schedules are intended to provide additional information useful in evaluating the condition of the Systems.

Other Supplementary Information includes Schedules of Changes in Fiduciary Net Position by System, as well as Schedules of Administrative Expenses, Professional and Consultant Fees and Investment Fees and Expenses.

Financial Highlights

- Total fiduciary net position for all five defined benefit plans of the Systems combined, increased from $31.2 billion to $32.3 billion, which was over three percent from the prior year net position. The net position of the plans is impacted by contributions paid into the plans, investment performance, and benefit payments out of the system. The plans are in a net cash outflow position with benefit payments exceeding contributions; therefore, investment performance must first make up this gap before fiduciary net position can grow. The increase in net position was attributable to both increased contributions and positive investment performance.
- For the fiscal year ended June 30, 2019, the net of fee investment performance return on a time-weighted basis reported by the custodial bank, the Bank of New York Mellon (BNYM), was 5.84 percent. This net return reflects performance of the Systems, at the aggregate for the pooled investments of the consolidated pension trust funds, after the deduction for manager fees and/or expenses. This fiscal year's performance was below the prior year's return of 7.82 percent and is considered an actuarial loss since it was less than the actuarial assumed rate of return of 7.25 percent. Actuarial valuations are prepared for each of the plans annually for funding purposes, at which time gains and losses from investment performance are recognized using smoothing methods that help mitigate sharply fluctuating market returns over a long-term period. The smoothing methodology offsets both deferred investment gains and losses against each other and is intended to produce an actuarial asset value that should be fairly consistent with market value during periods of ordinary investment returns. Smoothing investment performance avoids overreaction to inherently volatile conditions that would otherwise overweight the effects of a single year of performance that may potentially be reversed in subsequent years. Actuarial smoothing is intended to result in more stable contribution rates and a more level funded status and is also a valuable methodology for governmental entities because it permits participating employers to plan their budgets over more than one fiscal year.
- Liability calculations for financial reporting purposes for each of the five defined benefit plans were performed and certified by Gabriel Roeder Smith & Company (GRS) in the GASB No. 67 Accounting

Valuation Report as of June 30, 2019. The calculations presented in the accounting valuation report are not applicable for other purposes, such as determining the plans' funding requirements. The total pension liability, net pension liability, and sensitivity information for each plan are based on the actuarial valuations performed as of July 1, 2018. The total pension liability for each plan was rolled-forward from the valuation date to the plans' fiscal year ending June 30, 2019, using generally accepted actuarial principles. There were no significant changes noted for other systems; however, the General Assembly approved a 35.8 percent salary increase for active members participating in JSRS, effective July 1, 2019. Due to the cost of living adjustment feature in JSRS, there is also a corresponding 35.8 percent increase in the monthly retirement benefits for retirees in JSRS beginning July 1, 2019. The salary and annuity increases required the JSRS employer contribution rate to increase from 52.49 percent to 62.94 percent, effective July 1, 2019. The Notes and Required Supplementary Information (RSI) sections of the Financial Statements include disclosures required by GASB No. 67.

- Cash and cash equivalents, receivables, and prepaid expenses reported on the condensed Statement of Fiduciary Net Position increased significantly in fiscal year 2019, primarily due to an increase in unsettled investment sales as of June 30, 2019. Unsettled investment sales increased from $613 million the prior year to $1.411 billion as of June 30, 2019. In addition, there was also a slight increase in the dollar amount of cash equivalents at June 30, 2019.
- Other liabilities reported on the condensed Statement of Fiduciary Net Position also increased substantially as compared to the prior year as a result of the increase in accounts payable-unsettled investment purchases from $860 million the prior year to $1.281 billion as of June 30, 2019.
- The dollar amount of employee and employer contributions collected increased compared to the prior year and the rise is primarily attributable to increased contribution rates and some limited payroll growth. For fiscal year 2019, employee rates remained a capped rate of 9.00 percent for SCRS and 9.75 percent for PORS: however, employer contribution rates for both SCRS and PORS increased by 1 percent of pay to 14.56 percent and 17.24 percent, respectively. These employer rates are inclusive of contributions for the death benefit plan which are only applicable to participating employers. Effective July 1, 2019, employee rates will remain the same but employer contribution rates are scheduled to again increase by 1 percentage point for both SCRS and PORS to 15.56 percent and 18.24 percent, respectively. In accordance with the legislative funding schedule, employer contribution rates will continue to increase by a minimum of 1 percentage point each year through July 1, 2022, and further, if the scheduled contributions are not sufficient to meet the funding periods set for the applicable year. The board shall increase the employer contribution rates as necessary to meet the amortization period set in statute.
- In an effort to help offset a portion of the increased contribution requirements for employers, the General Assembly again provided nonemployer contributions to PEBA. Based on the criteria provided in the South Carolina 2018-2019 Appropriations Act, Section 117.139, PEBA issued credit invoices to certain SCRS and PORS employers for fiscal year 2019 who then applied the credit invoices towards contributions otherwise due to the Systems. The amount of credit invoices issued in fiscal year 2019 totaled $88.7 million and $12.5 million for SCRS and PORS respectively. The nonemployer contributions were slightly less than the prior year amounts due to the General Assembly reducing the funding allocated to certain employers.
- Although the amount of regular monthly retirement benefits increased, the total amount of benefit expenses decreased 12.3 percent from the prior fiscal year due to the closure of the Teacher and Employee Retention Incentive (TERI) program on June 30, 2018. The increase in regular monthly retirement benefits was attributable to an annual benefit adjustment equal to the lesser of 1 percent or $500 granted to eligible SCRS and PORS annuity recipients effective July 1, 2018, and an increase in the

number of annuitants. Deferred retirement benefit expenses for the year ended June 30, 2018 were almost $708 million but there were no deferred retirement benefit expenses for the current year.

- TERI was a deferred retirement option program available under SCRS that allowed members who were eligible to retire to accumulate annuity benefits on a deferred basis for up to 60 months while continuing employment. Legislation enacted in 2012 closed the TERI program to all participants effective June 30, 2018, so not all TERI participants were eligible to participate for the full 60 months. During the member's period of participation, both the member and the employer were required to pay the same contribution rate on compensation earned, in the same manner as for active members. TERI participants did not earn additional service credit or interest on their TERI account, but they were eligible to receive retirement benefit increases in the same manner as other annuitant payees. At the end of the member's TERI participation and upon termination from employment, the balance in the member's accumulated TERI account was distributed. Deferred retirement benefit liabilities decreased from $377 million in the prior year to $70 thousand as the majority of the TERI funds were disbursed.
- The Systems' investment portfolio participates in a securities lending program, managed by BNYM, whereby securities are loaned for the purpose of generating additional income. As the securities lending agent, BNYM is responsible for making loans of securities on a collateralized basis from the Systems' investment portfolio to various third party broker-dealers and financial institutions. Securities lending revenue net of borrower rebates was $3.05 million, an increase from $1.99 million in the prior year. As reported by BNYM, at June 30, 2019, the fair value of securities on loan was $83.25 million, the fair value of the invested cash collateral was $41.33 million, and the securities lending obligations were $86.65 million. The reported difference in the value of the invested cash collateral and the securities lending obligations in the securities lending program, is reflected within "Other Liabilities" on the Retirement Systems' Statement of Fiduciary Net Position, consistent with information reported on accounting statements provided by BNYM as both the custodial bank and securities lending agent.
- The Commission operates pursuant to statutory provisions and under governance policies that allow for a diverse asset allocation and which afford the RSIC and its Chief Investment Officer (CIO) discretion and flexibility to quickly react to changes in market conditions. The Retirement Systems investment portfolio is structured to focus on ensuring the long-term stability of the plans, seeking superior returns at acceptable levels of risk.
- The Commission is responsible for establishing and managing a target asset allocation that manages risk, ensures liquidity, and as mentioned above, affords flexibility to quickly react to changes in market conditions. The fiscal year 2019 policy allocation, including target weights, ranges and benchmarks for each asset class, was adopted by the Commission on February 8, 2018 for the fiscal year beginning July 1, 2018. The asset policy increased the allocation to the Equity target by 4 percentage points; a 2 percentage point increase in both the Global Public Equity target and the Equity Options target. The target allocation to Diversified Credit was reduced by 3 percentage points. The asset allocation also introduced a target to Portable Alpha Hedge Funds of 10 percent and now includes this asset class in the policy benchmark.
- The Commission has exclusive authority to select the custodial bank, with PEBA as a third-party beneficiary of the contract with full rights to information. The Commission contracted with BNYM to serve as custodial bank for the Retirement Systems' funds. Under a provision of the contract for custody services and in an effort to maintain transparency, BNYM directly invoices the trust funds on a quarterly basis for both custody and other ancillary services utilized. PEBA and the RSIC jointly verify that invoices accurately reflect services rendered and are appropriate for the period before amounts are paid. The trust funds' securities lending revenue account is the initial source from which such costs are paid to the custodial agent.

- All investment manager fees, whether directly invoiced or deducted from the fund Net Asset Value (NAV) on a net of fee basis, are classified and reported as investment expense in the Statement of Changes in Fiduciary Net Position. The RSIC validates and provides the non-invoiced fee information to PEBA on an annual basis so that amounts can be reclassified and reported in the Systems' financial statements. Investment manager fees reported include management fees, performance fees and carried interest (accrued during the fiscal year), and other expenses. There is no industry standard for reporting pension plan investment fees and expenses; therefore, in order to compare investment expenses as reported by the Systems with investment management costs reported by other public pension plans, an understanding of the actual fees and expenses included in any comparative report is necessary. Total investment manager fees for fiscal year 2019 were $310.2 million, which includes both invoiced amounts and amounts deducted on a net of fee basis, but excludes bank fees and other miscellaneous investment expenses. Comparatively, total investment manager fees were 13.6 percent less than the prior fiscal year 2018 total of $359.0 million. The decrease is largely attributed to lower performance fees as a result of generally lower market returns for the fiscal year in the asset classes that incur performance fees.
- PEBA is the governing body responsible for administration of both the state's retirement plans and employee insurance programs, and its administrative costs for retirement operations are funded from the retirement trust funds. Administrative expenses for fiscal year 2019 increased 6.6 percent from the prior year. This increase resulted largely from higher information technology operating expenses and other costs associated with building and facilities maintenance.
- GRS is on retainer as the Systems' consulting actuary for the defined benefit retirement plans. South Carolina state statute requires that the actuary complete a valuation of the Systems annually and conduct an experience study at least once in each five year period. The most recent valuation reports were issued as of July 1, 2018. GRS completed an actuarial experience study on the Systems with the report issued as of July 1, 2015. As a result of the experience study, the actuary recommended adjustments to the actuarial assumptions, which included salary increase, payroll growth, mortality, retirement, terminations, refunds, disability, inflation, and asset valuation method. These recommended assumption and method changes were adopted and incorporated starting with the July 1, 2016 valuations. The experience study also recommended reducing the long-term investment rate of return assumption; the assumed rate of return was reduced from 7.50 to 7.25 percent effective July 1, 2017 as part of the Retirement System Funding and Administration Act of 2017. The 7.25 percent assumed rate of return expires on July 1, 2021, and every four years thereafter, and as such, the PEBA Board, in consultation with the Commission, must propose an assumed annual rate of return based on recommendations of the Board's actuary. The next experience study will be conducted as of June 30, 2019.
- As a cost-sharing multiple-employer defined benefit pension plan, PEBA works closely with our consulting actuary and external audit firm to ensure employers are provided with pension information needed to prepare their GAAP based financial statements in compliance with Governmental Accounting Standards Board (GASB), specifically Statements No. 68, 71 and 82. PEBA's public website includes a dedicated GASB section where information is posted for participating employers and auditors to access financial statement disclosure information related to their proportionate share of the net pension liability, deferred inflows and outflows of resources and pension expense.
- All of the plans (excluding SCNG) include certain provisions that allow retired members to return to covered employment while also receiving a monthly retirement benefit. For members who return to work for a covered employer after retirement, the employer must pay the corresponding employer

contribution for that particular plan, and under SCRS, PORS and JSRS, retired members are also required to pay the same employee contribution as an active member in the same position. As of June 30, 2018 the actuarial valuations for SCRS and PORS collectively reported that over 4,000 TERI participants plus approximately 15,750 retirees were working for a covered employer while receiving monthly retirement benefits, thereby making up more than 7 percent of the total public workforce covered by the Systems. The historical return-to-work provisions, coupled with demographic changes of the membership, caused concern over the long-term stability of the plan so legislation enacted in 2012 addressed retiree return-to-work provisions. Generally, SCRS and PORS members may return to covered employment after retirement; however, a member who retires after January 1, 2013 who has not yet reached age 62 (SCRS) or age 57 (PORS) at retirement, and who has been retired at least 30 calendar days, may return to work for a participating employer, but receipt of their annuity benefit is subject to an earnings limit of $10,000 on wages earned each calendar year from covered employment. Under SCRS, participants in the TERI program received a deferred accrual for the full monthly retirement benefit, with no limit on the amount of wages they earned from employment.

- Qualified Excess Benefit Arrangement (QEBA) trust funds are maintained for each of the plans administered by the Retirement Division of PEBA (excluding SCNG). A QEBA is intended to be a qualified governmental excess benefit arrangement within the meaning of Section 415(m)(3) of the Internal Revenue Code and provides the part of a participant's retirement benefit that would have been paid by the Systems had there been no limitations under Code Section 415(b). The QEBA plans are separate and apart from the funds comprising the retirement funds and are not commingled with assets of those funds. The QEBA is not prefunded; therefore, no assets or income are accumulated to pay future benefits. The amount of required contributions necessary to pay benefits under the plans is determined and deposited to the trust funds on an as-needed basis. Employer contributions to fund the excess benefits are not credited or commingled with contributions paid into and accumulated in the retirement funds.
- GARS was closed to persons first elected to the South Carolina General Assembly at or after the general election in November 2012. Members so elected to the SC Senate or House of Representatives have the option to join SCRS, the State Optional Retirement Program (State ORP), which is a defined contribution plan, or they may elect to opt out of a plan altogether. As a result of the plan closure, employee contributions to the GARS plan should decrease over time, while employer contributions may experience a general increase over time.

Condensed Financial Information

The Systems' financial stability and long-term ability to sufficiently fund retirement benefits payable to members in future years is viable because funds are accumulated and invested on a regular and systematic basis. The five defined benefit funds provide monthly service retirement benefits, disability benefits and death benefits to eligible members and/or their surviving beneficiaries.

The Systems' principal sources of revenue are employee contributions, employer contributions, nonemployer contributions and investment earnings. Funds were legislatively appropriated to PEBA and credited towards the contributions due from participating employers in SCRS and PORS for fiscal year 2019. Required annual contributions for the SCNG are funded through an annual state appropriation. Expenses of the Systems consist primarily of payments of monthly annuities to retired members or their beneficiaries, and refunds of member contributions and interest that are paid subsequent to termination of employment. The defined benefit plans include an incidental death benefit for both active and retired members and an accidental death plan for members of PORS.

PEBA sponsors the State ORP which is a defined contribution plan administered by four different third party record keepers. The State ORP is an alternative plan available to newly hired employees of state agencies, institutions of higher education, public school districts and individuals first elected to the General Assembly at or after the general election in November 2012. In addition, PEBA is responsible for the South Carolina Deferred Compensation Plan (401k and 457 plans) administered by a third party record keeper. Both State ORP and Deferred Compensation assets are outside the group trust fund of the Systems and are not invested or managed by the RSIC. Summary comparative financial statements of the SC Retirement Systems' pension trust funds are presented on the following page.

Fiduciary Net Position

As of June 30

(Amounts expressed in thousands)

Assets	2019	2018	Increase / (Decrease)	% Increase / (Decrease)
Cash and cash equivalents, receivables, and prepaid expenses	$ 4,323,924	$ 3,359,600	$ 964,324	28.70%
Investments, at fair value	29,547,472	29,243,863	303,609	1.04%
Securities lending cash collateral invested	41,327	34,612	6,715	19.40%
Capital assets, net of accumulated depreciation	2,232	2,362	(130)	(5.50%)
Total assets	33,914,955	32,640,437	1,274,518	3.90%
Liabilities				
Deferred retirement benefits	70	377,263	(377,193)	(99.98%)
Obligations under securities lending	41,327	34,612	6,715	19.40%
Other liabilities	1,587,595	1,021,458	566,137	55.42%
Total liabilities	1,628,992	1,433,333	195,659	13.65%
Net Position Restricted for Pensions	$ 32,285,963	$ 31,207,104	$ 1,078,859	3.46%

Changes in Fiduciary Net Position

Years Ended June 30

(Amounts expressed in thousands)

Additions	2019	2018	Increase / (Decrease)	% Increase / (Decrease)
Employee contributions	$ 1,028,413	$ 1,010,636	$ 17,777	1.76%
Employer contributions	1,705,663	1,528,741	176,922	11.57%
Nonemployer contributions	101,176	118,096	(16,920)	(14.33%)
State appropriated contributions	5,290	4,814	476	9.89%
Net investment income	1,776,400	2,334,478	(558,078)	(23.91%)
Other income	1,577	1,902	(325)	(17.09%)
Total additions	4,618,519	4,998,667	(380,148)	(7.60%)
Deductions				
Refunds	139,692	137,766	1,926	1.40%
Annuity benefits	3,356,747	3,826,806	(470,059)	(12.28%)
Death benefits	23,717	25,207	(1,490)	(5.91%)
Administrative and other expenses	19,504	18,712	792	4.23%
Total deductions	3,539,660	4,008,491	(468,831)	(11.70%)
Net increase in Net Position	1,078,859	990,176	88,683	8.96%
Net Position Restricted for Pensions				
Beginning of year	31,207,104	30,216,928	990,176	3.28%
End of year	$ 32,285,963	$ 31,207,104	$ 1,078,859	3.46%

Analysis of the Plan's Financial Position and Results of Operations

On a combined basis, the defined benefit plans' fiduciary net position was $32.3 billion at June 30, 2019. This represents an increase of more than three percent in net position from the previous fiscal year-end. The increase in the fiduciary net position from the prior fiscal year was primarily attributable to strong performance of the plan investments and increased contributions which exceeded the impact of net negative cash flows that result from benefit payments exceeding contributions received.

During fiscal year 2019, the total dollar amount of contributions added to the plans increased in accordance with the increase in employer contribution rates, and regular monthly retirement benefits paid to annuitants also increased compared with the previous fiscal year. As previously referenced, the increase in regular monthly retirement benefits was attributable to an annual benefit adjustment equal to the lesser of 1 percent or $500 granted to eligible SCRS and PORS annuity recipients effective July 1, 2018, and an increase in the number of annuitants. The total benefit expenses decreased due to the closure of the TERI program.

Net of fee performance return, on a time-weighted basis was 5.84 percent for the fiscal year. Relative to the policy benchmark, which returned a 6.50 percent, the Plan underperformed by 66 basis points. Additionally, the Plan fell short of the actuarial assumed rate of return of 7.25 percent by 141 basis points.

The Infrastructure asset class was the highest performing asset class on an absolute basis returning 12.55 percent. Relative to its benchmark Infrastructure assets slightly underperformed by 14 basis points. Emerging Markets Debt was the second highest performing asset class on an absolute basis returning 9.50 percent but underperforming its benchmark by 127 basis points. Private Equity was the third highest performing asset class returning 8.47 percent versus a benchmark return of 9.23 percent. The Real Estate and Other Opportunistic asset classes, both beating their benchmarks, returned 7.84 percent and 7.72 percent respectively. The Core Fixed Income asset class returned 7.65 percent versus a benchmark return of 7.87 percent. The GTAAN and High Yield/Bank Loans asset classes returned 4.77 percent versus a 5.88 percent benchmark return and 4.39 percent versus a 5.72 percent benchmark return, respectively. The Global Public Equity asset class, the largest allocation in the Plan at 37.3 percent, returned 4.11 percent but underperformed the benchmark by 34 basis points. The Private Debt asset class returned 3.07 percent versus a benchmark return of 4.47 percent. The Equity Options asset class beat its benchmark by 77 basis points returning 2.40 percent versus 1.63 percent. The Portable Alpha Hedge Funds excess return over three-month LIBOR was a negative 0.75 percent return and was the only negative returning asset class in the Plan and underperformed its benchmark return of 2.50 percent.

Actuarial Valuations and Funding Progress

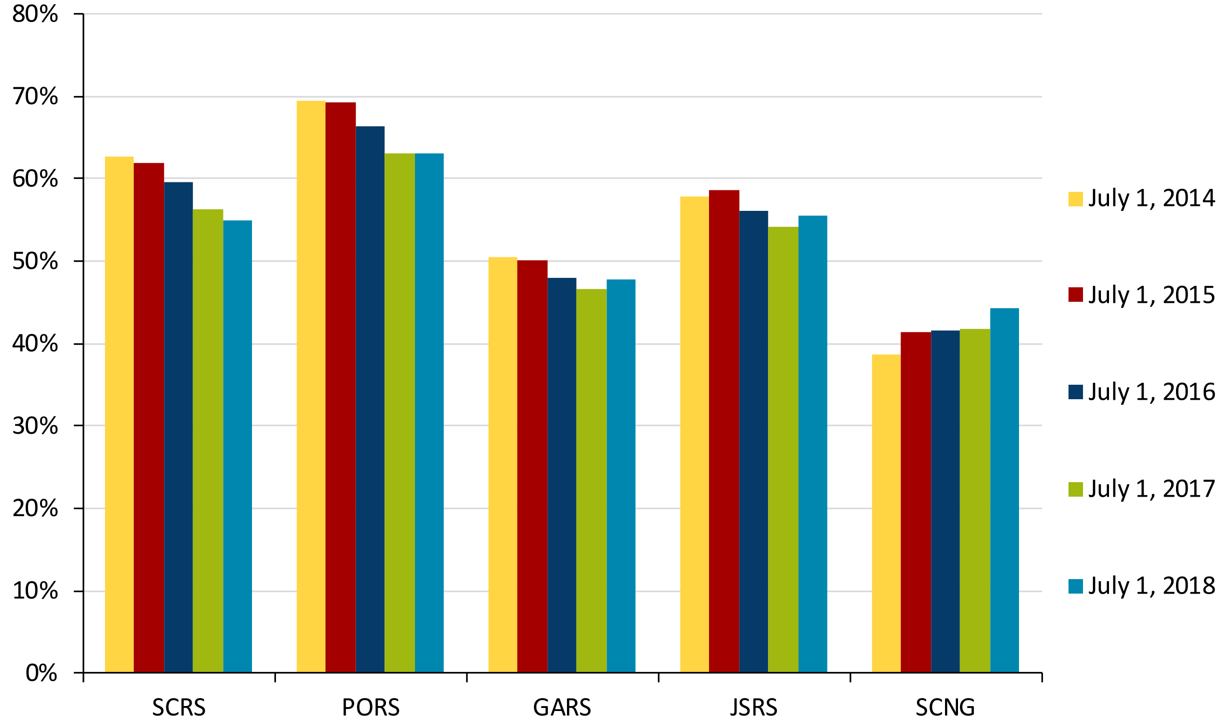
Actuarial valuations are performed annually by an external consulting actuary for each of the five defined benefit plans to ensure applicable contribution rates satisfy the funding parameters specified in Title 9 of the South Carolina Code of Laws. Under these provisions, SCRS and PORS contribution requirements must be sufficient to maintain an amortization period for the financing of the unfunded actuarial accrued liability (UAAL) over a period that does not exceed the number of years scheduled in state statute. Additionally, the Board is prohibited from decreasing the SCRS and PORS contribution rates until the funded ratio is at least 85 percent. The Retirement System Funding and Administration Act of 2017, which became effective on July 1, 2017, schedules the amortization period to be reduced by one year for each of the next 8 years to 20 years. Over time, and provided investment performance meets long-term assumptions and there are no future benefit enhancements, the funded ratio of each system is expected to improve significantly.

For purposes of developing the actuarially determined contribution rate, the most recently completed valuations prepared, as of July 1, 2018, recognized investment performance using the smoothing method, which recognizes each year's investment gain or loss, determined on a market value of assets basis, over a closed five year period at a rate of 20 percent per year. This asset valuation method mitigates the short term impact of market volatility and allows changes in market conditions to be recognized (smoothed) over a longer period of time. In contrast, the accounting valuation report determines the plan fiduciary net position for the purpose of providing accounting information under GASB Statement No. 67, which uses a market value basis. Since the valuation report prepared for accounting purposes uses the market value of assets rather than the actuarial value of assets, the ratio of plan fiduciary net position to the total pension liability can result in significant short-term volatility.

For the actuarial valuations prepared for funding purposes, the funded ratio (the ratio of the actuarial assets to the actuarial accrued liability) is a standard of measure of a plan's funded status. It provides an indication as to whether sufficient assets are accumulated to pay benefits when due; the greater the level of funding, the larger the ratio of assets to liabilities. The funding progress of a retirement system should be reviewed over a multi-year period, such as five to ten years, to identify trends in the system's funded status. The most recent actuarial valuations prepared for funding purposes as of July 1, 2018, showed a slight decrease in funded status for SCRS while the funded ratio for PORS, GARS, JSRS and SCNG showed a slight increase. The changes in the levels of funding do not affect the availability of funds or resources for future use and actuarial projections indicate that unfunded liabilities should be amortized and funded within the guidelines established in Title 9 of the SC Code of Laws. The actuarial funded ratios of the five plans are presented in the graph on the following page. Percentages for GASB Statement No. 67 reporting purposes can be found in the Schedule of Employers' Net Pension Liability beginning on Page 62.

Actuarial Funded Ratios

(Actuarial assets as a percentage of actuarial accrued liabilities)



Requests for Information

This financial report is designed to provide a general overview of the Retirement Systems' financial activities and position for all interested parties. Questions concerning any of the information provided in this report or requests for additional financial information should be directed to the South Carolina PEBA, Attn: Retirement Systems Finance, 202 Arbor Lake Drive, Columbia, SC 29223. Inquiries may also be made at www.peba.sc.gov or by calling 888.260.9430.

South Carolina Retirement Systems
Statement of Fiduciary Net Position

June 30, 2019
With summarized comparative totals for June 30, 2018
(Amounts expressed in thousands)

	SCRS	PORS	GARS	JSRS	SCNG	TOTAL	2018 TOTAL
Assets							
Cash and cash equivalents	$ 2,098,978	$ 391,292	$ 5,281	$ 16,874	$ 5,802	$ 2,518,227	$ 2,358,093
Receivables							
Due from other systems		50		69		119	278
Employee and employer contributions	306,674	29,547	25	830	1	337,077	336,412
Accrued investment income	41,341	7,320	54	251	49	49,015	46,519
Unsettled investment sales	1,191,159	210,265	1,406	7,081	1,190	1,411,101	613,543
Other investment receivables	3,807	672	5	22	4	4,510	1,163
Total receivables	1,542,981	247,854	1,490	8,253	1,244	1,801,822	997,915
Investments, at fair value							
Short-term securities	340,059	60,027	401	2,021	340	402,848	586,272
Fixed Income	3,899,462	688,338	4,601	23,181	3,896	4,619,478	5,287,168
Global Public Equity	9,827,095	1,734,692	11,595	58,419	9,818	11,641,619	10,777,971
Opportunistic	2,300,496	406,087	2,714	13,676	2,298	2,725,271	3,092,930
Alternatives	8,574,936	1,513,660	10,118	50,975	8,567	10,158,256	9,499,522
Total investments	24,942,048	4,402,804	29,429	148,272	24,919	29,547,472	29,243,863
Securities lending cash collateral invested	34,886	6,158	41	207	35	41,327	34,612
Prepaid expenses	3,294	554	4	20	3	3,875	3,592
Capital assets, net of accumulated depreciation	2,010	207	6	9		2,232	2,362
Total assets	28,624,197	5,048,869	36,251	173,635	32,003	33,914,955	32,640,437
Liabilities							
Due to other systems	119					119	278
Accounts payable - unsettled investment purchases	1,081,545	190,916	1,276	6,429	1,081	1,281,247	859,659
Investment fees payable	9,756	1,722	12	58	10	11,558	12,717
Obligations under securities lending	34,886	6,158	41	207	35	41,327	34,612
Deferred retirement benefits	70					70	377,263
Due to Employee Insurance Program	72,466	1,435				73,901	67,069
Benefits payable	4,882	388			17	5,287	4,570
Other liabilities	181,557	32,441	210	1,098	177	215,483	77,165
Total liabilities	1,385,281	233,060	1,539	7,792	1,320	1,628,992	1,433,333
Net Position Restricted for Pensions	$ 27,238,916	$ 4,815,809	$ 34,712	$ 165,843	$ 30,683	$ 32,285,963	$ 31,207,104

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

South Carolina Retirement Systems
Statement of Changes in Fiduciary Net Position

Year Ended June 30, 2019

With summarized comparative totals for the year ended June 30, 2018

(Amounts expressed in thousands)

	SCRS	PORS	GARS	JSRS	SCNG	TOTAL	2018 TOTAL
Additions							
Contributions							
Employee	$ 880,664	$ 144,747	$ 162	$ 2,840	$ -	$ 1,028,413	$ 1,010,636
Employer	1,450,308	237,821	5,804	11,730		1,705,663	1,528,741
Nonemployer	88,706	12,470				101,176	118,096
State appropriated					5,290	5,290	4,814
Total contributions	2,419,678	395,038	5,966	14,570	5,290	2,840,542	2,662,287
Investment income							
Net appreciation in fair value of investments	1,255,386	221,668	1,484	7,519	1,257	1,487,314	2,108,348
Interest and dividend income	521,382	91,513	729	3,319	635	617,578	598,359
Investment expense	(279,952)	(49,309)	(329)	(1,670)	(279)	(331,539)	(374,222)
Net income from investing activities	1,496,816	263,872	1,884	9,168	1,613	1,773,353	2,332,485
From securities lending activities:							
Securities lending income	2,825	494	3	17	3	3,342	2,218
Securities lending borrower rebates	(250)	(43)		(2)		(295)	(225)
Net income from securities lending activities	2,575	451	3	15	3	3,047	1,993
Total net investment income	1,499,391	264,323	1,887	9,183	1,616	1,776,400	2,334,478
Supplemental retirement benefits funded by the State	320	13				333	368
Transfers of contributions from other Systems		1,148		96		1,244	1,534
Total additions	3,919,389	660,522	7,853	23,849	6,906	4,618,519	4,998,667
Deductions							
Refunds of contributions to members	118,067	21,608	17			139,692	137,766
Transfers of contributions to other Systems	1,244					1,244	1,534
Regular retirement benefits	2,938,416	387,228	6,480	17,947	4,534	3,354,605	3,116,772
Deferred retirement benefits							707,932
Supplemental retirement benefits	320	13				333	368
Death benefits	21,806	1,890	18	3		23,717	25,207
Accidental death benefits		1,809				1,809	1,734
Depreciation	151	19		1		171	216
Administrative expenses	15,385	2,577	20	91	16	18,089	16,962
Total deductions	3,095,389	415,144	6,535	18,042	4,550	3,539,660	4,008,491
Net increase in Net Position	824,000	245,378	1,318	5,807	2,356	1,078,859	990,176
Net Position Restricted for Pensions							
Beginning of year	26,414,916	4,570,431	33,394	160,036	28,327	31,207,104	30,216,928
End of year	$ 27,238,916	$ 4,815,809	$ 34,712	$ 165,843	$ 30,683	$ 32,285,963	$ 31,207,104

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

South Carolina Retirement Systems

Notes to Financial Statements

I. Basis of Presentation and Summary of Significant Accounting Policies

Description of the Entity

The South Carolina Public Employee Benefit Authority (PEBA) was created by the S.C. General Assembly effective July 1, 2012. PEBA is a state agency responsible for the administration and management of the state's employee insurance programs and retirement systems.

The governing board of the authority is a board of directors consisting of 11 members. The membership composition is as follows:

- three non-representative members appointed by the Governor;
- two members appointed by the President Pro Tempore of the Senate, one a non-representative member and one a representative member who is either an active or retired member of the South Carolina Police Officers Retirement System (PORS);
- two members appointed by the Chairman of the Senate Finance Committee, one a non-representative member and one a representative member who is a retired member of the South Carolina Retirement System (SCRS);
- two members appointed by the Speaker of the House of Representatives, one a non-representative member and one a representative member who must be a state employee who is an active contributing member of SCRS;
- two members appointed by the Chairman of the House Ways and Means Committee, one a non-representative member and one a representative member who is an active contributing member of SCRS employed by a public school district.

Non-representative members of the PEBA board may not belong to the classes of employees and retirees from which representative members must be appointed. Individuals appointed to the PEBA board must possesses certain qualifications.

Members of the PEBA board serve for terms of four years, on a staggered schedule and until their successors are appointed and qualify. Vacancies on the PEBA Board must be filled within 60 days in the manner of the original appointment for the unexpired portion of the term.

The financial statements of the South Carolina Retirement Systems (Systems) presented herein contain the following funds:

Pension Trust Funds

- South Carolina Retirement System (SCRS)
- South Carolina Police Officers Retirement System (PORS)
- Retirement System for Members of the General Assembly of the State of South Carolina (GARS)
- Retirement System for Judges and Solicitors of the State of South Carolina (JSRS)
- South Carolina National Guard Supplemental Retirement Plan (SCNG)

Each pension trust fund operates on an autonomous basis; funds may not be utilized for any purpose other than for the benefit of each plan's participants.

The Systems are part of the state of South Carolina's primary government and are included in the *Comprehensive Annual Financial Report of the State of South Carolina*. In making this determination, factors of financial accountability, governance and fiduciary responsibility of the state were considered.

Plan Descriptions

The South Carolina Retirement System (SCRS), a cost–sharing multiple-employer defined benefit pension plan, was established effective July 1, 1945, pursuant to the provisions of Section 9-1-20 of the South Carolina Code of Laws for the purpose of providing retirement allowances and other benefits for public school districts and employees of the state and political subdivisions thereof.

The South Carolina Police Officers Retirement System (PORS), a cost–sharing multiple-employer defined benefit pension plan, was established effective July 1, 1962, pursuant to the provisions of Section 9-11-20 of the South Carolina Code of Laws for the purpose of providing retirement allowances and other benefits for police officers and firemen of the state and its political subdivisions.

The Retirement System for Members of the General Assembly of the State of South Carolina (GARS), a single-employer defined benefit pension plan, was created effective January 1, 1966, pursuant to the provisions of Section 9-9-20 of the South Carolina Code of Laws to provide retirement allowances and other benefits for members of the General Assembly. Retirement reform legislation closed the plan to individuals newly elected to the Senate or House of Representatives on or after the general election of 2012.

The Retirement System for Judges and Solicitors of the State of South Carolina (JSRS), a single-employer defined benefit pension plan, was created effective July 1, 1979, pursuant to the provisions of Section 9-8-20 of the South Carolina Code of Laws for the purpose of providing retirement allowances and other benefits for judges, solicitors, circuit public defenders of the state and administrative law court judges.

The South Carolina National Guard Supplemental Retirement Plan (SCNG), a single-employer defined benefit pension plan, was created effective July 1, 1975, and is governed by the provisions of Section 9-10-30 of the South Carolina Code of Laws for the purpose of providing supplemental retirement benefits to certain members who served in the South Carolina National Guard.

A summary of information related to participating employers and members follows (dollars amounts expressed in thousands). This information was reported in the most recent actuarial valuation reports dated July 1, 2018.

	State	School	Other	Total
SCRS				
Number of Employers[1]	27	118	576	721
Annual Covered Payroll for Active Members	$2,524,592	$3,592,284	$2,383,143	$8,500,019
Average Number of:				
Active Contributing Members	52,870	87,343	55,971	196,184
Retirees and beneficiaries currently receiving benefits				142,278
Terminated members entitled to but not yet receiving benefits[2]				182,933
Total SCRS Membership				521,395
PORS				
Number of Employers[1]	18	3	285	306
Annual Covered Payroll for Active Members	$406,984		$843,904	$1,250,888
Average Number of:				
Active Contributing Members	9,301		17,792	27,093
Retirees and beneficiaries currently receiving benefits				18,491
Terminated members entitled to but not yet receiving benefits[2]				17,277
Total PORS Membership				62,861
GARS				
Number of Employers	1			1
Annual Covered Payroll for Active Members	$1,866			$1,866
Average Number of:				
Active Members	83			83
Retirees and beneficiaries currently receiving benefits	343			343
Terminated members entitled to but not yet receiving benefits	37			37
Total GARS Membership	463			463
JSRS				
Number of Employers	1			1
Annual Covered Payroll for Active Members	$22,347			$22,347
Average Number of:				
Active Members (160 positions)	160			160
Retirees and beneficiaries currently receiving benefits	213			213
Terminated members entitled to but not yet receiving benefits	4			4
Total JSRS Membership	377			377
SCNG				
Number of Employers	1			1
Annual Covered Payroll for Active Members[3]	N/A			N/A
Average Number of:				
Active Members	11,853			11,853
Retirees and beneficiaries currently receiving benefits	4,821			4,821
Terminated members entitled to but not yet receiving benefits	1,895			1,895
Total SCNG Membership	18,569			18,569

[1] Although there are 92 SCRS, 26 PORS, 2 GARS and 4 JSRS state agencies and Quasi-State Agencies that report separately, the State is considered the primary government and therefore, all state agencies and Quasi-State Agencies are included as a single employer. Institutions of Higher Education are counted as separate employers and included within the "State" category.

[2] Employee Class not determinable from data.

[3] Annual covered payroll is not applicable for SCNG because it is a non-contributory plan.

Membership

Membership requirements are prescribed in Title 9 of the South Carolina Code of Laws. A brief summary of the requirements under each system is presented below.

SCRS

Generally, all employees of covered employers are required to participate in and contribute to the system as a condition of employment. This plan covers general employees and teachers and individuals newly elected to the South Carolina General Assembly beginning with the November 2012 general election. A member of the system with an effective date of membership prior to July 1, 2012, is a Class Two member. A member of the system with an effective date of membership on or after July 1, 2012, is a Class Three member.

State ORP

As an alternative to membership in SCRS, newly hired state, public school and higher education employees and individuals newly elected to the S.C. General Assembly beginning with the November 2012 general election have the option to participate in the State Optional Retirement Program (State ORP), which is a defined contribution plan. State ORP participants direct the investment of their funds into an account administered by one of four third party administrators. The Retirement Systems assumes no liability for State ORP benefits. Rather, the benefits are the liability of the four third party administrators. For this reason, State ORP assets are not considered part of the Systems for financial statement purposes.

Contributions to the State ORP are at the same rates as SCRS. A direct remittance is required from the employers to the investment providers for the employee contribution (9 percent) and a portion of the employer contribution (5 percent). A direct remittance is also required to SCRS for a portion of the employer contribution (9.41 percent) and a death benefit contribution (0.15 percent), which is retained by SCRS. The activity for the State ORP is as follows:

State ORP Activity

Year Ended June 30, 2019

(Dollar amounts expressed in thousands)

Active Contributing Participants	32,132
Annual Covered Payroll	$1,604,026
Employer Contributions Retained by SCRS	$150,939
Death Benefit Contributions Retained by SCRS	$2,406
Employee Contributions to Investment Providers	$144,362
Employer Contributions to Investment Providers	$80,201

PORS

To be eligible for PORS membership, an employee must be required by the terms of his employment, by election or appointment, to preserve public order, protect life and property and detect crimes in the state; to prevent and control property destruction by fire; be a coroner in a full-time permanent position; or be a peace officer employed by the Department of Corrections, the Department of Juvenile Justice or the Department of Mental Health. Probate judges and coroners may elect membership in PORS. Magistrates are required to participate in PORS for service as a magistrate. PORS members, other than magistrates and probate judges, must also earn at least $2,000 per year and devote at least 1,600 hours per year to this work, unless exempted by statute. A member of the system with an effective date of membership prior to July 1, 2012, is a Class Two member. A member of the system with an effective date of membership on or after July 1, 2012, is a Class Three member.

GARS

Members of the Senate and the House of Representatives who were first elected to office prior to November 2012 are required to participate in and contribute to the system upon taking office as a member of the S.C. General Assembly; however, the GARS plan is closed to individuals newly elected to the Senate or the House of Representatives on or after the general election of 2012.

JSRS
All solicitors, circuit public defenders, judges of a Circuit, Family or Administrative Law Court and justices of the Court of Appeals and Supreme Court are required to participate in and contribute to the system upon taking office.

SCNG
Membership consists of individuals who serve in the South Carolina National Guard.

Pension Benefits

Benefit terms are prescribed in Title 9 of the South Carolina Code of Laws. PEBA does not have the authority to establish or amend benefit terms without a change in the code of laws. Key elements of the benefit calculation include the benefit multiplier, years of service and average final compensation/current annual salary. A brief summary of benefit terms for each system is presented below.

SCRS
A Class II member who has separated from service with at least five years of earned service is eligible for a monthly pension at age 65 or with 28 years credited service regardless of age. A member may elect early retirement with reduced pension benefits payable at age 55 with 25 years of service credit. A Class III member who has separated from service with at least eight years of earned service is eligible for a monthly pension subject to the Rule of 90 requirement that the total of the member's age and the member's creditable service equals at least 90 years. Both Class II and Class III members are eligible to receive a reduced deferred annuity at age 60 if they satisfy the five- or eight-year earned service requirement, respectively. An incidental death benefit is also available to beneficiaries of active and retired members of employers who participate in the death benefit program.

The annual retirement allowance of eligible retirees or their surviving annuitants is increased by the lesser of one percent or five hundred dollars every July 1. Only those annuitants in receipt of a benefit on July 1 of the preceding year are eligible to receive the increase. Members who retire under the early retirement provisions at age 55 with 25 years of service are not eligible for the benefit adjustment until the second July 1 after reaching age 60 or the second July 1 after the date they would have had 28 years of service credit had they not retired.

PORS
A Class II member who has separated from service with at least five years of earned service is eligible for a monthly pension at age 55 or with 25 years of service regardless of age. A Class III member who has separated from service with at least eight years of earned service is eligible for a monthly pension at age 55 or with 27 years of service regardless of age. Both Class II and Class III members are eligible to receive a deferred annuity at age 55 with five or eight years earned service, respectively. An incidental death benefit is also available to beneficiaries of active and retired members of employers who participate in the death benefit program. Accidental death benefits are also provided upon the death of an active member working for a covered employer whose death was a natural and proximate result of an injury incurred while in the performance of duty.

The retirement allowance of eligible retirees or their surviving annuitants is increased by the lesser of one percent or five hundred dollars every July 1. Only those annuitants in receipt of a benefit on July 1 of the preceding year are eligible to receive the increase.

GARS
A member is eligible for a monthly pension at age 60 or with 30 years credited service. A member who has attained age 70 or has 30 years of service is eligible to retire and draw an annuity while continuing to serve in the General Assembly. A member is eligible to receive a deferred annuity with eight years of service. An incidental death benefit is also provided to beneficiaries of deceased members. Retirees receive increases in benefits based upon increases in the current salary of their respective active positions. GARS is closed to new members and persons newly elected to the General

Assembly must elect membership in SCRS or State ORP or may elect non-membership.

JSRS

A pension benefit is payable at age 70 with 15 years' service, age 65 with 20 years' service, 25 years' service regardless of age for a judge or 24 years of service for a solicitor or a circuit public defender regardless of age. A judge is vested in the system after attaining 10 years of earned service in the position of judge, and a solicitor or a circuit public defender is vested in the system after attaining eight years of earned service. A member who has reached maximum eligibility is eligible to retire and draw an annuity while continuing to serve. An incidental death benefit is also provided to members. Retirees receive increases in benefits based upon increases in the current salary of their respective active positions.

SCNG

A monthly pension is payable at age 60 provided the member was honorably discharged from active duty with at least 20 years of total creditable military service. Of the 20 years total creditable military service, at least 15 must have been served in the South Carolina National Guard. Additionally, the final 10 years of military service must have been served in the South Carolina National Guard. No cost-of-living increases are provided to SCNG retirees.

Summary of Significant Accounting Policies

Fund Structure

The Systems' accounts are maintained in accordance with the principles of fund accounting. This is the procedure whereby resources for various purposes are classified for accounting and reporting purposes into funds that are in accordance with specified activities or objectives. Separate pension trust funds (fiduciary fund type) are used to account for the activities of the five public employee retirement systems administered by PEBA.

Comparative Totals

The basic financial statements include certain prior-year summarized comparative information in total but not at the level of detail required for a presentation in accordance with generally accepted accounting principles. Accordingly, such information should be read in conjunction with the Systems' financial statements for the year ended June 30, 2018, from which the summarized information was derived.

Basis of Accounting

All funds are accounted for using the economic resources measurement focus and the accrual basis of accounting. Revenues are recognized when earned and expenses are recognized when incurred. Benefit and refund expenses are recognized when due and payable in accordance with the terms of the plan.

Administrative Expenses

Administrative expenses are the responsibility of PEBA and all accounting and corresponding disclosures relating to administrative expenses of the pension trust funds are included in the financial statements of the Systems.

Administrative expenses for the Retirement Division of PEBA are funded by the trust funds and are allocated to each of the systems based on its respective portion of total assets in order to pay for actual expenses incurred during the year. Administrative expenses of the Systems include the Retirement Division's portion of PEBA employee salaries and associated employee benefits, costs for contractual services and operating expenses.

Cash and Cash Equivalents

The Systems classify cash on deposit in financial institutions and cash on deposit in the state's internal cash management pool as cash and cash equivalents. The Systems also classify certain short-term highly liquid securities as cash equivalents if the date of maturity is three months or less from the date of acquisition. Forward contracts, foreign currencies and cash held in the strategic partnership accounts are also classified as cash and cash equivalents.

Contributions

Employee, employer, nonemployer and state appropriated contributions are recognized in the period in which they are due, pursuant to formal commitments as well as statutory requirements. Substantially all contributions receivable are collected within 30 days of year-end.

Investments

The Retirement System Investment Commission (Commission as the governing body, RSIC as the agency), created by the General Assembly in 2005, has exclusive authority for investing and managing all assets held in trust for the South Carolina Retirement Systems. The Commission serves as co-trustee and co-fiduciary for the assets of the Retirement Systems. Funds of the Systems are invested subject to the terms, conditions, limitations, and restrictions imposed by Section 16, Article X of the South Carolina Constitution and Section 9-1-1310 (B) and Title 9 Chapter 16 of the South Carolina Code of Laws. The funds and assets of the various state retirement systems are not funds of the State, but are instead held in trust as provided in Section 9-16-20.

The RSIC is structured as a separate state agency reporting to a body of appointed and ex officio Commissioners. The Commission is an eight member board as provided in Section 9-16-315 of the South Carolina Code of Laws. The Commission employs a Chief Executive Officer (CEO) who serves as the agency head of the RSIC, reporting directly to the Commission, with functions and duties assigned by the Commission. The CEO is the central source of authority and accountability for administrative decisions. In addition, the Commission employs a Chief Investment Officer (CIO) who reports to the CEO for day to day oversight and strategic planning objectives and who serves as the central source of authority and accountability for all investment decisions delegated to him or her by the Commission and state law. The Commission also engages external investment consultants, who are accountable to the Commission, to work collaboratively with RSIC staff to fulfill the duties of investing the Systems' portfolio.

As with PEBA, administrative costs of the RSIC are paid from the Systems, and its budget is funded entirely from the trust fund. Costs include Commissioner, investment and administrative staff compensation, as well as other contractual services and other operating expenses. The allocation of those administrative costs is based upon a proration of such costs in proportion to the assets that each system bears to the total assets of all of the systems for the most recently completed fiscal year.

The Commission has adopted a Statement of Investment Objectives and Policies (SIOP) in order to establish investment and performance objectives, policies and guidelines, roles, responsibilities and delegation of authority for the investment and management of assets of the Systems. The SIOP is reviewed by the Commission at least annually to determine its continued applicability. The SIOP provides the framework pursuant to which the CIO and staff develop the Annual Investment Plan (AIP), which provides a formal plan for investing the Systems' assets to achieve the Commission's investment objectives and mission. As required by Section 9-16-320, the AIP must be submitted to the Commission no later than April 1 of each year, and the Commission must meet no later than May 1 of each year to adopt the proposed AIP for the following fiscal year. The Commission may amend the SIOP and AIP during the fiscal year as it deems appropriate.

The Commission manages Systems' assets with a long-term horizon and seeks to earn an appropriate risk-adjusted return in consideration of the specific goals, needs and circumstances of the Systems and in the exclusive interest of members of the Systems. Among the decisions the Commission can make, asset allocation has the most significant impact on the portfolio's return, risk profile and cost and is reviewed annually as part of the development of the AIP.

Based on the Commission's determination of the appropriate risk tolerance for the Portfolio and its long-term return expectations, it has authorized the following Policy Asset Allocation, including target allocations and ranges for each asset class that were adopted by the Commission for the fiscal year beginning July 1, 2018.

Asset Class	Policy Allocation	Minimum	Maximum
Global Equity	**51.0%**	**31.0%**	**59.0%**
Global Public Equity[1]	35.0%	22.0%	50.0%
Private Equity[1,2]	9.0%	5.0%	13.0%
Equity Options Strategies	7.0%	5.0%	9.0%
Real Assets	**12.0%**	**7.0%**	**17.0%**
Real Estate	**9.0%**	**5.0%**	**13.0%**
Real Estate-REITs[1]	1.0%	0.0%	13.0%
Real Estate-Private[1,2]	8.0%	0.0%	13.0%
Infrastructure	**3.0%**	**1.0%**	**5.0%**
Infrastructure - Public[1]	1.0%	0.0%	5.0%
Infrastructure - Private[1,2]	2.0%	0.0%	5.0%
Credit	**15.0%**	**10.0%**	**20.0%**
High Yield/Bank Loans[3]	4.0%	0.0%	8.0%
Private Debt[1,2]	7.0%	3.0%	11.0%
Emerging Markets Debt	4.0%	2.0%	6.0%
Rate Sensitive	**14.0%**	**4.0%**	**24.0%**
Core Fixed Income[1]	13.0%	6.0%	20.0%
Cash and Short Duration (Net)	1.0%	0.0%	7.0%
Opportunistic	**18.0%**		
GTAA	7.0%	3.0%	11.0%
Other Opportunistic Strategies	1.0%	0.0%	3.0%
Portable Alpha Hedge Funds[3,4]	10.0%	0.0%	12.0%

[1] The target weights to Private Equity, Private Debt, Private Real Estate and Private Infrastructure will be equal to their actual weights as of prior month end. Private Equity and Public Equity will combine for 44% of the entire portfolio. Private Debt and High Yield/Bank Loans will combine for 11% of the entire portfolio. Private Real Estate and Real Estate (REITs) will combine for 9% of the entire portfolio. Private Infrastructure and Public Infrastructure will combine for 3% of the entire portfolio.

[2] RSIC staff and Consultant will notify the Commission if Private Markets assets exceed 25% of total assets.

[3] RSIC staff and Consultant will notify the Commission if Hedge Fund assets exceed 20% of total assets.

[4] Portable Alpha Hedge Funds are expressed as gross exposure but, as collateral supporting the Overlay program, net to zero when calculating total Plan market value. For benchmarking purposes, there is a 10% weight assigned to it in the Policy benchmark.

At June 30, 2019, the Systems held no investments (other than those issued or explicitly guaranteed by the U.S. government) in any one organization that represent five percent or more of the plans' fiduciary net position.

For the year ended June 30, 2019, the annual money weighted rate of return on plan investments was 5.80 percent net of fees. The money weighted rate of return expresses investment performance, net of investment expenses, adjusted for the changing amounts actually invested.

As a fiduciary acting on behalf of the Systems, the Commission enters into individual agreements with various investment managers to invest plan assets. As of June 30, 2019, 153 legal agreements were in place with 93 investment managers.

The PEBA Board serves as custodian and co-trustee of the assets of the retirement trust funds. The Commission is also co-trustee of the assets of the retirement trust funds and has exclusive authority to select the custodial bank with PEBA as a third-party beneficiary of the contract, with full rights to information.

BNYM serves as custodial bank of the funds of the Retirement Systems. Assets also include investments not custodied at BNYM, such as funds held in partnerships, commingled accounts, or private market asset classes. The custodial bank provides consolidated recordkeeping services which reflect these securities not held in the custodian's vault or for which the custodian or its nominee is not the registered owner (non-custody securities).

For financial statement purposes, investments of the pension trust funds are reported at fair value in the Statement of Fiduciary Net Position. Short term securities categorized as cash or cash equivalents are reported at fair value. The Systems hold domestic and global equity securities which are traded on organized exchanges. Equity securities held by the custodian are valued by the custodian using the last reported price on a trade-date basis. The Systems hold domestic and global fixed income securities. The custodian values those fixed income assets which are held in custody based upon prices received from external pricing sources and in accordance with the custodian's pricing policy. Commingled funds, which may contain equity and/or fixed income securities are priced based upon the manager's pricing policy and a Net Asset Value (NAV) is provided to the custodian. Private market investments typically utilize a limited partnership structure and private equity funds normally invest in companies that are not publicly traded on a stock exchange. The fair values of alternative investments including private equity, private debt, hedge funds, real estate and commodities, for which daily market values are not readily ascertainable, are valued in good faith based on the most recent financial information available for the underlying companies and reported by the investment managers at the measurement date, adjusted for subsequent cash flow activities through June 30, 2019. Valuation of investments is a joint responsibility of PEBA and RSIC. Staff from both offices serve on a joint valuation committee which oversees and reviews the valuations provided by the custodian and/or the external investment managers. The estimated fair value of these investments is intended to approximate, but at times may differ, from values that would have been used had a liquid public market existed.

Investments are combined in a commingled investment pool, with each system owning a percentage of the pool and receiving proportionate investment income in accordance with their respective ownership percentage. Investment income includes realized and unrealized appreciation (depreciation) in the fair value of investments, interest income earned, dividend income earned, less investment expense, plus income from securities lending activities, less deductions for securities lending expenses.

While some investment managers submit invoices for their investment management fees, a significant number of investment managers provide account valuations on a net of fee basis. For greater transparency, the RSIC makes a good faith attempt to account for netted fee amounts that are not necessarily readily separable. Through a process that consists of the collection, aggregation, and reasonableness testing, RSIC is able to provide the Retirement Division of PEBA with a collection of investment fees and expenses that would not otherwise be disclosed. The RSIC provides the netted fee information to PEBA on an annual basis so that amounts can be reclassified and reported in the financial statements on the Investment expense line of the Statement of Changes in Fiduciary Net Position. The non-invoiced investment expenses include amounts for investment management fees, performance fees (including carried interest allocations), and other investment expenses such as organizational expenses in limited partnership structures. The total netted fee amounts reported also reflect the impact of any offsets which have the effect of reducing this total. There is no industry standard for reporting pension plan investment fees and expenses, therefore, in order to compare investment expense as reported by the Systems with investment management costs reported by other public pension plans, an understanding of the actual fees and expenses included in any comparative reports is necessary. Additionally, investment plan composition directly influences the fee structure of a plan and adjustments for differences in plan asset allocation are necessary before conclusions can be reached from such comparisons.

Capital Assets

Capital Assets are valued at historical cost or at estimated historical cost if actual historical cost data is not available. The costs of normal maintenance and repairs that do not significantly add to the value of an asset or materially extend the asset's useful life are not capitalized. An individual asset is capitalized and reported if it has an estimated useful life of at least two years and a historical cost as follows: more than $5 thousand for machinery and equipment; more than $100 thousand for buildings. All land and non-depreciable land improvements are capitalized and reported, regardless of cost. Depreciation is recorded using the straight line method over the useful life of 40 years for the building and a useful life of 2 to 25 years for equipment. Land is not depreciated.

II. Contributions and Reserves

Contributions to each of the Plans are prescribed in Title 9 of the South Carolina Code of Laws. The board may increase the percentage rate in SCRS and PORS employer contributions on the basis of the actuarial valuations. If the scheduled employee and employer contributions provided in statute or the rates last adopted by the board are insufficient to maintain a 28-year amortization schedule of the unfunded liabilities of the plans, the board shall increase the contribution rates for the employer as necessary to maintain the amortization period.

If the most recent annual actuarial valuation of the Systems for funding purposes shows a ratio of the actuarial value of system assets to the actuarial accrued liability of the system (the funded ratio) that is equal to or greater than 85 percent, then the board, effective on the following July first, may decrease the then current contribution rates upon making a finding that the decrease will not result in a funded ratio of less than 85 percent. If contribution rates are decreased pursuant to this provision, and the most recent annual actuarial valuation of the system shows a funded ratio of less than 85 percent, then effective on the following July first, and annually thereafter as necessary, the board shall increase the then current contribution rates until a subsequent annual actuarial valuation of the system shows a funded ratio that is equal to or greater than 85 percent.

The Retirement System Funding and Administration Act established a ceiling on employee contribution rates at 9 percent and 9.75 percent for SCRS and PORS respectively. The employer contribution rates will continue to increase annually by 1 percent through July 1, 2022. The legislation's ultimate scheduled employer rate is 18.56 percent for SCRS and 21.24 percent for PORS. The amortization period is scheduled to be reduced one year for each of the next 8 years to a 20-year amortization schedule.

Following are the employee and employer contribution rates applicable for fiscal year 2019 (amounts expressed in thousands):

System	Employee Rate	Employer Rate
SCRS	9%	14.56%[1]
PORS	9.75%	17.24%[2]
GARS	11%	$5,804[3]
JSRS	10%	52.49%[3]
SCNG	Non-contributory	$5,290

[1] Includes incidental death benefit contribution rate of 0.15%
[2] Includes incidental death benefit and accidental death benefit contribution rate of 0.20% each
[3] Includes incidental death benefit contributions as determined by the Systems' actuary

In an effort to help offset a portion of the increased contribution requirements for employers, the General Assembly again provided nonemployer contributions to PEBA. Based on the criteria provided in the South Carolina 2018-2019 Appropriations Act, Section 117.139, PEBA issued credit invoices to certain SCRS and PORS employers for fiscal year 2019 who then applied the credit invoices towards contributions otherwise due to the Systems. The amount of credit invoices issued in fiscal year 2019 totaled $88.7 million and $12.5 million for SCRS and PORS respectively.

Employer contributions for GARS and SCNG are determined by the Systems' actuary on an annual basis. SCNG employer contributions are provided annually by state appropriations.

In accordance with South Carolina State Statute, for fiscal year 2019, an additional employer contribution surcharge of 6.05 percent of covered payroll was added to the contribution rate applicable to state and local governments, and public school entities covered by the state's retiree health and dental insurance benefits. This assessment is for the purpose of providing retiree health and dental insurance benefits and is not a part of the actuarially established contribution rates for retirement funding purposes. Functioning as a collecting agent, SCRS and PORS collected and remitted these funds to the South Carolina Retiree Health Insurance Trust Fund. (amounts expressed in thousands):

	Retiree Insurance Surcharge
SCRS	$405,974
State ORP	96,395
PORS	26,944
Total	$529,313

The Fiduciary Net Position of each plan is required to be reserved in the following accounts:

The **Employer Fund** is credited with all employer and nonemployer retirement contributions and investment earnings of the Employee and Employer Funds. Upon retirement, all member account balances and contributions are transferred to the Employer Fund as all annuities and administrative expenses of the Systems are paid from this fund. Annual state appropriations to the SCNG are also credited to the Employer Fund to provide funding for the payment of annuities and administrative expenses.

The **Employee Fund** is credited with all contributions made by active members of the Systems. Interest is credited to each active member's individual account at an annual rate of 4 percent by transferring funds from the Employer Fund to the Employee Fund. At termination of employment prior to retirement, employee contributions and accumulated interest may be refunded from this fund to the member. At retirement, employee contributions and interest are transferred from the Employee Fund to the Employer Fund for subsequent payment of benefits.

The **Death Benefit Fund**, an incidental death program within SCRS and PORS, is the fund to which participating employers contribute for the purpose of providing a death benefit to active and retired members of the Systems. Employer contributions and investment earnings are credited to this fund. Death benefit payments and administrative expenses are paid from this fund. The assets in the Death Benefits Fund are not held separately in a dedicated trust for the sole purpose of paying death benefits to beneficiaries of deceased members. These benefits are considered allowable within the defined benefit plans and are held within the pension trust funds.

The **Accidental Death Fund** (PORS only) is the fund to which participating employers contribute for the purpose of providing annuity benefits to beneficiaries of members of PORS killed in the actual performance of their duties. This fund and its benefits are independent of any other retirement benefit available to the beneficiary. Employer contributions and investment earnings are credited to this fund. Monthly survivor annuities and administrative expenses are paid from this fund.

The **Qualified Excess Benefit Arrangement (QEBA) Fund** is the fund from which annuity benefits are paid when a benefit recipient exceeds IRC Section 415(b) limits on the amount an individual may receive annually from a qualified defined benefit pension plan. Employer contributions are credited to this fund on an as-needed basis in an amount equivalent to the amount of funds necessary to pay benefits out of the QEBA fund due to IRC Section 415(b) limitations. Accordingly, the QEBA fund currently has no reserve balance.

Balances in the respective reserves at June 30, 2019, were as follows (amounts expressed in thousands):

	SCRS	PORS	GARS	JSRS	SCNG	Total
Employee Fund	$ 9,106,401	$ 1,179,539	$ 6,661	$ 30,289	$ -	$ 10,322,890
Employer Fund	18,003,688	3,519,048	28,051	135,554	30,683	21,717,024
Death Benefit Fund	128,827	49,837				178,664
Accidental Death Fund		67,385				67,385
QEBA Fund						-
Totals	$ 27,238,916	$ 4,815,809	$ 34,712	$ 165,843	$ 30,683	$ 32,285,963

III. Deposits and Investments

Deposit and Investment Risk Disclosures

The tables presented on Pages 37-40 include disclosures of credit and interest rate risk in accordance with Governmental Accounting Standards Board Statement 40 and are designed to inform financial statement users about investment risks which could affect the Systems' ability to meet its obligations. These tables classify investments by risk type, while the financial statements disclose investments by asset class. The table amounts were provided by the custodian bank and agree to the Statement of Fiduciary Net Position.

Custodial Credit Risk

Deposits

The Systems' deposits at June 30, 2019, were as follows (amounts expressed in thousands):

	Carrying Amount
SCRS	$61,425
PORS	10,742
GARS	141
JSRS	237
SCNG	126
Total	$72,671

Custodial credit risk for deposits is the risk that in the event of a bank failure, the Systems' deposits may not be recovered. Deposits are insured by the Federal Deposit Insurance Corporation (FDIC) up to $250,000; however, amounts in excess of $250,000 are uninsured and uncollateralized. The Commission has a formal Counterparty Policy which covers policies and procedures related to oversight and management of Counterparty Risk, including the custodial bank. To monitor custodial credit risk, the credit quality of financial institutions at which deposits are held are periodically reviewed using internal analysis and rating agencies' reports.

As of June 30, 2019, actual bank balances totaled $63,380 thousand. Amounts in excess of $250,000 were uninsured and uncollateralized.

As of June 30, 2019, cash held by the custodian, in broker and strategic partnerships accounts as well as forward contracts and foreign currencies totaled $197.1 million. These balances are classified as cash and cash equivalents on the Statement of Fiduciary Net Position.

Investments

Custodial credit risk for investments is the risk that, in the event of a failure of the counterparty, the Systems will not be able to recover the value of the investments or collateral securities that are in the possession of an outside party. Investing for the Systems is governed by Section 16, Article X of the South Carolina Constitution and Section 9-1-1310(B) and Title 9 Section 16 of the South Carolina Code of Laws. Funds held in trust for the Retirement Systems may be invested and reinvested in a variety of instruments including, but not limited to, fixed income instruments of the United States, foreign fixed income obligations, swaps, forward contracts, futures and options, domestic and international equity securities, private equity, real estate, and fund of funds.

The following table presents the fair value of investments:

Statement of Invested Assets

June 30, 2019

(Amounts expressed in thousands)

Investment Type	Fair Value
Short Term Investments	
Short Term Investment Funds (U.S. Regulated)	$ 1,318,934
Certificates of Deposit	5,403
Commercial Paper	940,969
U. S. Government Agency	35,005
U. S. Treasury Bills	312,704
Non U. S. Government Short Term	19,824
Corporate Bonds	5,078
Strategic Partnership Short Duration	13,298
Options - Cash	(20)
Total Short Term Investments	$ 2,651,195
Equity Allocation	
Global Public Equity[2]	
Common Stocks	10,050,777
Real Estate Investment Trusts	705,442
Preferred	7,160
Options - Equity	839,383
Futures - Equity	23,225
Swaps - Equity	15,632
Total Global Public Equity	$ 11,641,619
Opportunistic	
Global Tactical Asset Allocation	2,404,366
Other Opportunistic	320,905
Total Global Tactical Asset Allocation	$ 2,725,271
Alternatives	
Hedge Funds	3,197,690
Private Equity Limited Partnerships	2,323,786
Private Debt	2,036,401
Private Real Estate	2,456,239
Private Infrastructure	144,140
Total Alternative Investments	$ 10,158,256

Investment Type	Fair Value
Fixed Income Allocation	
U.S. Government	
U.S. Government Treasuries[1]	$ 338,406
U.S. Government Agencies	645,479
Mortgage Backed	
Government National Mortgage Association	31,266
Federal National Mortgage Association	19,986
Federal Home Loan Mortgage Association (Multiclass)	4,069
Collateralized Mortgage Obligations	1,914
Municipals	44,516
Corporate	
Corporate Bonds	1,741,863
High Yield/Bank Loans	12,467
Asset Backed Securities	264,993
Private Placements	667,831
Yankee Bonds	636
Emerging Debt	838,500
Options - Fixed Income	2
Futures - Fixed Income	2,709
Swaps - Fixed Income	4,841
Total Fixed Income	$ 4,619,478

Total Invested Assets	**$ 31,795,819**
Invested Securities Lending Collateral	$ 41,327

Reconciliation of Statement of Invested Assets (listed above) to the *Statement of Fiduciary Net Position*

Total Invested Assets	$ 31,795,819
Short Term Investments classified as Cash & Cash Equivalents on *Statement of Fiduciary Net Position*	
Short Term Investment Funds (U.S. Regulated)	(1,318,934)
Commercial Paper	(874,384)
U.S. Treasury Bills	(40,513)
Non U. S. Government Short Term	(12,558)
Corporate Bonds	(1,978)
Options - Cash	20
Total Investments on *Statement of Fiduciary Net Position*	$ 29,547,472

[1] U.S. Government Treasuries includes Notes, Bonds, and Treasury Inflation Protected Securities (TIPS).

[2] RSIC's Public Equity benchmark as of 6/30/2019 is the weighted average of regional sub-asset class targets in the Policy Portfolio. The Benchmark is comprised of 51.4% MSCI U. S. IMI Index for U.S. Equity, 31.4% MSCI World ex-U.S. IMI Index for Developed Market Equity (non-U.S.), and 17.1% MSCI Emerging Markets IMI Index for Emerging Market Equity. As of June 30, 2019, RSIC had a NAV of $5,259,330,892 in Global Equity managers that invest to the MSCI World. The MSCI World is comprised of 62.67% MSCI U.S. and 37.33% MSCI EAFE + CAD.

Fair Value Measurements

The Systems categorize fair value measurements within the fair value hierarchy established by GASB Statement No. 72, *Fair Value Measurement and Application*. The valuation technique uses a three level hierarchy of inputs to measure the fair value of the asset and gives the highest priority to unadjusted quoted prices in active markets (level 1 measurements) and the lowest priority to unobservable inputs (level 3 measurements). These classifications are summarized as follows:

Level 1 Inputs: Quoted prices (unadjusted) for identical assets or liabilities in active markets that a reporting entity can access at the measurement date.

Level 2 Inputs: 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.

Level 3 Inputs: Unobservable inputs for an asset or liability.

In the event that inputs used to measure the fair value of an asset or liability fall into different levels in the fair value hierarchy, the overall level of the fair value hierarchy in its entirety is determined based on the lowest level input that is significant to the entire valuation. These levels are not necessarily an indication of risk but are based upon the pricing transparency of the investment. In determining the appropriate levels, the Systems performed a detailed analysis of the assets and liabilities that are subject to GASB Statement No. 72.

Fair value of certain investments that do not have a readily determinable fair value is established using net asset value (or its equivalent) as a practical expedient. These investments are not categorized according to the fair value hierarchy.

Investments classified according to the fair value hierarchy are valued according to the pricing policy established by the Plan's custodian bank. Pricing is based primarily on prices from several third-party vendors or other specified alternative sources which are considered to be reliable. Where available, the custodian bank uses more than one vendor for securities of each asset type, class or issue. The price received from a primary source is used in valuation unless a tolerance check, or price challenge, results in the use of a price from a secondary vendor. The Systems may override prices provided by the custodian bank if it is deemed necessary or appropriate.

The Systems have the following recurring fair value measurements as of June 30, 2019 (amounts in thousands):

Investments by Fair Value Level	At 6/30/2019	Fair Value Measurements Using: Quoted Prices in Active Markets for Identical Assets (Level 1)	Significant Other Observable Inputs (Level 2)	Significant Unobservable Inputs (Level 3)
Short Term Investments				
Short Term Investment Funds (U. S. Regulated)	$ 1,318,934	$ 1,318,934	$ -	$ -
Certificates of Deposit	5,403		5,403	
Commercial Paper	940,969		940,969	
U. S. Government Agency	35,005		35,005	
U. S. Treasury Bills	312,704	312,704		
Non U. S. Government Short Term Investments	19,824		19,824	
Corporate Bonds	5,078		5,078	
Total Short Term Investments	$ 2,637,917	$ 1,631,638	$ 1,006,279	$ -
Equity Allocation				
Global Public Equity				
Common Stocks	$ 5,221,350	$ 5,221,350	$ -	$ -
Real Estate Investment Trusts	705,442	705,442		
Preferred	7,160	2,780	4,380	
Total Global Public Equity	$ 5,933,952	$ 5,929,572	$ 4,380	$ -
Fixed Income Allocation				
U. S. Government				
U.S. Government Treasuries	$ 338,406	$ 338,406	$ -	$ -
U.S. Government Agencies	645,479		645,479	
Mortgage Backed				
Government National Mortgage Association	31,266		31,266	
Federal National Mortgage Association	19,986		19,986	
Federal Home Loan Mortgage Association (Multiclass)	4,069		4,069	
Collateralized Mortgage Obligations	1,914		1,914	
Municipals	44,516		44,516	
Corporate				
Corporate Bonds	1,741,863		1,491,262	250,601
Asset Backed Securities	264,993		264,993	
Private Placements	667,831		667,831	
Yankee Bonds	636		636	
Total Fixed Income	$ 3,760,959	$ 338,406	$ 3,171,952	$ 250,601
Total Investments by Fair Value Level	$ 12,332,828	$ 7,899,616	$ 4,182,611	$ 250,601
Investments measured at the net asset value (NAV)				
Strategic Partnership Short Duration	$ 13,298			
Global Equity	5,686,544			
Global Tactical Asset Allocation	2,404,366			
Other Opportunistic	320,905			
High Yield/Bank Loans	12,467			
Emerging Debt	838,500			
Hedge Funds	3,197,690			
Private Equity	2,323,786			
Private Debt	2,036,401			
Private Real Estate	2,456,239			
Private Infrastructure	144,140			
Total investments measured at the NAV	$ 19,434,336			
Total investments measured at fair value	$ 31,767,164			
Investment derivative instruments				
Short Term Investments				
Options - Cash	$ (20)	$ -	$ (20)	$ -
Equity Investments				
Options - Equity	(17,734)	781	(18,515)	
Futures - Equity	23,225	23,225		
Swaps - Equity	15,632		15,632	
Fixed Income Investments				
Options - Fixed Income	2		2	
Futures - Fixed Income	2,709	2,709		
Swaps - Fixed Income	4,841		4,841	
Total investment derivative instruments	$ 28,655	$ 26,715	$ 1,940	$ -
Total Invested Assets	$ 31,795,819			

The investments that are measured at the Net Asset Value (NAV) are noted below (amounts in thousands).

	Fair Value at 6/30/19	Unfunded Commitments[1]	Redemption Frequency (if Currently Eligible)	Redemption Notice Period
Strategic Partnership Short Duration	$ 13,298	$ -	Monthly	5 - 10 days
Global Equity	5,686,544		Daily/Monthly	5 - 30 days
Global Tactical Asset Allocation	2,404,366		Monthly	5 - 14 days
Other Opportunistic	320,905	35,979	Monthly	5 - 30 days
High Yield/Bank Loans	12,467		Monthly	5 - 30 days
Emerging Debt	838,500		Daily/Monthly	10 - 15 days
Hedge Funds	3,197,690		Monthly/Quarterly	2 - 90 days
Private Equity	2,323,786	2,083,579	Illiquid	Illiquid
Private Debt	2,036,401	1,936,090	Illiquid	Illiquid
Private Real Estate	2,456,239	975,512	Illiquid	Illiquid
Private Infrastructure	144,140	274,308	Illiquid	Illiquid
Total investments measured at the NAV	$ 19,434,336	$ 5,305,468		

[1] For purposes of this table, amounts are reported in US Dollars. The Private Equity Category includes €105,115,228 and AUD $65,695,707 that have been converted to USD. The Infrastructure category includes €52,968,532 that has been converted to USD.

Strategic Partnership Short Duration Funds. This investment type contains one fund that invests primarily in short duration debt instruments which generally have a one to three-year maturity. The fair values of the investments have been determined using the percent ownership of the NAV of the fund and reported by the Investment Manager. Redemptions are generally allowed monthly, provided adequate notice.

Global Equity Funds. This investment type includes 14 funds that invest primarily in global developed and emerging equity public markets instruments with one of the funds invested in an equity options strategy. One of the funds is held in a strategic partnership. The fair values of the investments in this asset type have been determined using NAV per share of the investments or percent ownership of the NAV of the fund and reported by the Investment Managers. Redemptions are generally allowed monthly, provided adequate notice.

Global Tactical Asset Allocation Funds. This investment type includes three funds that may be invested in liquid securities and instruments, including but not limited to equities, fixed income securities, bank loans, commodities, futures, swaps, forwards, options and currencies. The fair values of the investments in this asset type have been determined using NAV per share of the investments or percent ownership of the NAV of the fund and reported by the Investment Managers. Redemptions are allowed monthly, provided adequate notice.

Other Opportunistic Funds. This investment type includes four funds all of which are strategic partnership investments. The objective of this asset class is to identify investments that, while they may not fit into other asset classes, still offer compelling opportunities for the Portfolio. These investments may offer either high returns, diversifying returns, or both. Examples of potential investments include, but are not limited to, commodities, CTAs, TIPS, and insurance strategies. This allocation also includes risk parity investments. The fair values of three investments in this asset type are valued in good faith based upon the most recent financial information available for the underlying companies. These are reported by the Investment Managers at the measurement date, adjusted for subsequent cash flow activities through the year-end reporting date. The fair value of one investment in this asset type has been determined using NAV per share of the investments or percent ownership of the NAV of the fund and reported by the Investment Manager. Redemptions are generally allowed monthly, provided adequate notice.

High Yield/Bank Loan Funds. This investment type includes one fund that generally invests in high yield, bank loan and structured credit instruments. The fair values of the investments in this asset type have been determined using NAV per share of the investments or percent ownership of the NAV of the fund and reported by the Investment Manager. Redemptions are generally allowed monthly, provided adequate notice.

Emerging Debt Funds. This investment type includes three funds that generally invest in debt securities issued in any currency and may hold foreign currency. The fair values of the investments in this asset type have been determined using NAV per share of the investments or percent ownership of the NAV of the fund and reported by the Investment Managers. Redemptions are generally allowed monthly, provided adequate notice, and one fund charges a redemption fee.

Hedge Funds. This investment type includes 22 funds that generally invest in hedge fund strategies that seek alpha in equity or credit markets or seek to minimize embedded market beta. There are 15 of these funds invested through strategic partnership investments which may consist of underlying investments in more than one hedge fund. The fair values of the investments in this asset type have been determined using NAV per share of the investments or percent ownership of the NAV of the fund and reported by the Investment Managers. Redemptions are generally allowed monthly, provided adequate notice; however, it is common that funds have authority to require longer redemption timeframes and/or make the redemption subject to gates to mitigate any detrimental impact to the fund.

Private Equity Funds. This investment type includes 55 funds that consist of investments in limited partnerships or co-investments and five funds within strategic partnership investments. Strategic partnerships may consist of underlying investments in more than one limited partnership or co-investment fund. The private equity investments span the venture capital, growth equity, fund of funds, secondaries, energy and buyout strategies. Private equity is considered an illiquid investment strategy as funds generally have a life span of seven to 10 years. The nature of investments in this asset type is that distributions are received through the liquidation of the underlying assets of the fund. The fair values of the investments in this asset type are valued in good faith based upon the most recent financial information available for the underlying companies. These are reported by the Investment Managers at the measurement date, adjusted for subsequent cash flow activities through the year-end reporting date. The estimated fair value of these investments may differ from values that would have been used had a ready market existed.

Private Debt Funds. This investment type includes 26 funds that consist of investments in limited partnerships and 4 funds that are strategic partnership investments. Strategic partnerships may consist of underlying investments in more than one limited partnership or co-investment fund. The private debt investments span the direct lending, distressed, energy, mezzanine, mortgages, opportunistic and other strategies. Private Debt is considered an illiquid investment strategy as funds generally have a life span of seven to 10 years. The nature of investments in this asset type is that distributions are received through investment generated income and the liquidation of the underlying assets of the fund. The fair values of the investments in this asset type are valued in good faith based upon the most recent financial information available for the underlying companies. These are reported by the Investment Managers at the measurement date, adjusted for subsequent cash flow activities through the year-end reporting date. The estimated fair value of these investments may differ from values that would have been used had a ready market existed.

Private Real Estate Funds. This investment type includes 28 funds that consist of investments in limited partnerships or co-investments and four funds that are strategic partnership investments. Strategic partnerships may consist of underlying investments in more than one limited partnership or co-investment fund. The real estate investments span the core, diversified, real estate debt, timber, value add and opportunistic strategies.

Real Estate is considered an illiquid investment strategy as funds generally have a life span of seven to 10 years. The nature of investments in this asset type is that distributions are received through investment generated income and the liquidation of the underlying assets of the fund. The fair values of the investments in this asset type are valued in good faith based upon the most recent financial information available for the underlying companies. These are reported by the Investment Managers at the measurement date, adjusted for subsequent cash flow activities through the year-end reporting date. The estimated fair value of these investments may differ from values that would have been used had a ready market existed.

Private Infrastructure Funds. This investment type includes three funds that consist of investments in limited partnerships. Common types of infrastructure investments are in transportation, energy, telecommunications, water supply, sewage, or hospitals. These assets tend to benefit from a rising inflation environment. Infrastructure is considered an illiquid investment strategy as funds generally have a life span of 20 years. The nature of investments in this asset type is that distributions are received through investment generated income and the liquidation of the underlying assets of the fund. The fair values of the investments in this asset type are valued in good faith based upon the most recent financial information available for the underlying companies. These are reported by the Investment Managers at the measurement date, adjusted for subsequent cash flow activities through the year-end reporting date. The estimated fair value of these investments may differ from values that would have been used had a ready market existed.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of an investment. While the RSIC has no formal interest rate risk policy, interest rate risk is observed within the portfolio using effective duration (option adjusted duration), which is a measure of the price sensitivity of a bond or a portfolio of bonds to interest rate movements given a 100 basis point change in interest rates. Effective duration takes into account that expected cash flows will fluctuate as interest rates change and provides a measure of risk that changes proportionately with market rates. Investment guidelines may specify the degree of interest rate risk taken versus the benchmark within each fixed income portfolio. Disclosures for interest rate risk at June 30, 2019, are noted below (amounts expressed in thousands).

Investment Type	Fair Value Total	Fair Value Duration Not Available	Fair Value Duration Available	Effective Duration (option adjusted duration)
Short Term Investments				
Short Term Investment Funds (U.S. Regulated)	$ 1,318,934	$ -	$ 1,318,934	0.08
Invested Securities Lending Collateral	41,327	41,327		
Certificates of Deposit	5,403		5,403	0.31
Commercial Paper	940,969		940,969	0.07
U. S. Government Agency	35,005		35,005	0.34
U. S. Treasury Bills	312,704		312,704	0.32
Non U. S. Government Short Term	19,824		19,824	0.22
Corporate Bonds	5,078		5,078	0.24
Strategic Partnership Short Duration	13,298	13,298		
Options - Cash	(20)	(20)		
Total Short Term Investments	$ 2,692,522	$ 54,605	$ 2,637,917	
Equity Allocation				
Preferred	7,160	7,160		
Total Equity Investments	$ 7,160	$ 7,160	$ -	
Fixed Income Allocation				
U. S. Government				
U.S. Government Treasuries	338,406		338,406	6.97
U. S. Government Agencies	645,479	5,124	640,355	1.05
Mortgage Backed				
Government National Mortgage Association	31,266	5,362	25,904	2.50
Federal National Mortgage Association	19,986		19,986	2.63
Federal Home Loan Mortgage Association (FHLMC Multiclass)	4,069		4,069	2.30
Collateralized Mortgage Obligations	1,914		1,914	2.50
Municipals	44,516		44,516	0.25
Corporate				
Corporate Bonds	1,741,863	23,844	1,718,019	2.06
High Yield/Bank Loans	12,467		12,467	2.00
Asset Backed Securities	264,993	22,796	242,197	1.27
Private Placements	667,831	63,773	604,058	1.36
Yankee Bonds	636		636	1.24
Emerging Debt	838,500		838,500	6.13
Options - Fixed Income	2		2	(56.95)
Futures - Fixed Income	2,709		2,709	3.86
Swaps - Fixed Income	4,841	8,729	(3,888)	4.69
Total Fixed Income	$ 4,619,478	$ 129,628	$ 4,489,850	
Mixed Credit Hedge Fund Allocation				
Mixed Credit Hedge Funds	33,629	3,429	30,200	0.01
Total Mixed Credit Hedge Funds	$ 33,629	$ 3,429	$ 30,200	
Total Invested Assets	**$ 7,352,789**	**$ 194,822**	**$ 7,157,967**	
Total Portfolio Effective Duration (option adjusted duration)				**1.86**

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations to the holders of its securities. Each individual portfolio within fixed income is managed in accordance with investment guidelines that are specific as to permissible credit quality ranges, exposure levels within individual quality tiers and average credit quality. Within high yield portfolios, a quality rating of lower than C is not permissible in any of the fixed income guidelines except in those circumstances of downgrades subsequent to purchase, in which case the investment manager is responsible for communicating the downgrade to the Commission's consultant and staff. The Systems' fixed income investments at June 30, 2019, were rated by Moody's and are presented below.

Credit Risk

(Amounts expressed in thousands)

Investment Type and Fair Value	AAA	AA	A	BAA	BA
Short Term Investments					
Short Term Investment Funds (U. S. Regulated)	$ 1,318,934	$ -	$ -	$ -	$ -
Invested Securities Lending Collateral					
Certificates of Deposit					
Commercial Paper		275,779		656,599	
Non U. S. Government Short Term					
Corporate Bonds				201	1,777
Strategic Partnership Short Duration					
Options - Cash					
Equity Investments					
Preferred					
Fixed Income Allocation[2]					
Mortgage Backed:					
Federal National Mortgage Association	19,986				
Federal Home Loan Mortgage Association (Multiclass)	4,069				
Collateralized Mortgage Association	1,914				
Municipals		4,800	7,165		
Corporate:					
Corporate Bonds	45,325	214,454	454,028	290,827	190,500
High Yield/Bank Loans					
Asset Backed Securities	95,118	1,704	5,901	27,935	60,845
Private Placements	35,289	79,559	185,859	57,942	57,117
Yankee Bonds				636	
Emerging Debt					
Options - Fixed Income					
Futures - Fixed Income					
Swaps - Fixed Income					
Totals	**$ 1,520,635**	**$ 576,296**	**$ 652,953**	**$ 1,034,140**	**$ 310,239**

Chart continued on next page

[1]The column labeled Not Rated by S&P or Moody's represents securities that were either not rated or had a withdrawn rating.
[2]U.S. Treasury Bills, Notes and Bonds, Agencies and Government National Mortgage Association securities with a fair value of $1.13 billion are not included because they are not subject to credit risk.

Chart continued from previous page

Credit Risk (cont.)

(Amounts expressed in thousands)

B	CAA	CA	C	Not Rated: Int'l and EMD Commingled Funds or held in Strategic Partnerships	Not Rated: Rated by S&P; not by Moody's	Not Rated: Not rated by S&P or Moody's[1]	TOTAL
$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,318,934
						41,327	41,327
						5,403	5,403
						8,591	940,969
						19,824	19,824
						3,100	5,078
				13,298			13,298
						(20)	(20)
						7,160	7,160
							19,986
							4,069
							1,914
					32,551		44,516
225,327	29,737	4,864	1,515		152,290	132,996	1,741,863
						12,467	12,467
15,544	5,862	6,857			39,574	5,653	264,993
52,864	27,291	2,609			102,404	66,897	667,831
							636
				838,500			838,500
						2	2
						2,709	2,709
						4,841	4,841
$ 293,735	**$ 62,890**	**$ 14,330**	**$ 1,515**	**$ 851,798**	**$ 326,819**	**$ 310,950**	**$ 5,956,300**

Concentration of Credit Risk – Investments

Concentration of credit risk is the risk of loss attributed to the magnitude of investment in a single issuer. The Systems' policy for reducing this risk is to comply with the Statement of Investment Objectives and Policies as amended and adopted by the Commission which states that "except that no limitations on issues and issuers shall apply to obligations of the U.S. Government and Federal Agencies, the domestic fixed income portfolio shall contain no more than 6 percent exposure to any single issuer." As of June 30, 2019, there is no single issuer exposure within the portfolio that comprises five percent or more of the overall portfolio. Therefore, there is no concentration of credit risk.

Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely impact the fair value of an investment. The Systems participates in foreign markets to diversify assets, reduce risk and enhance returns. Currency forwards are used to manage currency fluctuations and are permitted by investment policy. Policy forbids speculating in forwards and other derivatives.

The table below presents the Systems' exposure to foreign currency risk in U.S. dollars at June 30, 2019, (amounts expressed in thousands):

Currency	Cash & Cash Equivalents	Forward Contracts	Futures Contracts	Private Equity	Private Infrastructure	Preferred Securities	Fixed Income	Equity	Total
Australian Dollar	$ 1,685	$ 13,215	$ (87)	$ 22,667	$ -	$ -	$ 2,442	$ 131,742	$ 171,664
Brazil Real		(10,970)					10,849		(121)
Canadian Dollar	1,990	26,270	113				41	253,938	282,352
Danish Krone	182	(742)						49,274	48,714
Euro Currency	9,850	(61,893)	464	192,228	85,663	2,780	186,588	595,269	1,010,949
Hong Kong Dollar	950	10,078	59					99,673	110,760
Israeli Shekel	540	(1,775)					1,293	9,257	9,315
Japanese Yen	23,385	69,426	(100)				(2,367)	393,557	483,901
Mexican Peso	327	138							465
New Zealand Dollar	71	(248)						11,422	11,245
Norwegian Krone	63	798						26,044	26,905
Pound Sterling	3,419	32,293	193				11,126	302,159	349,190
Singapore Dollar	836	274						18,132	19,242
South African Rand	2								2
Swedish Krona	(76)	7,096	54					60,279	67,353
Swiss Franc	387	(2,908)						114,058	111,537
Totals	$ 43,611	$ 81,052	$ 696	$ 214,895	$ 85,663	$ 2,780	$ 209,972	$ 2,064,804	$ 2,703,473

Derivatives

Derivatives are financial instruments for which the value is derived from underlying assets or data. All of the Systems' derivatives are considered investments. Excluding futures, derivatives generally take the form of contracts in which two parties agree to make payments at a later date based on the value of specific assets or indices. Through certain collective trust funds, the Systems may invest in various derivative financial instruments such as futures and options thereon; forward foreign currency contracts, options, interest rate, currency, equity, index, credit default, total return swaps, interest-only strips, and CMOs to enhance the performance and reduce volatility.

To comply with the requirements of multiple exchanges, cash and securities in the amount of $95.9 and $244.1 million, respectively, were held in trust by the clearing brokers on June 30, 2019. The Systems' derivatives, consisting of futures, options, forward contracts and swaps are presented in the tables on Pages 41-46. Investments in limited partnerships and commingled funds may include derivatives that are not shown in the derivative totals.

The RSIC works with their overlay provider to utilize derivatives primarily to facilitate changes to the asset allocation of the total plan and take advantage of their low cost of implementation. Derivatives are utilized for several reasons:

- Asset Allocation: In many cases, synthetic exposures (using derivatives) are placeholders until managers are hired and funded. In time, the Commission may substitute traditional managers for much of the synthetic exposure currently in the portfolio. Efficient Market Theory dictates that in some asset classes, synthetics are the best way to achieve exposure.
- Risk Management: Derivatives allow investors the ability to swiftly and efficiently increase or decrease exposures in order to manage portfolio risk.
- Cost: A synthetic (derivative) solution is often the least expensive way to gain exposure to an asset class or to manage portfolio risk. Derivatives are more beneficial in each of the three major measures of cost: commission costs, market impact of trading and opportunity costs.

Futures

Futures are contractual obligations that require the buyer (seller) to buy (sell) assets at a predetermined date at a predetermined price. These contracts are standardized and trade on an organized exchange with gains and losses settled daily thereby significantly reducing credit and default risk. Gains and losses are included in the net appreciation/ (depreciation) in the fair value of investments total of the Statement of Changes in Fiduciary Net Position.

The tables below present classification information on the Systems' derivatives at June 30, 2019, (amounts expressed in thousands):

	Changes in Fair Value		
	Classification		Gain
Futures Contracts	Net appreciation	$	56,266
Forward Contracts	Net appreciation		7,569
Swaps	Net appreciation		48,916
Options	Net appreciation		42,069

	Fair Value			
	Forward Contracts	Futures	Options[1]	Swaps
Cash and Cash Equivalents	$ (492)	$ -	$ (20)	$ -
Fixed Income		2,709	2	4,841
Global Public Equity		23,225	839,383	15,632
Totals	$ (492)	$ 25,934	$ 839,365	$ 20,473

[1] *Includes options held in commingled accounts with fair value of $857,117 (in thousands).*

At June 30, 2019, the Systems had the following exposure via futures contracts (dollar amounts expressed in thousands):

Futures Contracts	Expiration	Long/Short	Quantity	Notional Value[1]	Fair Value
SPI 200 Future (SFE)	September 19	Long	84	$ 9,666	$ 111
S&P/TSX 60 Index Future (MSE)	September 19	Long	89	13,318	121
DAX Index Future (EUX)	September 19	Long	39	13,755	256
EURO STOXX 50 Future (EUX)	September 19	Long	370	14,604	443
IBEX 35 Index Future (MFM)	July 19	Long	40	4,178	27
CAC40 10 EURO Future (EOP)	July 19	Long	258	16,256	420
FTSE/MIB Index Future (MIL)	September 19	Long	32	3,855	80
AMSTERDAM Index Future (EOE)	July 19	Long	38	4,855	60
HANG SENG Index Future (HKG)	July 19	Long	31	5,655	59
TOPIX Index Future (OSE)	September 19	Long	214	30,807	(100)
FTSE 100 Index Future (ICF)	September 19	Long	244	22,884	252
OMXS30 Index Future (SSE)	July 19	Long	198	3,459	54
S&P500 EMINI Future (CME)	September 19	Long	9,758	1,436,475	23,596
E-MINI RUSS 2000 Future (CME)	September 19	Short	(1,264)	(99,041)	(2,154)
Total Equity				1,480,726	23,225
US Long Bond Future (CBT)	September 19	Short	(9)	(1,400)	(47)
US 10YR Note Future (CBT)	September 19	Long	1,280	163,800	2,984
US 5YR Note Future (CBT)	September 19	Long	625	73,847	942
US 5YR Note Future (CBT)	September 19	Short	(24)	(2,836)	(36)
AUST 10YR Bond Future (SFE)	September 19	Short	(321)	(32,359)	(194)
AUST 3YR Bond Future (SFE)	September 19	Short	(35)	(2,824)	(4)
CAN 10YR Bond Future (MSE)	September 19	Short	(5)	(547)	(8)
EURO BUXL 30Y Bond Future (EUX)	September 19	Short	(20)	(4,621)	(158)
EURO-OAT Future (EUX)	September 19	Short	(191)	(35,861)	(710)
Long GILT Future (ICF)	September 19	Short	(46)	(7,628)	(60)
Total Fixed Income				149,571	2,709
Total				$ 1,630,297	$ 25,934

[1] Notional value is the nominal or face amount that is used to calculate payments made on derivative instruments (futures, forwards, swaps and options). This amount generally does not change hands and is thus referred to as notional. The notional amount represents the economic equivalent to an investment in the physical securities represented by the derivative contract.

Forwards

Forwards are contractual obligations that require the delivery of assets at a fixed price on a predetermined date. These contracts are "over-the-counter" (OTC) instruments, meaning they are not traded on an organized exchange. Currency forwards gains and losses are included in the net appreciation/(depreciation) in the fair value of investments total of the Statement of Changes in Fiduciary Net Position.

At June 30, 2019, the Systems had the following forward exposures, listed by counterparty (amounts expressed in thousands):

Broker	Notional Value	Fair Value	Counterparty Exposure
Bank of America	$ 15,316	$ 232	1.96%
Bank of Montreal	46,165	167	5.92%
Bank of New York Mellon	194,397	(1,309)	24.91%
Barclays Bank PLC	10,612	(91)	1.36%
BNP Paribas Securities Corporation	45,963	108	5.88%
Citibank	74,541	201	9.55%
Citigroup Global Markets	9,961	(103)	1.28%
Commonwealth Bank of Australia	36,427	144	4.67%
Deutsche Bank AG	8,796	(14)	1.13%
Goldman Sachs	117,251	99	15.03%
HSBC Bank	7,154	203	0.92%
Instinet Europe Ltd	8,878	(1)	1.14%
JPMorgan Chase Bank	83,021	(225)	10.64%
Morgan Stanley & Company	2,476	(15)	0.32%
Royal Bank of Canada	46,743	139	5.99%
Standard Chartered Bank	9,011	50	1.15%
State Street Corporation	41,448	143	5.31%
UBS AG/Stamford CT	22,133	(220)	2.84%
Totals	$ 780,293	$ (492)	100%

Swaps

The Systems has entered into various swap agreements to manage plan exposure. Swaps are OTC agreements to exchange a series of cash flows according to specified terms. The underlying asset can be an interest rate, an exchange rate, a commodity price or any other index.

Total return swaps are primarily used to efficiently achieve a target asset allocation. Exposures to an asset class are typically gained by paying a reference rate such as LIBOR, plus or minus a spread, in exchange for the risk and returns of a desired market index. Similarly, exposures can be reduced by receiving a reference rate in exchange for the economic risks and returns of an index.

Counterparty risk, or default risk, is the risk that a party will not honor its contractual obligations. The Systems seeks to actively manage its counterparty risk by thorough analysis and evaluation of all potential counterparties by investment staff and the independent overlay manager. Risk is further minimized through diversification among counterparties with high credit ratings and collateralizing unrealized gains and losses. The Systems currently does not participate in a master netting agreement. Unrealized gains and losses are not netted across instrument types and are included in the net appreciation/(depreciation) in the fair value of investments total of the Statement of Changes in Fiduciary Net Position. The table below reflects the counterparty credit ratings at June 30, 2019, for currency forwards, swap agreements, and options (amounts expressed in thousands):

Quality rating	Forwards	Swaps	Options[1]	Total
Aa2	$ (932)	$ (12,873)	$ 298	$ (13,507)
Aa3	375	404		779
A1	(18)	27,961	316	28,259
A2	98	9,191		9,289
A3	(14)			(14)
Baa2	(1)			(1)
Total subject to credit risk	$ (492)	$ 24,683	$ 614	$ 24,805
Centrally cleared:				
Chicago Board Options Exchange			$ (18,366)	$ (18,366)
Chicago Mercantile Exchange		(3,087)		(3,087)
Intercontinental Exchange		(151)		(151)
LCH Ltd		(972)		(972)
Total not subject to credit risk	$ -	$ (4,210)	$ (18,366)	$ (22,576)
Totals	$ (492)	$ 20,473	$ (17,752)	$ 2,229

[1] *Options held in commingled accounts are not included in this table.*

At June 30, 2019, the Systems held swaps as shown in the tables below (amounts expressed in thousands):

Counterparty	Total Return Swaps	SCRS Pays	SCRS Receives	Maturity Date	Current Notional	Fair Value[1]	Gain/Loss Since Trade
Bank of America	S&P 600 Swap	Fixed Rate	Fixed Rate	3/31/2020	$ 101,867	$ 1,202	$ 1,210
Bank of America	Russell 2000 Growth Swap	Fixed Rate	Variable Rate	9/30/2019	(141,455)	(2,943)	10,999
Bank of America	Russell 2000 Proxy	Fixed Rate	Variable Rate	9/30/2019	(140,024)	(2,001)	12,536
BNP Paribas	MSCI World Swap Proxy	Variable Rate	Fixed Rate	7/31/2019	576,572	404	6,226
Barclays Bank	Barclays US Securitized Proxy	Variable Rate	Fixed Rate	4/30/2020	51,040	174	808
Barclays Bank	Barclays US Securitized Proxy	Fixed Rate	Fixed Rate	4/1/2020	306,133	1,672	4,057
Barclays Bank	Barclays US Securitized Proxy	Variable Rate	Fixed Rate	7/31/2019	137,825	733	5,286
Barclays Bank	Barclays US Corporate Proxy	Variable Rate	Fixed Rate	7/31/2019	109,004	2,377	7,724
Barclays Bank	Barclays US Agg Proxy	Variable Rate	Fixed Rate	9/30/2019	319,610	3,159	17,325
Barclays Bank	TIPS Proxy	Variable Rate	Fixed Rate	9/30/2019	158,556	1,077	5,594
Goldman Sachs	Russell 1000 Value Proxy	Variable Rate	Fixed Rate	8/30/2019	359,726	25,066	2,114
Goldman Sachs	Russell 2500 Growth Proxy	Variable Rate	Fixed Rate	6/30/2020	140,003	3,097	3,068
Merrill Lynch	CSI 500 Net TR Proxy	Variable Rate	Fixed Rate	6/30/2020	24,997	(398)	(320)
Merrill Lynch	Shenzhen Comp Index TR proxy	Variable Rate	Fixed Rate	1/15/2020	86,665	(8,796)	13,939
Societe Generale	TIPS Proxy	Variable Rate	Fixed Rate	6/30/2020	457,077		
					$ 2,547,596	$ 24,823	$ 90,566

Counterparty	Fixed Income Swaps	SCRS Pays	SCRS Receives	Maturity Date	Current Notional	Fair Value[1]
Bank of America	Credit Default Swaps	Variable Rate	Fixed Rate	6/20/2021	$ 2,000	$ 25
Credit Suisse	Credit Default Swaps	Variable Rate	Fixed Rate	9/17/2058	12,500	127
Goldman Sachs	Credit Default Swaps	Fixed/Variable	Fixed/Variable	various	12,630	(248)
HSBC Securities	Credit Default Swaps	Variable Rate	Fixed Rate	6/20/2021	1,200	15
JP Morgan Chase Bank	Credit Default Swaps	Variable Rate	Fixed Rate	9/17/2058	2,200	22
Morgan Stanley Capital	Credit Default Swaps	Fixed Rate	Variable Rate	12/20/2023	4,000	(81)
					$ 34,530	$ (140)
Chicago Mercantile Exchange	Cleared Interest Rate Swaps	Fixed/Variable	Fixed/Variable	various	$ 175,976	$ (3,087)
Intercontinental Exchange	Cleared Credit Default Swaps	Fixed/Variable	Fixed/Variable	various	92,670	(151)
LCH Ltd	Cleared Interest Rate Swaps	Fixed/Variable	Fixed/Variable	various	221,737	(972)
					$ 490,383	$ (4,210)

[1] Fair Value is the amount reasonably expected to be received if the underlying positions were liquidated on the following business day.

Options

Options are exchange traded agreements between two parties for a future transaction on an underlying asset at a reference or strike price. The buyer of an option has the right, but not the obligation, to transact. The seller of an option has the obligation to transact if forced by the buyer. The price of an option is derived by taking the difference in the underlying asset and the strike price plus a premium for the remaining time until expiration. At June 30, 2019, the Systems had the following option positions (dollar amounts expressed in thousands):

Option Contracts	Underlying Security	Expiration	Quantity	Fair Value[1]
Call Aug 19 020.410	MXN/USD Spot Option 2019	August 2019	(7,400,000)	$ (10)
Call Jul 19 019.640	MXN/USD Spot Option 2019	July 2019	(1,750,000)	(3)
Call Aug 19 019.800	MXN/USD Spot Option 2019	August 2019	(1,750,000)	(7)
Total Cash & Cash Equivalents				(20)
Put Dec 19 002.750	IRS P US0003M R 2.75% 12/11/24	December 2019	(9,900,000)	(2)
Put Dec 19 002.945	IRS P US0003M R 2.945% 12/11/49	December 2019	2,200,000	4
Total Fixed Income				2
Call Jun 20 6618.800	ASX S&P/ASX 200 Index (OTC)	June 2020	3,728	624
Put Jun 20 6618.800	ASX S&P/ASX 200 Index (OTC)	June 2020	(2,146)	(643)
Put Jun 20 21275.920	NIKKEI 225 (OTC)	June 2020	(182,106)	(2,752)
Call Jun 20 21275.920	NIKKEI 225 (OTC)	June 2020	259,810	2,701
Call Jun 20 7425.630	FTSE 100 Index (OTC)	June 2020	5,229	1,648
Put Jun 20 7425.630	FTSE 100 Index (OTC)	June 2020	(2,653)	(1,728)
Put Jul 19 2870.000	S & P 500 Index (SPX)	July 2019	(368)	(221)
Put Jul 19 2530.000	S & P 500 Index (SPX)	July 2019	(64)	(6)
Put Jul 19 2755.000	S & P 500 Index (SPX)	July 2019	64	37
Put Jul 19 2885.000	S & P 500 Index (SPX)	July 2019	(369)	(568)
Put Jul 19 2950.000	S & P 500 Index (SPX)	July 2019	(1,101)	(4,349)
Put Aug 19 2935.000	S & P 500 Index (SPX)	August 2019	(1,095)	(6,756)
Put Jul 19 2940.000	S & P 500 Index (SPX)	July 2019	(1,452)	(5,038)
Put Jul 19 2935.000	S & P 500 Index (SPX)	July 2019	(365)	(1,464)
Call May 21 000.355	2Y-10 CMS CAP	May 2021	630,000	146
Call May 21 000.365	2Y-10 CMS CAP	May 2021	655,000	148
Call May 21 000.455	2Y-10 CMS CAP	May 2021	783,000	142
Call May 21 000.355	2Y-10 CMS CAP	May 2021	787,000	182
Call May 21 000.365	2Y-10 CMS CAP	May 2021	249,000	56
Call May 21 000.605	2Y-10 CMS CAP	May 2021	492,000	60
Call Jun 20 3473.690	EURO STOXX 50 Future (OTC)	June 2020	39,558	5,988
Put Jun 20 3473.690	EURO STOXX 50 Future (OTC)	June 2020	(19,979)	(5,941)
Total Equity				(17,734)
Total				$ (17,752)

[1] *Options held in commingled accounts are not included in this table.*

Alternative Investments

The Alternative Investment category includes the following asset classes: private equity, hedge funds, private debt, real estate and infrastructure.

Private equity, private debt, real estate and private infrastructure investments are typically structured as limited partnerships. In this structure, the Systems is one of several limited partners, while the investment manager serves as the general partner. Investing in such limited partnerships legally obligates the Systems to invest the committed amount until the investment is fully funded or the contractual investment period has expired. Hedge fund investments are typically on subscription basis with a single, initial investment with no further commitment.

The Systems established several strategic partnerships to gain access to deal flow, to receive favorable economics and to efficiently take advantage of market opportunities. Investments within the strategic partnership accounts may include allocations to any asset class including those considered alternative investments. Assets of Strategic Partnerships are reported within their respective asset class totals.

The Commission's intent is to access superior risk-adjusted returns through investing in alternative investment asset classes. Due to their low correlation to traditional asset classes, alternative investments diversify the portfolio and help reduce the risk associated with volatility of returns.

Commitments

The Commission, on behalf of the Systems, has entered into contractual agreements with numerous alternative investment managers and is committed for future funding of private equity, private debt, private real estate and private infrastructure investments. At June 30, 2019, the Systems' commitments, including commitments within Strategic Partnerships, are shown in the following table (amounts expressed in thousands):

	Total Commitment	Amount Funded to Date	Remaining Unfunded Commitment
Limited Partnerships USD			
Private Equity	$ 5,251,815	$ 3,334,040	$ 1,917,775
Private Debt	5,856,766	3,920,676	1,936,090
Private Real Estate	3,780,331	2,804,819	975,512
Private Infrastructure	275,000	61,013	213,987
Other Opportunistic	105,249	69,270	35,979
Totals	$ 15,269,161	$ 10,189,818	$ 5,079,343
Limited Partnerships EUR			
Private Equity	€ 359,080	€ 253,965	€ 105,115
Private Infrastructure	125,000	72,031	52,969
Totals	€ 484,080	€ 325,996	€ 158,084
Limited Partnerships AUD			
Private Equity	$ 100,000	$ 34,304	$ 65,696
Totals	$ 100,000	$ 34,304	$ 65,696

Securities Lending

The Systems' investment portfolio currently participates in a securities lending program, managed by BNYM ("Securities Lending Program"), whereby securities are loaned for the purpose of generating additional income. BNYM is responsible for making loans of securities on a collateralized basis to various third party broker-dealers and financial institutions and collecting cash and non-cash collateral. The fair value of the required collateral must initially meet or exceed 102 percent of the fair value of the securities loaned for U. S. securities, 105 percent for cross currency securities and 107 percent for equity securities, providing a margin against a decline in the fair value of collateral. If the collateral value falls below 102 percent, the borrower must post additional collateral. In conjunction with generating revenue, the collateral pool seeks to maintain a net asset value (NAV) of $1.00, which is determined by dividing the fair value of the assets by the cost of those assets.

There are no restrictions on the amount of securities that may be loaned and conservative investment guidelines continue to be maintained within the Securities Lending Program. The re-investment of the cash collateral is restricted to short duration, very low risk securities and is monitored by RSIC on an ongoing basis. The types of securities available for loan during the year ended June 30, 2019 included U. S. Government securities, U. S. Government agencies, Corporate bonds, Non-U. S. Sovereign debt and Global equities. The contractual agreement between the RSIC and BNYM provides indemnification in the event the borrower fails to return the securities lent or fails to pay the Systems income distribution by the securities' issuers while the securities are on loan. Indemnification is also provided if the investment of cash collateral results in investment loss. Cash, U. S. Government securities, Corporate securities, Asset-backed securities and Global equities are received as collateral for these loans. Collateral securities cannot be pledged or sold without a borrower default. Cash collateral received is invested, and accordingly, investments made with cash collateral are reported as an asset. A corresponding liability is recorded as the Systems must return the cash collateral to the borrower upon the expiration of the loan.

At June 30, 2019, the fair value of securities on loan was $83.25 million. The fair value of the invested cash collateral was $41.33 million, securities lending obligations were $86.65 million with the difference reported within "Other Liabilities" on the Statement of Fiduciary Net Position. The gross securities lending revenue for the fiscal year was $3.0 million, an increase from $2.0 million in the prior year.

With regard to counterparty credit risk, the Systems' cash collateral invested is held by the counterparty and is uninsured. All securities loaned can be terminated on demand by either the Systems or the borrower. At year end the average number of days the loans were outstanding was two days. The average weighted maturity of investments made with cash collateral was one day. At June 30, 2019, there had been no losses resulting from borrower defaults and the Systems had no credit risk exposure to borrowers because the amounts the Systems owed the borrowers exceeded the amounts the borrowers owed the Systems.

The following table presents the fair value (amounts expressed in thousands) of the underlying securities and the total collateral received for securities on loan at June 30, 2019:

	SCRS	PORS	GARS	JSRS	SCNG	06/30/19 TOTALS	06/30/18 TOTALS
Securities lent for cash collateral							
U. S. Government	$ 839	$ 148	$ 1	$ 5	$ 1	$ 994	$ -
Corporate bonds	6,086	1,075	7	36	6	7,210	14,083
Global Public Equity	63,346	11,182	75	377	63	75,043	64,556
Total	$ 70,271	$ 12,405	$ 83	$ 418	$ 70	$ 83,247	$ 78,639
Securities lent for non-cash collateral							
U. S. Government securities	$ 232,719	$ 41,080	$ 275	$ 1,383	$ 232	$ 275,689	$ 78,444
Corporate Bonds	1,767	312	2	10	2	2,093	198
Global Public Equity	637,379	112,511	752	3,789	637	755,068	856,385
Total	$ 871,865	$ 153,903	$ 1,029	$ 5,182	$ 871	$ 1,032,850	$ 935,027
Cash collateral invested as follows							
Repurchase agreements	$ 34,886	$ 6,158	$ 41	$ 207	$ 35	$ 41,327	$ 34,612
Total	$ 34,886	$ 6,158	$ 41	$ 207	$ 35	$ 41,327	$ 34,612
Securities received as collateral							
U.S. Government securities	$ 246,806	$ 43,566	$ 292	$ 1,467	$ 247	$ 292,378	$ 175,751
Global Public Equity	666,478	117,648	786	3,962	666	789,540	803,887
Global Fixed Income	27,448	4,845	32	163	28	32,516	48,560
Total	$ 940,732	$ 166,059	$ 1,110	$ 5,592	$ 941	$ 1,114,434	$ 1,028,198

IV. Transfers between Systems

Transfers between systems are statutorily authorized internal transfers of contributions and service credit from one retirement system to another retirement system that result from members voluntarily initiating the transfer when certain conditions are met.

Transfers made within the systems administered by PEBA during the fiscal year ended June 30, 2019, were as follows (amounts expressed in thousands):

Transfers from:	Transfers to: SCRS	PORS	GARS	JSRS	SCNG	Total
SCRS	$ -	$1,148	$ -	$ 96	$ -	$1,244
PORS						-
GARS						-
JSRS						-
SCNG						-
Total	$ -	$1,148	$ -	$ 96	$ -	$1,244

The following schedule reflects amounts due to or due from other systems as of June 30, 2019, (amounts expressed in thousands):

Due from:	Due to: SCRS	PORS	GARS	JSRS	SCNG	Total
SCRS	$ -	$ 50	$ -	$ 69	$ -	$ 119
PORS						-
GARS						-
JSRS						-
SCNG						-
Total	$ -	$ 50	$ -	$ 69	$ -	$ 119

V. Related Party Transactions

The pension plans provide pension and other benefits to employees of all state agencies. Revenues received from these agencies are recorded in the financial statements as employee and employer contributions and constitute approximately 32 percent of combined contribution revenues.

At June 30, 2019, liabilities of approximately $73.9 million were due to the Employee Insurance Program. Employee and employer contributions receivable of approximately $70.8 million were due from institutions of higher education and quasi-state agencies.

The SCNG Supplemental Retirement Plan received state appropriated contributions in the amount of $5.3 million during the fiscal year.

The General Assembly appropriated $101 million for SCRS and PORS collectively to help offset the increased contribution requirements for employers. Based on the criteria provided in the South Carolina 2018-2019 Appropriations Act, Section 117.139, PEBA issued credit invoices to certain SCRS and PORS employers for fiscal year 2019 who then applied the credit invoices towards contributions otherwise due to the Systems. The amount of credit invoices issued in fiscal year 2019 totaled $88.7 million and $12.5 million for SCRS and PORS respectively. Funds appropriated in future years will be reduced by the excess funds received.

The Retirement System Investment Commission is a separate state agency; however, the administrative costs of the RSIC are funded by transfers from the Systems' trust funds. Transfers in the amount of approximately $15.8 million were made to the RSIC during the fiscal year.

VI. Deferred Retirement Option Plans

The TERI program was a deferred retirement option plan available to active SCRS members eligible for service retirement on or after January 1, 2001 but before June 30, 2018. When a member entered TERI, the member's status changed from an active member to a retiree even though the employee continued to work at their regular job and earn their regular salary for a period of up to five years. TERI participants continued to contribute at the same rate as active members. No additional service credit was earned during this period and participants were ineligible for disability retirement benefits. During the TERI participation period, the retiree's monthly benefits were accumulated in the trust account. Upon termination of employment at the end of the TERI period, funds were distributed and the retiree elected a payment method to either roll over their funds into a qualified retirement plan or to receive a single-sum distribution (or a combination thereof). No interest was paid on the participant funds accumulated in the TERI account.

Legislation enacted in 2012 closed the TERI program to all members effective June 30, 2018.

As of June 30, 2019, TERI benefits held in trust totaled $70,408.

A deferred retirement option plan continues to exist under JSRS. A member who has not yet reached the age of 60 years, but who is eligible to retire and receive the maximum monthly benefit, may retire and continue to serve as a judge, a solicitor or a circuit public defender. The member's normal monthly retirement benefit is deferred and placed in the system's trust fund on behalf of the member. Upon reaching the age of 60 years, the balance of the member's deferred retirement benefit is distributed to the member. As of June 30, 2019, the benefits held in trust totaled $455,786.

VII. Capital Assets

Capital assets at June 30, 2019, consist of the following amounts (expressed in thousands).

	Beginning Balances 7/1/2018	Additions	Deletions	Ending Balances 6/30/2019
Asset Class (at Cost)				
Land	$ 582	$ -	$ -	$ 582
Building	4,749			4,749
Equipment	2,111	41	(18)	2,134
Total Capital Assets	7,442	41	(18)	7,465
Accumulated Depreciation				
Building	3,061	119		3,180
Equipment	2,019	52	(18)	2,053
Total Accumulated Depreciation	5,080	171	(18)	5,233
Capital Assets, Net	$ 2,362	$ (130)	$ -	$ 2,232

VIII. Compensated Absences

As state employees, most full-time permanent employees of SC PEBA's Retirement Division earn 15 days of annual leave and 15 days of sick leave per year during their first ten years of service. After ten years of service is complete, most employees earn an additional 1.25 days of annual leave for each year of service over ten until they reach a maximum of 30 days per year. Sick leave earnings remain at 15 days per year regardless of years of service. Employees may carry forward up to 45 days of annual leave and 180 days of sick leave from one calendar year to the next. Upon termination of employment, employees are eligible to receive payment for up to 45 days of accumulated unused annual leave at the pay rate then in effect. Employees are not eligible to receive payment for accumulated unused sick leave upon termination. As of June 30, 2019, the total amount accrued for unused annual leave for PEBA's Retirement Division employees was $868,556 and the associated liability is included in Other Liabilities on the Statement of Fiduciary Net Position.

IX. Participation in Pension Plans

Generally, all employees of PEBA are required to participate in the South Carolina Retirement System (SCRS) or the State Optional Retirement Program (ORP) as a condition of employment. Additional information related to membership, benefits and contribution requirements is contained within these notes to the financial statements.

Employer contributions for Retirement Division staff are paid by PEBA and are allocated to the pension trust funds along with all other administrative expenses. Administrative expenses of the Systems are funded by investment earnings. For the year ended June 30, 2019, PEBA's contributions to SCRS for Retirement Division staff were $1,215,057 of which $79,424 represented the nonemployer contribution that was applied as a legislatively appropriated credit.

X. Net Pension Liability of Employers

The total pension liability of each defined benefit pension plan summarized below was determined based on the most recent actuarial valuation, which was conducted using membership data as of July 1, 2018 projected forward to the end of the fiscal year, and financial information as of June 30, 2019, using generally accepted actuarial procedures. Information included in the following schedule is based on the certification provided by our consulting actuary, Gabriel Roeder Smith & Company. A Schedule of Employers' Net Pension Liability is intended to provide information about whether the plan fiduciary net positions are increasing or decreasing over time relative to the total pension liability. This schedule as well as a Schedule of Changes in the Employers' Net Pension Liability is presented in the Required Supplementary Information (RSI) section.

The net pension liability (i.e. the Systems' total pension liability determined in accordance with GASB Statement No. 67 less the fiduciary net position) as of June 30, 2019, is as follows (dollar amounts expressed in thousands):

	Total Pension Liability	Plan Fiduciary Net Position	Employers' Net Pension Liability	Plan Fiduciary Net Position as a % of the Total Pension Liability
SCRS	$ 50,073,060	$ 27,238,916	$ 22,834,144	54.4%
PORS	7,681,750	4,815,809	2,865,941	62.7%
GARS	72,001	34,712	37,289	48.2%
JSRS	396,705	165,843	230,862	41.8%
SCNG	67,106	30,683	36,423	45.7%

Actuarial valuations of the ongoing plan involve estimates of the reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment, mortality and future salary increases. Amounts determined regarding the net pension liability are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. South Carolina state statute requires that an actuarial experience study be completed at least once in each five-year period. An experience report on the Systems was most recently issued as of July 1, 2015.

The following table provides a summary of the actuarial assumptions and methods used to calculate the total pension liability for each plan as of June 30, 2019. The total pension liability for each plan is based on the actuarial valuations performed as of July 1, 2018 and rolled-forward from the valuation date to the plans' fiscal year ending June 30, 2019, using generally accepted actuarial principles.

	SCRS	PORS	GARS	JSRS	SCNG
Actuarial cost method	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal
Actuarial assumptions:					
Investment rate of return[1]	7.25%	7.25%	7.25%	7.25%	7.25%
Projected salary increases	3.0% to 12.5% (varies by service)[1]	3.5% to 9.5% (varies by service)[1]	None	2.75%[1]	None
Benefit adjustments	lesser of 1% or $500 annually	lesser of 1% or $500 annually	None	2.75%	None

[1]Includes inflation at 2.25%

The post-retiree mortality assumption is dependent upon the member's job category and gender. The base mortality assumption, the 2016 Public Retirees of South Carolina Mortality table (2016 PRSC), was developed using the Systems' mortality experience. These base rates are adjusted for future improvement in mortality using published Scale AA projected from the year 2016.

Former Job Class	Males	Females
Educators and Judges	2016 PRSC Males multiplied by 92%	2016 PRSC Females multiplied by 98%
General Employees and Members of the General Assembly	2016 PRSC Males multiplied by 100%	2016 PRSC Females multiplied by 111%
Public Safety, Firefighters and members of the South Carolina National Guard	2016 PRSC Males multiplied by 125%	2016 PRSC Females multiplied by 111%

The long-term expected rate of return on pension plan investments is based upon 20-year capital market assumptions. The long-term expected rates of return represent assumptions developed using an arithmetic building block approach primarily based on consensus expectations and market based inputs. Expected returns are net of investment fees. The expected returns, along with the expected inflation rate, form the basis for the target asset allocation adopted at the beginning of the 2019 fiscal year. The long-term expected rate of return is produced by weighting the expected future real rates of return by the target allocation percentage and adding expected inflation and is summarized in the table below. For actuarial purposes, the 7.25 percent assumed annual investment rate of return used in the calculation of the total pension liability includes a 5.00 percent real rate of return and a 2.25 percent inflation component.

Allocation / Exposure	Policy Target	Expected Arithmetic Real rate of Return	Long Term Expected Portfolio Real Rate of Return
Global Equity	**51.0%**		
Global Public Equity[1,2]	35.0%	7.29%	2.55%
Private Equity[2,3]	9.0%	7.67%	0.69%
Equity Options Strategies[1]	7.0%	5.23%	0.37%
Real Assets	**12.0%**		
Real Estate (Private)[2,3]	8.0%	5.59%	0.45%
Real Estate (REITs)[2]	1.0%	8.16%	0.08%
Infrastructure (Private)[2,3]	2.0%	5.03%	0.10%
Infrastructure (Public)[2]	1.0%	6.12%	0.06%
Opportunistic	**8.0%**		
Global Tactical Asset Allocation[1]	7.0%	3.09%	0.22%
Other Opportunistic Strategies	1.0%	3.82%	0.04%
Credit	**15.0%**		
High Yield Bonds/ Bank Loans[1,2]	4.0%	3.14%	0.13%
Emerging Markets Debt	4.0%	3.31%	0.13%
Private Debt[2,3]	7.0%	5.49%	0.38%
Rate Sensitive	**14.0%**		
Core Fixed Income[1]	13.0%	1.62%	0.21%
Cash and Short Duration (Net)	1.0%	0.31%	0.00%
Total Expected Return[4]	100.0%		5.41%
Inflation for Actuarial Purposes			2.25%
			7.66%

[1] Portable Alpha Strategies will be capped at 12% of total assets; Hedge funds (including all hedge funds used in portable alpha implementation) capped at 20% of total assets

[2] The target weights to Private Equity, Private Debt, Private Infrastructure and Private Real Estate will be equal to their actual weights as of prior month end. Private Equity and Public Equity combine for 44 percent of entire portfolio. Private Debt and High Yield/Bank Loans combine for 11 percent of the entire portfolio. Private Infrastructure and Public Infrastructure combine for 3 percent of the entire portfolio. Private Real Estate and Real Estate (REITs) combine for 9 percent of entire portfolio.

[3] RSIC staff and Consultant will notify the Commission if Private Markets assets exceed 25% of total assets.

[4] The expected return for each of the Portable Alpha asset classes includes the expected return attributed to the Overlay Program. For benchmarking purposes there is a 10% weight assigned to Portable Alpha Hedge Funds in the Policy Benchmark.

The discount rate used to measure the total pension liability of each plan was 7.25 percent. The projection of cash flows used to determine the discount rate assumed that contributions from participating employers in SCRS and PORS will be made based on the actuarially determined rates based on provisions in the South Carolina Code of Laws. The contributions required for JSRS, GARS, and the SCNG are based on PEBA's current funding policy which include the change in funding in future years as a result of the enactment of the Retirement System Funding and Administration Act of 2017. Based on those assumptions, the system's fiduciary net position was projected to be available to make all the projected future benefit payments of current plan members. 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.

In accordance with GASB Statement No. 67 regarding the disclosure of the sensitivity of the net pension liability to changes in the discount rate, the following table presents the net pension liability of the participating employers calculated using the discount rate of 7.25 percent, as well as what the employers' net pension liability would be if it were calculated using a discount rate that is 1.00 percent lower (6.25 percent) or 1.00 percent higher (8.25 percent) than the current rate.

Discount Rate Sensitivity Analysis

(Amounts expressed in thousands)

	1% Decrease (6.25%)	Current Discount Rate (7.25%)	1% Increase (8.25%)
SCRS	$ 28,766,243	$ 22,834,144	$ 17,883,464
PORS	3,884,030	2,865,941	2,031,869
GARS	43,561	37,289	31,878
JSRS	273,208	230,862	194,256
SCNG	44,850	36,423	29,513

XI. Death Benefit Program

In addition to monthly pension benefits provided through the Systems, a death benefit program is available to employers. For participating employers, incidental death benefits are provided for both active and retired members. These benefits are funded through separate death benefit programs within SCRS and PORS on a cost-sharing, multiple-employer basis. The assets in the death benefits fund are not held separately in a dedicated trust for the sole purpose of paying death benefits to beneficiaries of deceased members. These benefits are considered allowable within the defined benefit plans and are held within the pension trust funds. Coverage is provided to eligible active and retired working members as well as non-working retirees under the governing statute. Funding for the plans is collected as a percent of covered payroll as determined by the Systems' actuary and approved by the governing board. The current employer contribution rates for the programs are 0.15 percent and 0.20 percent of payroll for SCRS and PORS respectively. These contributions fund both the active and retiree death benefits.

Active Death Benefits

An incidental death benefit is payable upon the death of an SCRS, State ORP or PORS contributing member who worked for a participating employer at the time of death. The member must have been in service and had at least one full year of membership or must have died as a result of an injury arising in the course of performing his duties regardless of length of membership. The incidental death benefit is equal to the annual earnable compensation of the member at the time of death and is payable apart and separate from the payment of pension benefits.

Retiree Death Benefits

Retired members of SCRS and PORS whose last employer prior to retirement is covered by the program, and who met applicable service credit requirements, are also protected under the state-sponsored death benefit program. Upon the death of a retired member, the beneficiary of a non-working retiree will receive a benefit payment of $2,000, $4,000 or $6,000 based on the member's total creditable service at the time of retirement.

Members who work after retirement by returning to covered employment as a working retiree are eligible for an increased level of death benefits. Beneficiaries of working retirees are provided with a death benefit equal to the amount of the member's annual earnable compensation in lieu of the standard $2,000, $4,000 or $6,000 retired member benefit.

All benefits provided by the Systems are included in the actuarial valuations, including the incidental death benefit program for SCRS, PORS, GARS and JSRS. The July 1, 2018 actuarial valuations reflect the inclusion of the assets and liabilities of the incidental death benefit program and accidental death benefits for PORS.

XII. Litigation

The following claim against SCRS has been dismissed by the court, however the case remains active due to remaining claims against other defendants, the appeals process, and a related matter on appeal to the Supreme Court.

Marc S. Kirschner, as Litigation Trustee for the Tribune Litigation Trust v. Dennis J. Fitzsimmons, et al., United States District Court Southern District of New York, Case No. 1:11-cv-02652. This case is a bankruptcy litigation matter filed on December 20, 2011 and has been stayed since shortly after it was filed. The Plaintiff attempted to serve a summons on the South Carolina Retirement System in August 2013. SCRS is a defendant as a result of selling Tribune Company stock in connection with a leveraged buyout of the Tribune Company in 2007. Through this lawsuit the creditors of the Tribune Company are attempting to claw-back funds received by SCRS in connection with the sale of the stock. The plaintiff has asserted a claim of approximately two million dollars against SCRS. The South Carolina Retirement System Investment Commission contests the amount the plaintiff alleges SCRS received, contends that there are persuasive arguments favoring dismissal, and has engaged counsel to represent SCRS in this matter.

South Carolina Retirement Systems
Required Supplementary Information

Schedule of Changes in the Employers' Net Pension Liability[1]

SCRS Pension Trust Fund
Years Ended June 30
(Amounts expressed in thousands)

	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service cost	$ 967,897	$ 910,846	$ 804,057	$ 763,357	$ 744,197	$ 739,021
Interest	3,463,073	3,401,588	3,318,051	3,231,572	3,148,090	3,021,004
Benefit changes						
Difference between actual and expected experience	(101,351)	(172,340)	54,584	46,714	(44,636)	638,745
Assumption changes			1,746,649			
Benefit payments	(3,078,289)	(3,562,801)	(3,035,119)	(2,782,738)	(2,705,547)	(2,571,049)
Net Change in Total Pension Liability	1,251,330	577,293	2,888,222	1,258,905	1,142,104	1,827,721
Total Pension Liability - Beginning	48,821,730	48,244,437	45,356,215	44,097,310	42,955,206	41,127,485
Total Pension Liability - Ending (a)	$ 50,073,060	$ 48,821,730	$ 48,244,437	$ 45,356,215	$ 44,097,310	$ 42,955,206
Plan Fiduciary Net Position						
Employer contributions	$ 1,450,308	$ 1,300,477	$ 1,168,847	$ 1,072,659	$ 1,022,478	$ 962,798
Nonemployer contributions	88,706	104,974				
Employee contributions	880,664	868,681	826,543	754,153	716,107	652,631
Refunds of contributions to members	(118,067)	(113,867)	(105,169)	(93,694)	(95,104)	(90,250)
Annuity benefits	(2,938,416)	(3,426,650)	(2,907,273)	(2,668,385)	(2,590,299)	(2,461,559)
Death benefits	(21,806)	(22,284)	(22,677)	(20,659)	(20,144)	(19,240)
Net investment income (loss)	1,499,391	1,986,948	2,791,215	(165,394)	374,152	3,517,324
Administrative expenses	(15,536)	(14,658)	(13,469)	(13,149)	(12,554)	(11,765)
Net transfers to other systems	(1,244)	(1,534)	(1,550)	(997)	(1,329)	(2,470)
Net Change in Plan Fiduciary Net Position	824,000	682,087	1,736,467	(1,135,466)	(606,693)	2,547,469
Plan Fiduciary Net Position - Beginning	26,414,916	25,732,829	23,996,362	25,131,828	25,738,521	23,191,052
Plan Fiduciary Net Position - Ending (b)	$ 27,238,916	$ 26,414,916	$ 25,732,829	$ 23,996,362	$ 25,131,828	$ 25,738,521
Net Pension Liability - Ending (a) - (b)	$ 22,834,144	$ 22,406,814	$ 22,511,608	$ 21,359,853	$ 18,965,482	$ 17,216,685

[1] Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

South Carolina Retirement Systems
Required Supplementary Information (continued)

Schedule of Changes in the Employers' Net Pension Liability[1]

PORS Pension Trust Fund
Years Ended June 30
(Amounts expressed in thousands)

	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service cost	$ 189,379	$ 184,570	$ 166,682	$ 156,567	$ 154,102	$ 149,606
Interest	528,699	500,758	473,059	453,696	435,329	417,950
Benefit changes						-
Difference between actual and expected experience	(27,766)	102,882	5,044	11,582	6,771	64,336
Assumption changes			333,190			
Benefit payments	(412,535)	(397,921)	(376,801)	(360,656)	(344,410)	(331,783)
Net Change in Total Pension Liability	277,777	390,289	601,174	261,189	251,792	300,109
Total Pension Liability - Beginning	7,403,973	7,013,684	6,412,510	6,151,321	5,899,529	5,599,420
Total Pension Liability - Ending (a)	$ 7,681,750	$ 7,403,973	$ 7,013,684	$ 6,412,510	$ 6,151,321	$ 5,899,529
Plan Fiduciary Net Position						
Employer contributions	$ 237,821	$ 211,793	$ 192,006	$ 175,223	$ 166,451	$ 155,608
Nonemployer contributions	12,470	13,122				
Employee contributions	144,747	138,652	127,840	115,188	106,854	96,004
Refunds of contributions to members	(21,608)	(23,899)	(19,964)	(19,178)	(17,453)	(16,184)
Annuity benefits	(387,228)	(369,536)	(352,986)	(337,928)	(323,252)	(311,593)
Death benefits	(3,699)	(4,485)	(3,852)	(3,550)	(3,705)	(4,007)
Net investment income (loss)	264,323	331,529	455,914	(24,636)	58,705	538,386
Administrative expenses	(2,596)	(2,402)	(2,149)	(2,055)	(1,938)	(1,820)
Net transfers to other systems	1,148	1,534	1,278	1,147	1,061	2,260
Net Change in Plan Fiduciary Net Position	245,378	296,308	398,087	(95,789)	(13,277)	458,654
Plan Fiduciary Net Position - Beginning	4,570,431	4,274,123	3,876,036	3,971,825	3,985,102	3,526,448
Plan Fiduciary Net Position - Ending (b)	$ 4,815,809	$ 4,570,431	$ 4,274,123	$ 3,876,036	$ 3,971,825	$ 3,985,102
Net Pension Liability - Ending (a) - (b)	$ 2,865,941	$ 2,833,542	$ 2,739,561	$ 2,536,474	$ 2,179,496	$ 1,914,427

[1] *Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.*

Schedule of Changes in the Employers' Net Pension Liability[1]

GARS Pension Trust Fund
Years Ended June 30
(Amounts expressed in thousands)

	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service cost	$ 440	$ 464	$ 488	$ 493	$ 553	$ 572
Interest	5,149	5,200	5,293	5,301	5,380	5,437
Benefit changes						
Difference between actual and expected experience	(1,135)	138	(348)	798	(294)	(2,585)
Assumption changes			2,330			
Benefit payments	(6,515)	(6,468)	(6,737)	(6,656)	(6,660)	(6,861)
Net Change in Total Pension Liability	(2,061)	(666)	1,026	(64)	(1,021)	(3,437)
Total Pension Liability - Beginning	74,062	74,728	73,702	73,766	74,787	78,224
Total Pension Liability - Ending (a)	$ 72,001	$ 74,062	$ 74,728	$ 73,702	$ 73,766	$ 74,787
Plan Fiduciary Net Position						
Employer contributions	$ 5,804	$ 5,428	$ 4,539	$ 4,501	$ 4,275	$ 4,063
Employee contributions	162	287	468	292	369	384
Refunds of contributions to members	(17)			(22)		(41)
Annuity benefits	(6,480)	(6,452)	(6,678)	(6,625)	(6,639)	(6,799)
Death benefits	(18)	(16)	(59)	(9)	(21)	(20)
Net investment income (loss)	1,887	2,376	3,329	(266)	500	4,545
Administrative expenses	(20)	(18)	(17)	(18)	(18)	(17)
Net transfers to other systems			19	(147)	(18)	15
Net Change in Plan Fiduciary Net Position	1,318	1,605	1,601	(2,294)	(1,552)	2,130
Plan Fiduciary Net Position - Beginning	33,394	31,789	30,188	32,482	34,034	31,904
Plan Fiduciary Net Position - Ending (b)	$ 34,712	$ 33,394	$ 31,789	$ 30,188	$ 32,482	$ 34,034
Net Pension Liability - Ending (a) - (b)	$ 37,289	$ 40,668	$ 42,939	$ 43,514	$ 41,284	$ 40,753

[1] Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

Schedule of Changes in the Employers' Net Pension Liability[1]

JSRS Pension Trust Fund
Years Ended June 30
(Amounts expressed in thousands)

	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service cost	$ 6,645	$ 6,521	$ 6,186	$ 5,886	$ 5,760	$ 5,571
Interest	21,737	21,271	20,404	20,022	19,440	18,857
Benefit changes					666	
Difference between actual and expected experience	80,801	(3,548)	(995)	(3,085)	(1,138)	(3,240)
Assumption changes			13,790			
Benefit payments	(17,950)	(17,811)	(18,602)	(17,191)	(16,836)	(16,684)
Net Change in Total Pension Liability	91,233	6,433	20,783	5,632	7,892	4,504
Total Pension Liability - Beginning	305,472	299,039	278,256	272,624	264,732	260,228
Total Pension Liability - Ending (a)	$ 396,705	$ 305,472	$ 299,039	$ 278,256	$ 272,624	$ 264,732
Plan Fiduciary Net Position						
Employer contributions	$ 11,730	$ 11,043	$ 10,534	$ 10,202	$ 10,109	$ 9,659
Employee contributions	2,840	3,016	2,928	2,303	3,153	2,448
Refunds of contributions to members			(629)	(60)		
Annuity benefits	(17,947)	(17,655)	(17,679)	(16,989)	(16,832)	(16,675)
Death benefits	(3)	(156)	(293)	(143)	(4)	(10)
Net investment income (loss)	9,183	11,723	16,399	(871)	2,216	19,962
Administrative expenses	(92)	(86)	(79)	(75)	(71)	(68)
Net transfers to other systems	96		253	(3)	286	195
Net Change in Plan Fiduciary Net Position	5,807	7,885	11,434	(5,636)	(1,143)	15,511
Plan Fiduciary Net Position - Beginning	160,036	152,151	140,717	146,353	147,496	131,985
Plan Fiduciary Net Position - Ending (b)	$ 165,843	$ 160,036	$ 152,151	$ 140,717	$ 146,353	$ 147,496
Net Pension Liability - Ending (a) - (b)	$ 230,862	$ 145,436	$ 146,888	$ 137,539	$ 126,271	$ 117,236

[1] Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

Schedule of Changes in the Employers' Net Pension Liability[1]

SCNG Pension Trust Fund
Years Ended June 30
(Amounts expressed in thousands)

	2019	2018	2017	2016	2015	2014
Total Pension Liability						
Service cost	$ 786	$ 804	$ 696	$ 689	$ 690	$ 697
Interest	4,764	4,743	4,589	4,594	4,481	4,417
Benefit changes						
Difference between actual and expected experience	(1,501)	(767)	(843)	(992)	612	(262)
Assumption changes			4,161			
Benefit payments	(4,534)	(4,411)	(4,426)	(4,310)	(4,249)	(4,248)
Net Change in Total Pension Liability	(485)	369	4,177	(19)	1,534	604
Total Pension Liability - Beginning	67,591	67,222	63,045	63,064	61,530	60,926
Total Pension Liability - Ending (a)	$ 67,106	$ 67,591	$ 67,222	$ 63,045	$ 63,064	$ 61,530
Plan Fiduciary Net Position						
Employer contributions	$ 5,290	$ 4,814	$ 4,591	$ 4,591	$ 4,591	$ 4,586
Employee contributions						
Refunds of contributions to members						
Annuity benefits	(4,534)	(4,411)	(4,425)	(4,310)	(4,249)	(4,248)
Death benefits						
Net investment income (loss)	1,616	1,902	2,533	(121)	313	2,806
Administrative expenses	(16)	(14)	(13)	(12)	(11)	(10)
Net transfers to other systems						
Net Change in Plan Fiduciary Net Position	2,356	2,291	2,686	148	644	3,134
Plan Fiduciary Net Position - Beginning	28,327	26,036	23,350	23,202	22,558	19,424
Plan Fiduciary Net Position - Ending (b)	$ 30,683	$ 28,327	$ 26,036	$ 23,350	$ 23,202	$ 22,558
Net Pension Liability - Ending (a) - (b)	$ 36,423	$ 39,264	$ 41,186	$ 39,695	$ 39,862	$ 38,972

[1] Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.

South Carolina Retirement Systems
Required Supplementary Information (continued)

Schedule of Employers' Net Pension Liability[1]

(Dollar amounts expressed in thousands)

	Total Pension Liability	Plan Fiduciary Net Position	Employers' Net Pension Liability (Asset)	Plan Fiduciary Net Position as a Percentage of the Total Pension Liability	Projected Covered Payroll[2]	Net Pension Liability as a Percentage of Covered Payroll
SCRS						
6/30/2019	$ 50,073,060	$ 27,238,916	$ 22,834,144	54.4%	$ 9,183,081	248.7%
6/30/2018	48,821,730	26,414,916	22,406,814	54.1%	8,592,885	260.8%
6/30/2017	48,244,437	25,732,829	22,511,608	53.3%	8,213,042	274.1%
6/30/2016	45,356,215	23,996,362	21,359,853	52.9%	7,765,588	275.1%
6/30/2015	44,097,310	25,131,828	18,965,482	57.0%	7,539,996	251.5%
6/30/2014	42,955,206	25,738,521	17,216,685	59.9%	7,434,820	231.6%
PORS						
6/30/2019	7,681,750	4,815,809	2,865,941	62.7%	1,306,961	219.3%
6/30/2018	7,403,973	4,570,431	2,833,542	61.7%	1,263,314	224.3%
6/30/2017	7,013,684	4,274,123	2,739,561	60.9%	1,187,195	230.8%
6/30/2016	6,412,510	3,876,036	2,536,474	60.4%	1,105,703	229.4%
6/30/2015	6,151,321	3,971,825	2,179,496	64.6%	1,076,885	202.4%
6/30/2014	5,899,529	3,985,102	1,914,427	67.5%	1,033,189	185.3%
GARS						
6/30/2019	72,001	34,712	37,289	48.2%	1,866	1,998.8%
6/30/2018	74,062	33,394	40,668	45.1%	1,961	2,074.3%
6/30/2017	74,728	31,789	42,939	42.5%	2,316	1,853.7%
6/30/2016	73,702	30,188	43,514	41.0%	2,338	1,861.0%
6/30/2015	73,766	32,482	41,284	44.0%	2,601	1,587.5%
6/30/2014	74,787	34,034	40,753	45.5%	2,688	1,516.2%
JSRS						
6/30/2019	396,705	165,843	230,862	41.8%	22,347	1,033.1%
6/30/2018	305,472	160,036	145,436	52.4%	22,347	650.8%
6/30/2017	299,039	152,151	146,888	50.9%	21,958	668.9%
6/30/2016	278,256	140,717	137,539	50.6%	21,267	646.7%
6/30/2015	272,624	146,353	126,271	53.7%	20,815	606.6%
6/30/2014	264,732	147,496	117,236	55.7%	20,407	574.5%
SCNG						
6/30/2019	67,106	30,683	36,423	45.7%	Not Applicable[3]	Not Applicable[3]
6/30/2018	67,591	28,327	39,264	41.9%	Not Applicable[3]	Not Applicable[3]
6/30/2017	67,222	26,036	41,186	38.7%	Not Applicable[3]	Not Applicable[3]
6/30/2016	63,045	23,350	39,695	37.0%	Not Applicable[3]	Not Applicable[3]
6/30/2015	63,064	23,202	39,862	36.8%	Not Applicable[3]	Not Applicable[3]
6/30/2014	61,530	22,558	38,972	36.7%	Not Applicable[3]	Not Applicable[3]

[1] Schedules are intended to show information for 10 years. Additional years will be displayed as they become available.
[2] Projected covered payroll is based on the actuarial valuation associated with the measurement date and includes payroll for members earning but not yet receiving benefits.
[3] The contributions and benefits associated with the SCNG are not determined as a function of payroll.

South Carolina Retirement Systems
Required Supplementary Information (continued)

Schedule of Employers' and Nonemployer's Contributions

(Dollar amounts expressed in thousands)

	Actuarially Determined Contributions[1]	Amount of Contributions Recognized	Difference Between Actuarially Determined Contributions[2] and Contributions Recognized	Projected Covered Payroll[3]	Percentage of Contributions to Covered Payroll
SCRS					
6/30/2019	$ 1,539,014	$ 1,539,014	$ -	$ 9,183,081	16.8%
6/30/2018	1,405,451	1,405,451		8,592,885	16.4%
6/30/2017	1,168,847	1,168,847		8,213,042	14.2%
6/30/2016	1,072,659	1,072,659		7,765,588	13.8%
6/30/2015	1,022,478	1,022,478		7,539,996	13.6%
6/30/2014	962,798	962,798		7,434,820	12.9%
6/30/2013	948,157	948,157		7,356,231	12.9%
6/30/2012	824,652	824,652		7,687,558	10.7%
6/30/2011	808,343	808,343		7,769,820	10.4%
6/30/2010	818,523	818,523		7,761,808	10.5%
PORS					
6/30/2019	250,291	250,291		1,306,961	19.2%
6/30/2018	224,915	224,915		1,263,314	17.8%
6/30/2017	192,006	192,006		1,187,195	16.2%
6/30/2016	175,223	175,223		1,105,703	15.8%
6/30/2015	166,451	166,451		1,076,885	15.5%
6/30/2014	155,608	155,608		1,033,189	15.1%
6/30/2013	143,389	143,389		1,019,241	14.1%
6/30/2012	134,299	134,299		1,087,587	12.3%
6/30/2011	129,314	129,314		1,076,467	12.0%
6/30/2010	123,163	123,163		1,084,154	11.4%
GARS[4]					
6/30/2019	5,804	5,804		1,866	311.0%
6/30/2018	5,428	5,428		1,961	276.8%
6/30/2017	4,539	4,539		2,316	196.0%
6/30/2016	4,501	4,501		2,338	192.5%
6/30/2015	4,275	4,275		2,601	164.4%
6/30/2014	4,063	4,063		2,688	151.2%
6/30/2013	2,831	2,831		3,854	73.5%
6/30/2012	2,532	2,532		3,854	65.7%
6/30/2011	2,414	2,414		3,854	62.6%
6/30/2010	2,598	2,598		3,854	67.4%

Schedule of Employers' and Nonemployer's Contributions continued on next page

Schedule of Employers' and Nonemployer's Contributions (cont.)

(Dollar amounts expressed in thousands)

	Actuarially Determined Contributions[1]	Amount of Contributions Recognized	Difference Between Actuarially Determined Contributions[2] and Contributions Recognized	Projected Covered Payroll[3]	Percentage of Contributions to Covered Payroll
JSRS					
6/30/2019	$ 11,730	$ 11,730	$ -	$ 22,347	52.5%
6/30/2018	11,044	11,044		22,347	49.4%
6/30/2017	10,534	10,534		21,958	48.0%
6/30/2016	10,202	10,202		21,267	48.0%
6/30/2015	10,109	10,109		20,815	48.6%
6/30/2014	9,659	9,659		20,407	47.3%
6/30/2013	8,667	8,667		19,221	45.1%
6/30/2012	8,414	8,414		18,661	45.1%
6/30/2011	8,414	8,414		18,661	45.1%
6/30/2010	8,414	8,414		18,661	45.1%
SCNG[5]					
6/30/2019	5,290	5,290		Not Applicable	Not Applicable
6/30/2018	4,814	4,814		Not Applicable	Not Applicable
6/30/2017	4,509	4,591	(82)	Not Applicable	Not Applicable
6/30/2016	4,570	4,591	(21)	Not Applicable	Not Applicable
6/30/2015	4,591	4,591		Not Applicable	Not Applicable
6/30/2014	4,586	4,586		Not Applicable	Not Applicable
6/30/2013	4,539	4,539		Not Applicable	Not Applicable
6/30/2012	3,937	3,937		Not Applicable	Not Applicable
6/30/2011	3,905	3,905		Not Applicable	Not Applicable
6/30/2010	3,945	3,945		Not Applicable	Not Applicable

[1] The actuarially determined contribution rate for SCRS and PORS is determined in accordance with the SC State Code of Laws. The contribution rate for JSRS is based on the funding policy maintained by the SC Public Employee Benefit Authority. Includes employer contributions on employee payroll of members in TERI as well as contributions remitted to SCRS on the payroll of employees participating in State ORP.

[2] The actuarially determined contributions are based on the funding policy maintained by the SC Public Employee Benefit Authority.

[3] Projected covered payroll is based on the actuarial valuation associated with the measurement date and includes payroll for members earning but not yet receiving benefits.

[4] GARS was closed to new members beginning with the 2012 general election.

[5] Benefits for members in the SCNG are not a function of pay.

South Carolina Retirement Systems
Required Supplementary Information (continued)

Schedule of Investment Returns[1]

Fiscal Year Ending June 30	Annual Money Weighted Rate of Return, Net of Investment Expense
2019	5.80%
2018	7.91
2017	11.88
2016	(0.47)
2015	1.59
2014	15.30

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

Notes to Required Supplementary Information

The following table provides a summary of the actuarial methods and significant assumptions used in calculations of the actuarially determined contributions for fiscal year 2019 for each of the individual plans administered by PEBA.

Summary of Actuarial Methods and Significant Assumptions[1]

	SCRS	PORS	GARS	JSRS	SCNG
Valuation date	07/01/17	07/01/17	07/01/17	07/01/17	07/01/17
Actuarial cost method	Entry age normal	Entry age normal	Entry age normal	Entry age normal	Entry age normal
Amortization method	Level percent of pay	Level percent of pay	Level dollar	Level percent of pay	Level dollar
Amortization period	30 year maximum, closed period [2]	30 year maximum, closed period [2]	10 years, closed	30 years variable, but not to exceed 30 years	19 years, closed
Asset Valuation method	5-Year Smoothed	5-Year Smoothed	5-Year Smoothed	5-Year Smoothed	5-Year Smoothed
Actuarial assumptions:					
Inflation rate	2.25%	2.25%	2.25%	2.25%	2.25%
Projected salary increases	3.0% plus step-rate increases for members with less than 21 years of service[3]	3.5% plus step-rate increases for members with less than 15 years of service[3]	None	2.75%[3]	None
Investment rate of return	7.25%	7.25%	7.25%	7.25%	7.25%
Benefit adjustments	lesser of 1% or $500 annually	lesser of 1% or $500 annually	None	2.75%	None

[1] The actual contribution rates and the actuarially determined contribution rates for SCRS and PORS are determined in accordance with Sections 9-1-1085 and 9-11-225 of the South Carolina Code, respectively. Contribution requirements for JSRS, GARS and the SCNG are determined in accordance with funding policies established and maintained by the PEBA Board.

[2] Pension reform legislation enacted effective July 1, 2017 schedules the amortization period to be reduced one year for each of the next 10 years, to 20 years.

[3] Includes inflation at 2.25%.

South Carolina Retirement Systems
Schedule of Changes in Fiduciary Net Position

SCRS Pension Trust Fund

Year Ended June 30, 2019

With summarized comparative totals for the year ended June 30, 2018

(Amounts expressed in thousands)

	EMPLOYEE FUND	EMPLOYER FUND	DEATH BENEFIT FUND	QEBA FUND	TOTAL	2018 TOTAL
Additions						
Employee contributions						
State	$ 249,970	$ 13,878	$ -	$ -	$ 263,848	$ 261,641
Public school	350,860	25,587			376,447	372,171
Other	229,072	11,297			240,369	234,869
Employer contributions						
State		476,826	5,861	665	483,352	434,509
Public school		592,393	6,852		599,245	544,381
Other		364,260	3,451		367,711	321,587
Nonemployer contributions						
State		31,126			31,126	36,726
Public school		43,822			43,822	43,822
Other		13,758			13,758	24,426
Total contributions	829,902	1,572,947	16,164	665	2,419,678	2,274,132
Investment income						
Net appreciation						
in fair value of investments		1,249,331	6,055		1,255,386	1,794,429
Interest and dividend income		518,871	2,511		521,382	508,252
Investment expense		(278,602)	(1,350)		(279,952)	(317,426)
Net income from investing activities		1,489,600	7,216		1,496,816	1,985,255
From securities lending activities:						
Securities lending income		2,811	14		2,825	1,885
Securities lending borrower rebates		(249)	(1)		(250)	(192)
Net income from securities lending activities		2,562	13		2,575	1,693
Total net investment income		1,492,162	7,229		1,499,391	1,986,948
Supplemental retirement benefits funded by the State		320			320	355
Total additions	829,902	3,065,429	23,393	665	3,919,389	4,261,435
Deductions						
Refunds of contributions to members	118,067				118,067	113,867
Transfers of contributions to other systems	834	410			1,244	1,534
Regular retirement benefits		2,937,751		665	2,938,416	2,718,718
Deferred retirement benefits						707,932
Supplemental retirement benefits		320			320	355
Death benefits		(95)	21,901		21,806	22,284
Depreciation		151			151	190
Administrative expenses		15,311	74		15,385	14,468
Total deductions	118,901	2,953,848	21,975	665	3,095,389	3,579,348
Interfund transfers according to statutory requirements						
Contributions by members at retirement	(404,459)	404,459				
Interest credited to members' accounts	298,808	(298,808)				
Net interfund transfers	(105,651)	105,651				
Net increase in Net Position	605,350	217,232	1,418		824,000	682,087
Net Position Restricted for Pensions						
Beginning of year	8,501,051	17,786,456	127,409		26,414,916	25,732,829
End of year	$ 9,106,401	$ 18,003,688	$ 128,827	$ -	$ 27,238,916	$ 26,414,916

South Carolina Retirement Systems

Schedule of Changes in Fiduciary Net Position

PORS Pension Trust Fund

Year Ended June 30, 2019

With summarized comparative totals for the year ended June 30, 2018

(Amounts expressed in thousands)

	EMPLOYEE FUND	EMPLOYER FUND	DEATH BENEFIT FUND	ACCIDENTAL DEATH FUND	QEBA FUND	TOTAL	2018 TOTAL
Additions							
Employee contributions							
State	$ 42,322	$ 2,025	$ -	$ -	$ -	$ 44,347	$ 43,414
Public school	82	465				547	506
Other	91,190	8,663				99,853	94,732
Employer contributions							
State		70,485	883	883	2	72,253	66,340
Public school		829	10	10		849	770
Other		160,895	1,965	1,859		164,719	144,683
Nonemployer contributions							
State		4,070				4,070	4,070
Public school		44				44	44
Other		8,356				8,356	9,008
Total contributions	133,594	255,832	2,858	2,752	2	395,038	363,567
Investment income							
Net appreciation							
in fair value of investments		216,378	2,242	3,048		221,668	299,669
Interest and dividend income		89,334	923	1,256		91,513	85,823
Investment expense		(48,132)	(499)	(678)		(49,309)	(54,249)
Net income from investing activities		257,580	2,666	3,626		263,872	331,243
From securities lending activities:							
Securities lending income		482	5	7		494	318
Securities lending borrower rebates		(42)		(1)		(43)	(32)
Net income from securities lending activities		440	5	6		451	286
Total net investment income		258,020	2,671	3,632		264,323	331,529
Supplemental retirement benefits funded by the State		13				13	13
Transfers of contributions from other systems	738	410				1,148	1,534
Total additions	134,332	514,275	5,529	6,384	2	660,522	696,643
Deductions							
Refunds of contributions to members	21,607	1				21,608	23,899
Regular retirement benefits		387,226			2	387,228	369,536
Supplemental retirement benefits		13				13	13
Death Benefits			1,890			1,890	2,751
Accidental death benefits				1,809		1,809	1,734
Depreciation		19				19	25
Administrative expenses		2,516	26	35		2,577	2,377
Total deductions	21,607	389,775	1,916	1,844	2	415,144	400,335
Interfund transfers according to statutory requirements							
Contributions by members at retirement	(77,500)	77,500					
Interest credited to members' accounts	39,742	(39,742)					
Net interfund transfers	(37,758)	37,758					
Net increase in Net Position	74,967	162,258	3,613	4,540		245,378	296,308
Net Position Restricted for Pensions							
Beginning of year	1,104,572	3,356,790	46,224	62,845		4,570,431	4,274,123
End of year	$ 1,179,539	$ 3,519,048	$ 49,837	$ 67,385	$ -	$ 4,815,809	$ 4,570,431

South Carolina Retirement Systems

Schedule of Changes in Fiduciary Net Position

GARS Pension Trust Fund

Year Ended June 30, 2019

With summarized comparative totals for the year ended June 30, 2018

(Amounts expressed in thousands)

	EMPLOYEE FUND	EMPLOYER FUND	QEBA FUND	TOTAL	2018 TOTAL
Additions					
Contributions					
Employee contributions - State	$ 162	$ -	$ -	$ 162	$ 287
Employer contributions - State		5,803	1	5,804	5,428
Total contributions	162	5,803	1	5,966	5,715
Investment income					
Net appreciation					
in fair value of investments		1,484		1,484	2,090
Interest and dividend income		729		729	647
Investment expense		(329)		(329)	(363)
Net income from investing activities		1,884		1,884	2,374
From securities lending activities:					
Securities lending income		3		3	2
Net income from securities lending activities		3		3	2
Total net investment income		1,887		1,887	2,376
Total additions	162	7,690	1	7,853	8,091
Deductions					
Refunds of contributions to members	17			17	
Regular retirement benefits		6,479	1	6,480	6,452
Death benefits		18		18	16
Administrative expenses		20		20	18
Total deductions	17	6,517	1	6,535	6,486
Interfund transfers according to statutory requirements					
Contributions by members at retirement	(756)	756			
Interest credited to members' accounts	206	(206)			
Net interfund transfers	(550)	550			
Net increase in Net Position	(405)	1,723		1,318	1,605
Net Position Restricted for Pensions					
Beginning of year	7,066	26,328		33,394	31,789
End of year	$ 6,661	$ 28,051	$ -	$ 34,712	$ 33,394

South Carolina Retirement Systems
Schedule of Changes in Fiduciary Net Position

JSRS Pension Trust Fund
Year Ended June 30, 2019
With summarized comparative totals for the year ended June 30, 2018
(Amounts expressed in thousands)

	EMPLOYEE FUND	EMPLOYER FUND	QEBA FUND	TOTAL	2018 TOTAL
Additions					
Contributions					
Employee contributions - State	$ 2,566	$ 274	$ -	$ 2,840	$ 3,016
Employer contributions - State		11,608	122	11,730	11,043
Total contributions	2,566	11,882	122	14,570	14,059
Investment income					
Net appreciation in fair value of investments		7,519		7,519	10,491
Interest and dividend income		3,319		3,319	3,101
Investment expense		(1,670)		(1,670)	(1,879)
Net income from investing activities		9,168		9,168	11,713
From securities lending activities:					
Securities lending income		17		17	11
Securities lending borrower rebates		(2)		(2)	(1)
Net income from securities lending activities		15		15	10
Total net investment income		9,183		9,183	11,723
Transfers of contributions from other systems	96			96	
Total additions	2,662	21,065	122	23,849	25,782
Deductions					
Regular retirement benefits		17,825	122	17,947	17,655
Death benefits		3		3	156
Depreciation		1		1	1
Administrative expenses		91		91	85
Total deductions		17,920	122	18,042	17,897
Interfund transfers according to statutory requirements					
Contributions by members at retirement	(1,724)	1,724			
Interest credited to members' accounts	1,092	(1,092)			
Net interfund transfers	(632)	632			
Net increase in Net Position	2,030	3,777		5,807	7,885
Net Position Restricted for Pensions					
Beginning of year	28,259	131,777		160,036	152,151
End of year	$ 30,289	$ 135,554	$ -	$ 165,843	$ 160,036

South Carolina Retirement Systems
Schedule of Changes in Fiduciary Net Position

SCNG Pension Trust Fund
Year Ended June 30, 2019
With summarized comparative totals for the year ended June 30, 2018
(Amounts expressed in thousands)

	2019 Total	2018 Total
Additions		
Contributions		
State appropriated	$ 5,290	$ 4,814
Total contributions	5,290	4,814
Investment income		
Net appreciation		
in fair value of investments	1,257	1,669
Interest and dividend income	635	536
Investment expense	(279)	(305)
Net Income from investing activities	1,613	1,900
From securities lending activities:		
Securities lending income	3	2
Net income from securities lending activities	3	2
Total net investment income	1,616	1,902
Total additions	6,906	6,716
Deductions		
Regular retirement benefits	4,534	4,411
Administrative expenses	16	14
Total deductions	4,550	4,425
Net increase in Net Position	2,356	2,291
Net Position Restricted for Pensions		
Beginning of year	28,327	26,036
End of year	$ 30,683	$ 28,327

South Carolina Retirement Systems
Schedule of Administrative Expenses

Year Ended June 30, 2019

(Amounts expressed in thousands)

Personnel Services	
Salaries and Wages	$ 8,441
Employee Benefits	3,270
Total Personnel Services	11,711
Professional and Consultant Fees	
Information Technology	697
Medical and Health Services	298
Financial Audit	253
Actuarial Services	405
Management Professional Services	1,040
Legal Services	81
Total Professional and Consultant Fees	2,774
Operating Expenses	
Facilities Management	212
Building Renovations	1,305
Building Rent	117
Software Licenses and Programs	904
Furniture and Equipment - Expensed	102
Communications and Utilities	268
Insurance	234
Postage	185
Supplies	203
Miscellaneous Expenses	74
Total Operating Expenses	3,604
Total Administrative Expenses	$ 18,089
Allocation of Administrative Expenses	
SCRS	$ 15,385
PORS	2,577
GARS	20
JSRS	91
SCNG	16
Total Administrative Expenses	$ 18,089

South Carolina Retirement Systems
Schedule of Professional and Consultant Fees[1]

Year Ended June 30, 2019

(Amounts expressed in thousands)

Professional / Consultant Type	Nature of Service Provided	Amounts Paid
Bruner, Powell, Wall, & Mullins	Legal Services	$ 15
CEM Benchmarking, Inc.	Benchmarking Service	45
ClarkPowell	AV Installation Services	14
CliftonLarsonAllen	Audit and Consulting Services	253
Find Great People	Personnel Services	39
Funston Advisory Services LLC	Fiduciary Audit	84
Gabriel Roeder Smith & Company	Actuarial and Consulting Services	240
Ice Miller	IRC Consulting Services and Compliance Review	62
ICON Integration & Design, Inc.	Data Conversion and Bridging Services	178
Linea Solutions	Client Services Vendor to Facilitate and Support Program Activities	655
NWN Corporation	IT Installation Services	14
Roper Personnel Services	Personnel Services	77
Segal Consulting	Investment Consulting Services for State ORP and Deferred Compensation	117
SunGard Availability Services	IT Disaster Recovery	127
Tapfin	Application Development Resources	535
USC Department of Internal Medicine	Disability Review	49
Vocational Rehabilitation	Disability Review	248
Aggregate of payees less than $10,000 each	Professional and Consulting Services	22
Total Professional and Consultant Fees		$ 2,774

[1] A Schedule of Investment Managers and Fees can be found in the Investment Section of the CAFR.

South Carolina Retirement Systems
Schedule of Investment Fees and Expenses

Year Ended June 30, 2019

(Amounts expressed in thousands)

	SCRS	PORS	GARS	JSRS	SCNG	TOTALS[1]
Short Term	$ 1,134	$ 200	$ 1	$ 7	$ 1	$ 1,343
Fixed Income:						
Core Fixed Income	1,456	256	2	9	2	1,725
High Yield/Bank Loans	5,428	956	6	33	6	6,429
Emerging Market Debt	4,363	768	5	26	4	5,166
Global Public Equity	25,332	4,458	30	152	25	29,997
Equity Options Strategy	3,383	595	4	20	3	4,005
Public Real Estate	2,118	373	2	13	2	2,508
Public Infrastructure	2,463	434	3	15	3	2,918
Opportunistic/GTAA	5,964	1,053	7	36	6	7,066
Alternatives:						
Hedge Funds	64,040	11,304	76	381	64	75,865
Private Debt	31,083	5,485	37	185	31	36,821
Private Equity	76,447	13,492	90	455	76	90,560
Private Real Estate	32,521	5,735	38	194	32	38,520
Private Infrastructure	1,718	303	2	10	2	2,035
Strategic Partnerships[2]	3,089	545	4	18	3	3,659
Beta Overlay	1,373	242	2	8	1	1,626
Total Investment Manager Fees	261,912	46,199	309	1,562	261	310,243
Bank Fees and Investment Expenses[3]	18,040	3,110	20	108	18	21,296
Total Investment Expenses	279,952	49,309	329	1,670	279	331,539
Securities Lending Expenses:						
Borrower Rebates	$ 250	$ 43	$ -	$ 2	$ -	$ 295
Total Securities Lending Expenses	$ 250	$ 43	$ -	$ 2	$ -	$ 295

[1] All investment manager fees, whether directly invoiced ($46,981) or deducted from the fund on a net basis ($263,262) are classified and reported as Investment Expense. Investment expenses include amounts for investment management fees, performance fees (including carried interest allocations), other expenses such as organizational expenses in limited partnership structures as well as offsets which may have the effect of reducing the total.

[2] Represents management and other fees at the Strategic Partnership level, not fees at the underlying investment level included in each applicable asset class.

[3] Includes miscellaneous investment expenses, commissions on futures, bank fees and RSIC administrative expenses.

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INDEPENDENT AUDITORS' REPORT ON INTERNAL CONTROL OVER FINANCIAL REPORTING AND ON COMPLIANCE AND OTHER MATTERS BASED ON AN AUDIT OF FINANCIAL STATEMENTS PERFORMED IN ACCORDANCE WITH *GOVERNMENT AUDITING STANDARDS*

The Honorable Henry D. McMaster, Governor
Mr. George L. Kennedy, CPA, State Auditor,
and Board of Directors
South Carolina Public Employee Benefit Authority
Columbia, South Carolina

We have audited, in accordance with the auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards* issued by the Comptroller General of the United States, the financial statements of the South Carolina Retirement Systems (the Systems) as administered by the South Carolina Public Employee Benefit Authority, which comprise the statement of fiduciary net position as of June 30, 2019, and the related statement of changes in fiduciary net position for the year then ended, and the related notes to the financial statements, and have issued our report thereon dated October 15, 2019.

Internal Control Over Financial Reporting

In planning and performing our audit of the financial statements, we considered the Systems' internal control over financial reporting (internal control) to determine the audit procedures that are appropriate in the circumstances for the purpose of expressing our opinion on the financial statements, but not for the purpose of expressing an opinion on the effectiveness of the Systems' internal control. Accordingly, we do not express an opinion on the effectiveness of the Systems' internal control.

A *deficiency in internal control* exists when the design or operation of a control does not allow management or employees, in the normal course of performing their assigned functions, to prevent, or detect and correct, misstatements on a timely basis. A *material weakness* is a deficiency, or a combination of deficiencies, in internal control, such that there is a reasonable possibility that a material misstatement of the entity's financial statements will not be prevented, or detected and corrected on a timely basis. A *significant deficiency* is a deficiency, or a combination of deficiencies, in internal control that is less severe than a material weakness, yet important enough to merit attention by those charged with governance.

Our consideration of internal control was for the limited purpose described in the first paragraph of this section and was not designed to identify all deficiencies in internal control that might be material weaknesses or significant deficiencies. Given these limitations, during our audit we did not identify any deficiencies in internal control that we consider to be material weaknesses. However, material weaknesses may exist that have not been identified.

The Honorable Henry D. McMaster, Governor
Mr. George L. Kennedy, CPA, State Auditor,
and Board of Directors
South Carolina Public Employee Benefit Authority

Compliance and Other Matters

As part of obtaining reasonable assurance about whether the Systems' financial statements are free from material misstatement, we performed tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements, noncompliance with which could have a direct and material effect on the determination of financial statement amounts. However, providing an opinion on compliance with those provisions was not an objective of our audit, and accordingly, we do not express such an opinion. The results of our tests disclosed no instances of noncompliance or other matters that are required to be reported under *Government Auditing Standards*.

Purpose of this Report

The purpose of this report is solely to describe the scope of our testing of internal control and compliance and the result of that testing, and not to provide an opinion on the effectiveness of the Systems' internal control or on compliance. This report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the Systems' internal control and compliance. Accordingly, this communication is not suitable for any other purpose.

CliftonLarsonAllen LLP

CliftonLarsonAllen LLP

Baltimore, Maryland
October 15, 2019

This page contains no other content