

Financial Statements
South Carolina Retirement Systems
Year Ended June 30, 2018

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, 2018

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, 2018, 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, CPA
State Auditor

GLKIII/cmw

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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, 2018, 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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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, 2018, 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' 2017 financial statements, and we expressed an unmodified audit opinion on those audited financial statements in our report dated October 13, 2017. In our opinion, the summarized comparative information presented herein as of and for the year ended June 30, 2017 is consistent, in all material respects, with the audited financial statements from which it has been derived.

Emphasis of Matter

The financial statements include alternative investments valued at \$9.5 billion (approximately 30% of total net position). As explained in Note 1, their fair values have been estimated by management in the absence of readily determinable fair values. Management's estimates are based on information provided by the fund managers or the general partners. Our opinion is not modified with respect to this matter.

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

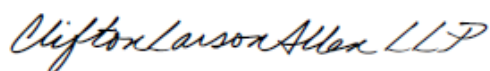
Our audit was conducted for the purpose of forming an opinion on the Systems' financial statements. The other supplementary information, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of the financial statements.

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and Board of Directors
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, 2018 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

Baltimore, Maryland
October 15, 2018

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, 2018, 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 co-trustee and co-fiduciary of the Systems and the 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. Effective July 1, 2017, the Retirement System Funding and Administration Act of 2017 assigned the PEBA Board of Directors as the Custodian of the Retirement Trust Funds and assigned PEBA and the Retirement Systems Investment Commission (RSIC) as co-trustees of the Retirement Trust Funds.

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, 2018, with combined total comparative information for the fiscal year ended June 30, 2017:

- 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 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' and nonemployer's net pension liability, changes in employers' and nonemployer's 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

- Legislation addressing the funding of the state's public pension plans took effect July 1, 2017. This legislation, known as the Retirement Funding and Administration Act of 2017, represented the culmination of efforts on behalf of many people and organizations. Both the Board of Directors of PEBA and the South Carolina General Assembly made the sustainability of our state's pension plans a priority that was handled deliberately. This legislation increased the employer and employee contribution rates, established a ceiling on SCRS and PORS employee contribution rates, lowered the assumed rate of return, required a scheduled reduction of the funding periods, and addressed various governance issues including the assignment of the PEBA Board as custodian of the retirement trust funds and assignment of the Retirement System Investment Commission (RSIC) and PEBA as co-trustees. Additional information regarding this legislation, as well as current funding schedules, are available on our public website.
- Total fiduciary net position for all five defined benefit plans of the Systems combined, increased by almost \$1 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. It is important to note that growth in fiduciary net position depends on both investment performance and contributions from employers and employees. 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 from \$30.2 billion to \$31.2 billion was attributable to both increased contributions and positive investment performance.
- For the fiscal year ended June 30, 2018, 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 7.82 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 lower than the prior year's return of 11.88 percent but greater than the

actuarial assumed rate of return and is therefore considered an actuarial gain. As referenced above, the Retirement Funding and Administration Act of 2017 lowered the assumed rate of return from 7.50 to 7.25 percent beginning July 1, 2017. 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 GRS Consulting in the GASB No. 67 Accounting Valuation Report as of June 30, 2018. The calculations presented in the accounting valuation are not applicable for other purposes, such as determining the plans' funding requirements. The total pension liability, net pension liability, and sensitivity information are based on an actuarial valuation performed as of July 1, 2017. The total pension liability was rolled-forward from the valuation date to the plan's fiscal year ending June 30, 2018, using generally accepted actuarial principles. The Notes and Required Supplementary Information (RSI) sections of the Financial Statements include disclosures required by GASB No. 67.
- 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. Pension reform legislation increased both employee and employer contribution rates, but also established a ceiling for employee rates. Effective July 1, 2017, employee rates increased to a capped rate of 9.00 percent for SCRS and 9.75 percent for PORS. Employer contribution rates for both SCRS and PORS increased by 2 percent of pay to 13.56 percent and 16.24 percent, respectively. These employer rates are inclusive of contributions for the death benefit plan which are only applicable to participating employers. Effective July 1, 2018, employee rates will remain the same but employer contribution rates are scheduled to increase by 1 percentage point for both SCRS and PORS to 14.56 percent and 17.24 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 burden of the increased contribution requirement for employers, the General Assembly funded 1 percent of the SCRS and PORS contribution increases for fiscal year 2018. The State's budget appropriated these funds directly to PEBA for the South Carolina Retirement System Trust Fund and the Police Officers Retirement System Trust Fund. PEBA received the funds from the state and in turn issued credit invoices to each employer based on each employer's proportionate share of the appropriated funds. Participating employers then applied the credit invoices towards contributions otherwise due to the Systems for the fiscal year. The amount of nonemployer funds appropriated totaled \$105 million and \$13.1 million for SCRS and PORS respectively.
- Annuity benefits increased 16.3 percent from the prior fiscal year. The amount of benefits disbursed to payees increased from the prior year for several reasons. Eligible SCRS and PORS annuitant payees received an annual benefit adjustment equal to the lesser of 1 percent or \$500 on July 1, 2017, there

was a slight increase in the number of annuitants receiving benefits, and additionally, with the closure of the Teacher and Employee Retention Incentive (TERI) program, payments to members ending their participation in the program produced an increase of over \$375 million in annuity benefits paid in the form of TERI distributions.

- 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, the TERI participant was required to pay the same pre-tax member contribution rate on compensation earned, in the same manner as 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. The TERI program's closure not only caused a spike in the number of distributions paid during the year, but also resulted in an increase in the liability for deferred retirement benefits payable at June 30, 2018. The liability increase of over 295 percent in deferred retirement benefits occurred because for members terminating employment on June 30, 2018, their TERI balances became payable but could not be distributed until after fiscal year-end.
- The Systems' investment portfolio participates in a securities lending program, managed by BNYM (Securities Lending Program), 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 \$1.99 million, an increase from \$773 thousand in the prior year. As reported by BNYM, at June 30, 2018, the fair value of securities on loan was \$78.64 million, the fair value of the invested cash collateral was \$34.61 million, and the securities lending obligations were \$81.51 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 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 serves as co-trustee and co-fiduciary for the Systems and the trust funds. The Retirement Funding and Administration Act of 2017 assigned RSIC as co-trustee of the retirement trust funds along with the PEBA Board. 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 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 affords flexibility to quickly react to changes in market conditions. The fiscal year 2018 policy allocation, including target weights, ranges and benchmarks for each asset class, was adopted by the Commission on April 27, 2017 for the fiscal year beginning July 1, 2017. The asset allocation introduced a mid-year increase in cash allocation to accommodate an expected increase in cash needs related to payment of distributions for member TERI accounts. The asset allocation temporarily increased the cash target by 1 percentage point during the period commencing December 1,

2017 and ending June 30, 2018 while, at the same time, temporarily decreased the GAA allocation from 8 percent to 7 percent. The fiscal year 2018 asset allocation policy also featured a 2 percentage point reduction in Hedge Funds from 4 percent to 2 percent of plan.

- The 2017 legislation also gave the Commission the exclusive authority to select the custodial bank effective July 1, 2017, with PEBA as a third-party beneficiary of the contract with the custodial bank with full rights to information under them. 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 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 include management fees, performance fees and carried interest (both realized and accrued), 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 2018 were \$359.0 million, which includes both invoiced amounts and amounts deducted on a net of fee basis, but excludes bank fees and investment expenses. Comparatively, total investment manager fees were 18.5 percent higher than the prior fiscal year 2017 total of \$302.9 million. The increase is largely attributed to higher performance fees as a result of strong performance 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 2018 increased 9.7 percent from the prior year. This increase resulted largely from the initial work towards a project to assess the needs, develop requirements and begin efforts to acquire a new comprehensive benefit administration system. The project has been named "peba:connect" and is expected to be ongoing for the next 5 to 7 years. The client services vendor, an expert in public pension and insurance enterprise system implementation, began work in fall 2017 by reviewing the functional and technical requirements for the new system. Increases in administrative expenses were also realized due to higher information technology operating expenses and other costs associated with building and facilities maintenance.
- PEBA works closely with our consulting actuary and external audit firm to ensure employers are provided with the information needed to prepare their GAAP based financial statements in compliance with Governmental Accounting Standards Board (GASB), specifically Statements No. 68 and 71. 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.
- GRS Consulting (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, 2017. 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.

- 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. Collectively among the plans, the 2017 actuarial valuations reported that approximately 23,500 retirees were working for a covered employer while receiving monthly retirement benefits, either directly or as a TERI participant, thereby making up approximately 8 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 who retire after January 1, 2013, and who have not yet reached age 62 (SCRS) or age 57 (PORS) at retirement, and who have 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 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 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 2018. 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)

| | 2018 | 2017 | Increase / (Decrease) | % Increase / (Decrease) |
|---|----------------------|----------------------|--------------------------|----------------------------|
| Assets | | | | |
| Cash and cash equivalents, receivables, and prepaid expenses | \$ 3,359,600 | \$ 3,712,085 | \$ (352,485) | (9.50%) |
| Investments, at fair value | 29,243,863 | 27,995,164 | 1,248,699 | 4.46% |
| Securities lending cash collateral invested | 34,612 | 123,275 | (88,663) | (71.92%) |
| Capital assets, net of accumulated depreciation | 2,362 | 2,537 | (175) | (6.90%) |
| Total assets | <u>32,640,437</u> | <u>31,833,061</u> | <u>807,376</u> | <u>2.54%</u> |
| Liabilities | | | | |
| Deferred retirement benefits | 377,263 | 95,327 | 281,936 | 295.76% |
| Obligations under securities lending | 34,612 | 123,275 | (88,663) | (71.92%) |
| Other liabilities | 1,021,458 | 1,397,531 | (376,073) | (26.91%) |
| Total liabilities | <u>1,433,333</u> | <u>1,616,133</u> | <u>(182,800)</u> | <u>(11.31%)</u> |
| Net Position Restricted for Pensions | <u>\$ 31,207,104</u> | <u>\$ 30,216,928</u> | <u>\$ 990,176</u> | <u>3.28%</u> |

Changes in Fiduciary Net Position

Years Ended June 30

(Amounts expressed in thousands)

| | 2018 | 2017 | Increase / (Decrease) | % Increase / (Decrease) |
|---|----------------------|----------------------|--------------------------|----------------------------|
| Additions | | | | |
| Employee contributions | \$ 1,010,636 | \$ 957,779 | \$ 52,857 | 5.52% |
| Employer contributions | 1,528,741 | 1,375,926 | 152,815 | 11.11% |
| Nonemployer contributions | 118,096 | | 118,096 | 100.00% |
| State appropriated contributions | 4,814 | 4,591 | 223 | 4.86% |
| Net investment income | 2,334,478 | 3,269,390 | (934,912) | (28.60%) |
| Other income | 1,902 | 1,958 | (56) | (2.86%) |
| Total additions | <u>4,998,667</u> | <u>5,609,644</u> | <u>(610,977)</u> | <u>(10.89%)</u> |
| Deductions | | | | |
| Refunds | 137,766 | 125,762 | 12,004 | 9.55% |
| Annuity benefits | 3,826,806 | 3,291,197 | 535,609 | 16.27% |
| Death benefits | 25,207 | 25,133 | 74 | 0.29% |
| Administrative and other expenses | 18,712 | 17,277 | 1,435 | 8.31% |
| Total deductions | <u>4,008,491</u> | <u>3,459,369</u> | <u>549,122</u> | <u>15.87%</u> |
| Net increase (decrease) in Net Position | 990,176 | 2,150,275 | (1,160,099) | (53.95%) |
| Net Position Restricted for Pensions | | | | |
| Beginning of year | 30,216,928 | 28,066,653 | 2,150,275 | 7.66% |
| End of year | <u>\$ 31,207,104</u> | <u>\$ 30,216,928</u> | <u>\$ 990,176</u> | <u>3.28%</u> |

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

On a combined basis, the defined benefit plans' fiduciary net position was valued at \$31.2 billion at June 30, 2018. This represents an increase of over 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 which exceeded the impact of net negative cash flows that result from benefit payments exceeding contributions received.

During fiscal year 2018, the total dollar amount of contributions added to the plans increased in accordance with the increase in employer and employee contribution rates, while monthly retirement benefits paid to annuitants also increased compared with the previous fiscal year. As previously referenced, the increase in benefits was attributable to a benefit adjustments granted to eligible SCRS and PORS annuity recipients effective July 1, 2017, an increase in the number of annuitants and distributions paid to members due to the closing of the TERI program.

The Plan experienced strong performance for the fiscal year having a net of fee performance return, on a time-weighted basis, of a positive 7.82 percent. The Plan outperformed the policy benchmark, which returned a positive 7.28 percent, by 54 basis points. Additionally, the Plan exceeded the actuarial assumed rate of return of 7.25 percent by 57 basis points.

The Private Equity asset class, comprising 7.4 percent of the Plan, was the highest performing asset class on an absolute basis returning 14.91 percent. Relative to its benchmark, however, it underperformed by 212 basis points. Private Real Estate was the second highest performing asset class on an absolute basis returning 11.39 percent and exceeded its benchmark by 257 basis points. Global Public equity, the largest allocation in the Plan at 36.3 percent, was the third highest performing asset class returning 10.13 percent but falling short of the benchmark return of 11.14 percent. The Other Opportunistic and Private Debt asset classes, both beating their benchmarks, returned 9.63 percent and 7.58 percent respectively. Equity options returned 6.85 percent verses its benchmark return of 7.28 percent. Public Real Estate returned 6.75 percent and Mixed Credit return 4.58 percent and both beat their benchmarks which returned 3.50 percent and 3.49 percent respectively. Hedge Funds (non-PA) and GTAA return 3.28 percent and 3.17 percent respectively and both fell short of their benchmark. The World Infrastructure asset class returned 2.35 percent verse its benchmark return of 2.48 percent.

Emerging Markets Debt, returning a negative 2.56 percent, was the lowest performing asset class in the Plan and underperformed its benchmark by 66 basis points. Core Fixed Income was the only other asset class with negative performance returning a negative 1.11 percent and falling short of the benchmark by 71 basis points.

Actuarial Valuations and Funding Progress

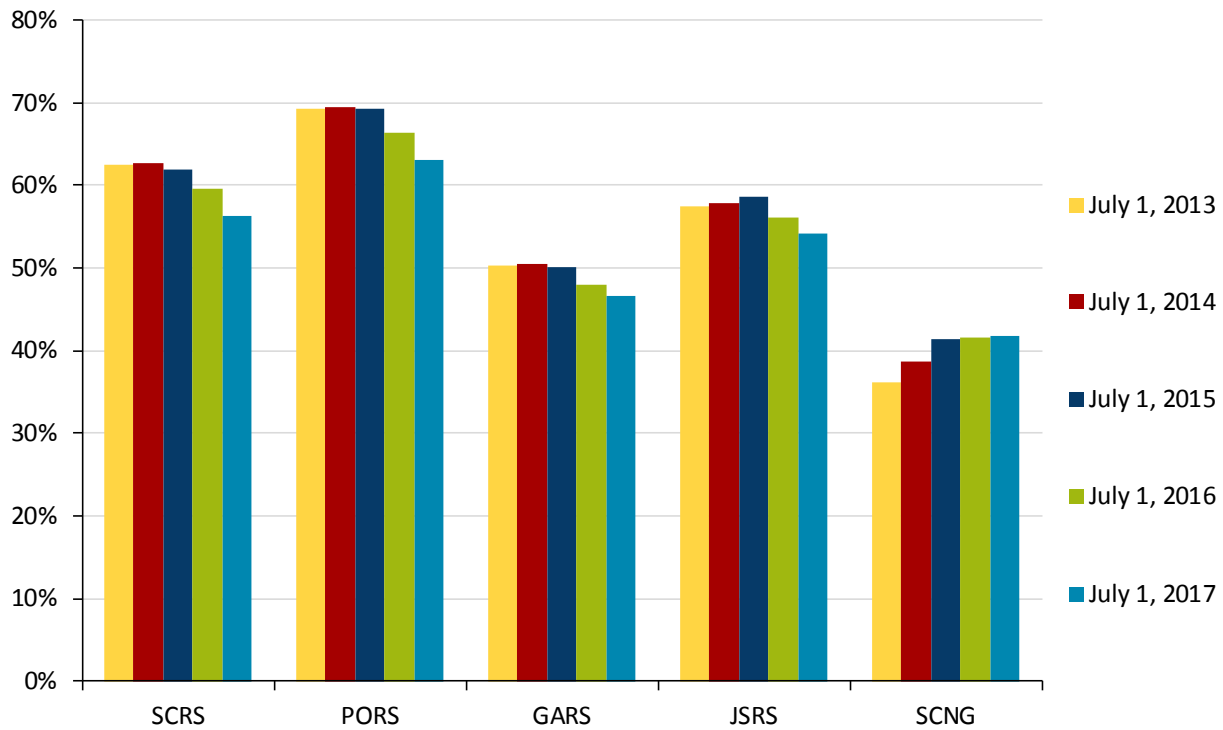
Actuarial valuations are performed annually by an external consulting actuary for each of the five defined benefit plans to ensure applicable contribution rates satisfy the funding parameters specified in Title 9 of the South Carolina Code of Laws. Under these provisions, SCRS and PORS contribution requirements 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 9 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 increase and eventually attain 100 percent.

For purposes of developing the actuarially determined contribution rate, the most recently completed valuations prepared as of July 1, 2017, 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 actuarial valuation also 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 actuarial valuation 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, 2017, showed a slight decrease in funded status for SCRS, PORS, GARS and JSRS while the funded ratio for SCNG stayed relatively level. 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' and Nonemployer's 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, 2018

With summarized comparative totals for June 30, 2017

(Amounts expressed in thousands)

| | SCRS | PORS | GARS | JSRS | SCNG | TOTAL | 2017 TOTAL |
|---|-------------------|------------------|---------------|----------------|---------------|-------------------|-------------------|
| Assets | | | | | | | |
| Cash and cash equivalents | \$ 2,002,590 | \$ 331,698 | \$ 5,389 | \$ 13,768 | \$ 4,648 | \$ 2,358,093 | \$ 2,651,273 |
| Receivables | | | | | | | |
| Due from other systems | | 278 | | | | 278 | 397 |
| Employee and employer contributions | 303,213 | 32,357 | 32 | 810 | | 336,412 | 256,491 |
| Accrued investment income | 39,429 | 6,763 | 49 | 236 | 42 | 46,519 | 43,256 |
| Unsettled investment sales | 520,220 | 89,148 | 592 | 3,081 | 502 | 613,543 | 756,013 |
| Other investment receivables | 986 | 169 | 1 | 6 | 1 | 1,163 | 809 |
| Total receivables | 863,848 | 128,715 | 674 | 4,133 | 545 | 997,915 | 1,056,966 |
| Investments, at fair value | | | | | | | |
| Short-term securities | 497,097 | 85,186 | 566 | 2,944 | 479 | 586,272 | 653,510 |
| Fixed Income | 4,482,965 | 768,228 | 5,104 | 26,549 | 4,322 | 5,287,168 | 6,392,261 |
| Global Public Equity | 9,138,590 | 1,566,046 | 10,405 | 54,120 | 8,810 | 10,777,971 | 9,939,742 |
| Global Tactical Asset Allocation | 2,622,481 | 449,405 | 2,986 | 15,530 | 2,528 | 3,092,930 | 2,065,561 |
| Alternatives | 8,054,600 | 1,380,287 | 9,170 | 47,700 | 7,765 | 9,499,522 | 8,944,090 |
| Total investments | 24,795,733 | 4,249,152 | 28,231 | 146,843 | 23,904 | 29,243,863 | 27,995,164 |
| Securities lending cash collateral invested | 29,348 | 5,029 | 33 | 174 | 28 | 34,612 | 123,275 |
| Prepaid expenses | 3,075 | 492 | 4 | 18 | 3 | 3,592 | 3,846 |
| Capital assets, net of accumulated depreciation | 2,126 | 220 | 6 | 10 | | 2,362 | 2,537 |
| Total assets | 27,696,720 | 4,715,306 | 34,337 | 164,946 | 29,128 | 32,640,437 | 31,833,061 |
| Liabilities | | | | | | | |
| Due to other systems | 278 | | | | | 278 | 397 |
| Accounts payable - unsettled investment purchases | 728,900 | 124,909 | 830 | 4,317 | 703 | 859,659 | 1,251,053 |
| Investment fees payable | 10,783 | 1,848 | 12 | 64 | 10 | 12,717 | 12,767 |
| Obligations under securities lending | 29,348 | 5,029 | 33 | 174 | 28 | 34,612 | 123,275 |
| Deferred retirement benefits | 377,263 | | | | | 377,263 | 95,327 |
| Due to Employee Insurance Program | 65,787 | 1,282 | | | | 67,069 | 63,938 |
| Benefits payable | 4,082 | 486 | | | 2 | 4,570 | 4,208 |
| Other liabilities | 65,363 | 11,321 | 68 | 355 | 58 | 77,165 | 65,168 |
| Total liabilities | 1,281,804 | 144,875 | 943 | 4,910 | 801 | 1,433,333 | 1,616,133 |
| Net Position Restricted for Pensions | \$ 26,414,916 | \$ 4,570,431 | \$ 33,394 | \$ 160,036 | \$ 28,327 | \$ 31,207,104 | \$ 30,216,928 |

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, 2018

With summarized comparative totals for the year ended June 30, 2017

(Amounts expressed in thousands)

| | SCRS | PORS | GARS | JSRS | SCNG | TOTAL | 2017 TOTAL |
|--|------------------|----------------|--------------|---------------|--------------|------------------|------------------|
| Additions | | | | | | | |
| Contributions | | | | | | | |
| Employee | \$ 868,681 | \$ 138,652 | \$ 287 | \$ 3,016 | \$ - | \$ 1,010,636 | \$ 957,779 |
| Employer | 1,300,477 | 211,793 | 5,428 | 11,043 | | 1,528,741 | 1,375,926 |
| Nonemployer | 104,974 | 13,122 | | | | 118,096 | |
| State appropriated | | | | | 4,814 | 4,814 | 4,591 |
| Total contributions | 2,274,132 | 363,567 | 5,715 | 14,059 | 4,814 | 2,662,287 | 2,338,296 |
| Investment income | | | | | | | |
| Net appreciation | | | | | | | |
| in fair value of investments | 1,794,429 | 299,669 | 2,090 | 10,491 | 1,669 | 2,108,348 | 3,094,632 |
| Interest and dividend income | 508,252 | 85,823 | 647 | 3,101 | 536 | 598,359 | 488,577 |
| Investment expense | (317,426) | (54,249) | (363) | (1,879) | (305) | (374,222) | (314,592) |
| Net income from investing activities | 1,985,255 | 331,243 | 2,374 | 11,713 | 1,900 | 2,332,485 | 3,268,617 |
| From securities lending activities: | | | | | | | |
| Securities lending income | 1,885 | 318 | 2 | 11 | 2 | 2,218 | 572 |
| Securities lending borrower rebates | (192) | (32) | | (1) | | (225) | 201 |
| Net income from securities lending activities | 1,693 | 286 | 2 | 10 | 2 | 1,993 | 773 |
| Total net investment income | 1,986,948 | 331,529 | 2,376 | 11,723 | 1,902 | 2,334,478 | 3,269,390 |
| Supplemental retirement benefits funded by the State | 355 | 13 | | | | 368 | 408 |
| Transfers of contributions from other Systems | | 1,534 | | | | 1,534 | 1,550 |
| Total additions | 4,261,435 | 696,643 | 8,091 | 25,782 | 6,716 | 4,998,667 | 5,609,644 |
| Deductions | | | | | | | |
| Refunds of contributions to members | 113,867 | 23,899 | | | | 137,766 | 125,762 |
| Transfers of contributions to other Systems | 1,534 | | | | | 1,534 | 1,550 |
| Regular retirement benefits | 2,718,718 | 369,536 | 6,452 | 17,655 | 4,411 | 3,116,772 | 2,956,627 |
| Deferred retirement benefits | 707,932 | | | | | 707,932 | 332,414 |
| Supplemental retirement benefits | 355 | 13 | | | | 368 | 408 |
| Death benefits | 22,284 | 2,751 | 16 | 156 | | 25,207 | 25,133 |
| Accidental death benefits | | 1,734 | | | | 1,734 | 1,748 |
| Depreciation | 190 | 25 | | 1 | | 216 | 269 |
| Administrative expenses | 14,468 | 2,377 | 18 | 85 | 14 | 16,962 | 15,458 |
| Total deductions | 3,579,348 | 400,335 | 6,486 | 17,897 | 4,425 | 4,008,491 | 3,459,369 |
| Net increase in Net Position | 682,087 | 296,308 | 1,605 | 7,885 | 2,291 | 990,176 | 2,150,275 |
| Net Position Restricted for Pensions | | | | | | | |
| Beginning of year | 25,732,829 | 4,274,123 | 31,789 | 152,151 | 26,036 | 30,216,928 | 28,066,653 |
| End of year | \$ 26,414,916 | \$ 4,570,431 | \$ 33,394 | \$ 160,036 | \$ 28,327 | \$ 31,207,104 | \$ 30,216,928 |

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 possess 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, 2017.

| | State | School | Other | Total |
|--|-------------|-------------|-------------|-------------|
| SCRS | | | | |
| Number of Employers ¹ | 27 | 118 | 578 | 723 |
| Annual Covered Payroll for Active Members | \$2,441,830 | \$3,485,110 | \$2,343,931 | \$8,270,871 |
| Average Number of: | | | | |
| Active Contributing Members | 51,775 | 86,239 | 55,971 | 193,985 |
| Retirees and beneficiaries currently receiving benefits | | | | 140,288 |
| Terminated members entitled to but not yet receiving benefits ² | | | | 176,045 |
| Total SCRS Membership | | | | 510,318 |
| PORS | | | | |
| Number of Employers ¹ | 18 | 3 | 286 | 307 |
| Annual Covered Payroll for Active Members | \$368,221 | | \$795,369 | \$1,163,590 |
| Average Number of: | | | | |
| Active Contributing Members | 9,152 | | 17,904 | 27,056 |
| Retirees and beneficiaries currently receiving benefits | | | | 17,887 |
| Terminated members entitled to but not yet receiving benefits ² | | | | 16,004 |
| Total PORS Membership | | | | 60,947 |
| GARS | | | | |
| Number of Employers | 1 | | | 1 |
| Annual Covered Payroll for Active Members | \$1,961 | | | \$1,961 |
| Average Number of: | | | | |
| Active Members | 87 | | | 87 |
| Retirees and beneficiaries currently receiving benefits | 354 | | | 354 |
| Terminated members entitled to but not yet receiving benefits | 35 | | | 35 |
| Total GARS Membership | 476 | | | 476 |
| 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 | 3 | | | 3 |
| Total JSRS Membership | 376 | | | 376 |
| SCNG | | | | |
| Number of Employers | 1 | | | 1 |
| Annual Covered Payroll for Active Members ³ | N/A | | | N/A |
| Average Number of: | | | | |
| Active Members | 12,116 | | | 12,116 |
| Retirees and beneficiaries currently receiving benefits | 4,789 | | | 4,789 |
| Terminated members entitled to but not yet receiving benefits | 1,901 | | | 1,901 |
| Total SCNG Membership | 18,806 | | | 18,806 |

¹ Although there are 92 SCRS, 26 PORS, 2 GARS and 4 JSRS 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 (8.41 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, 2018

(Dollar amounts expressed in thousands)

| | |
|--|-------------|
| Active Contributing Participants | 30,055 |
| Annual Covered Payroll | \$1,506,014 |
| Employer Contributions Retained by SCRS | \$126,656 |
| Death Benefit Contributions Retained by SCRS | \$2,259 |
| Employee Contributions to Investment Providers | \$135,541 |
| Employer Contributions to Investment Providers | \$75,301 |

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, 2017, 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 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, 2017.

| Asset Class | Policy Allocation | Minimum | Maximum |
|---|-------------------|--------------|--------------|
| Equity | 47.0% | 42.0% | 52.0% |
| Global Equity ^{1,2} | 33.0% | 20.0% | 36.0% |
| Private Equity ^{2,3} | 9.0% | 6.0% | 14.0% |
| Equity Options Strategies | 5.0% | 0.0% | 6.0% |
| Conservative Fixed Income | 12.0% | 10.0% | 16.0% |
| Cash & Short Duration ⁴ | 2.0% | 0.0% | 7.0% |
| Core Bonds | 10.0% | 5.0% | 15.0% |
| Diversified Credit | 18.0% | 15.0% | 21.0% |
| Mixed Credit ^{1,2} | 6.0% | 2.0% | 8.0% |
| Private Debt ^{1,2,3} | 7.0% | 4.0% | 12.0% |
| Emerging Markets Debt ¹ | 5.0% | 3.0% | 7.0% |
| Opportunistic | 13.0% | 9.0% | 19.0% |
| GAA ^{1,4} | 8.0% | 3.0% | 12.0% |
| Hedge Funds (Non-PA) ¹ | 2.0% | 0.0% | 8.0% |
| Other Opportunistic Strategies ¹ | 3.0% | 0.0% | 5.0% |
| Real Assets | 10.0% | 8.0% | 14.0% |
| Real Estate-REITs ² | 2.0% | 0.0% | 3.0% |
| Real Estate-Private ^{2,3} | 6.0% | 4.0% | 12.0% |
| World Infrastructure | 2.0% | 0.0% | 5.0% |

¹Asset classes in which hedge funds can be used, including for portable alpha implementation, up to a maximum of 20% of total assets.

Portable Alpha Strategies are capped at 12% of total assets.

²The target weights to Private Equity, Private Debt and Real Estate will be equal to their actual weights as of prior month end. Private Equity and Public Equity will combine for 42% of the entire portfolio. Private Debt and Mixed Credit will combine for 13% of the entire portfolio. Private Real Estate and Real Estate (REITs) will combine for 8% of the entire portfolio.

³Staff and Consultant will notify the Commission if Private Markets assets exceed 25% of total assets.

⁴Adopted asset allocation provided for a 1 percentage point increase in Cash & Short Duration to 3% and a 1 percentage point decrease in GAA to 7% on 12/1/17.

At June 30, 2018, the Systems held no investments (other than those issued or explicitly guaranteed by the U.S. government) in any one organization that represent 5 percent or more of the plans' fiduciary net position.

For the year ended June 30, 2018, the annual money weighted rate of return on plan investments was 7.91 percent. 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, 2018, legal agreements were in place with 147 investment managers.

Effective July 1, 2017, the Retirement System Funding and Administration Act of 2017 assigned the PEBA Board as custodian of the retirement trust funds and designated PEBA and RSIC as co-trustees of the retirement trust funds. The legislation also gave the Commission the exclusive authority to select the custodial bank provided that PEBA is a third-party beneficiary of the contract with the custodial bank, 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 reflects 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 which are 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, 2018. The issue of 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 concerted effort with Conifer Financial Services, administrator for the RSIC, the collection, aggregation, and reasonability testing enables RSIC 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 twenty-nine 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 eighty-five 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 eighty-five 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 eighty-five 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 9 years to a twenty year amortization schedule.

Employer contribution rates for SCRS and PORS increased by more than one percentage point for fiscal year 2018; therefore, in accordance with the South Carolina 2017-2018 Appropriations Act, Section 117.151, funds were legislatively appropriated to PEBA for the Retirement System Trust Funds for contributions due from participating employers. Amounts were credited toward the contributions due from participating employers for Fiscal Year 2018 based on each employer's proportionate share of the appropriated funds. Funds appropriated for SCRS and PORS totaled \$105 million and \$13.1 million respectively.

Following are the employee and employer contribution rates applicable for fiscal year 2018 (amounts expressed in thousands):

| System | Employee Rate | Employer Rate |
|--------|------------------|----------------------|
| SCRS | 9% | 13.56% ¹ |
| PORS | 9.75% | 16.24% ² |
| GARS | 11% | \$5,428 ³ |
| JSRS | 10% | 49.42% ³ |
| SCNG | Non-contributory | \$4,814 |

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

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 2018, an additional employer contribution surcharge of 5.50 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 coverage and is not a part of the actuarially established contribution rates for retirement funding purposes. Functioning as a

collecting agent, SCRS and PORS collected (amounts expressed in thousands) \$449,740 and \$24,053 respectively in retiree insurance surcharges (\$82,311 of which was applicable to the State ORP) and remitted these funds to the South Carolina Retiree Health Insurance Trust Fund.

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, 2018, were as follows (amounts expressed in thousands):

| | SCRS | PORS | GARS | JSRS | SCNG | Total |
|-----------------------|----------------------|---------------------|------------------|-------------------|------------------|----------------------|
| Employee Fund | \$ 8,501,051 | \$ 1,104,572 | \$ 7,066 | \$ 28,259 | \$ - | \$ 9,640,948 |
| Employer Fund | 17,786,456 | 3,356,790 | 26,328 | 131,777 | 28,327 | 21,329,678 |
| Death Benefit Fund | 127,409 | 46,224 | | | | 173,633 |
| Accidental Death Fund | | 62,845 | | | | 62,845 |
| QEBA Fund | | | | | | - |
| Totals | \$ 26,414,916 | \$ 4,570,431 | \$ 33,394 | \$ 160,036 | \$ 28,327 | \$ 31,207,104 |

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

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 Systems' do not have a formal policy with regards to Custodial credit risk for deposits. 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.

The Systems' deposits at June 30, 2018, were as follows (amounts expressed in thousands):

| | Carrying Amount |
|--------------|------------------|
| SCRS | \$129,727 |
| PORS | 13,601 |
| GARS | 157 |
| JSRS | 250 |
| SCNG | 127 |
| Total | \$143,862 |

As of June 30, 2018, actual bank balances totaled \$148,745 thousand. Amounts in excess of \$250,000 were uninsured and uncollateralized.

As of June 30, 2018, cash held by the custodian, in broker and strategic partnerships accounts as well as forward contracts and foreign currencies totaled \$621.6 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 as of June 30, 2018:

Statement of Invested Assets

June 30, 2018

(Amounts expressed in thousands)

| Investment Type | Fair Value | Investment Type | Fair Value |
|---|-----------------------------|---|---------------------|
| Short Term Investments | | Fixed Income Allocation | |
| Short Term Investment Funds (U.S. Regulated) | \$ 1,144,204 | U.S. Government | |
| Certificates of Deposit | 29,177 | U.S. Government Treasuries ¹ | \$ 188,315 |
| Commercial Paper | 550,063 | U.S. Government Agencies | 837,064 |
| Discount Notes | 5,792 | Mortgage Backed | |
| U. S. Treasury Bills | 246,693 | Government National Mortgage Association | 44,034 |
| Non U. S. Government Short Term | 8,261 | Federal National Mortgage Association | 43,796 |
| Corporate Bonds | 6,662 | Federal Home Loan Mortgage Association | 2,344 |
| Strategic Partnership Short Duration | 186,061 | Federal Home Loan Mortgage Association (Multiclass) | 13,771 |
| Options - Cash | 1,397 | Collateralized Mortgage Obligations | 15,329 |
| Futures - Cash | 545 | Municipals | 39,207 |
| Total Short Term Investments | <u>\$ 2,178,855</u> | Corporate | |
| Equity Allocation | | Corporate Bonds | 1,761,577 |
| Global Public Equity² | | Mixed Credit | 16,685 |
| Common Stocks | \$ 9,023,685 | Asset Backed Securities | 319,022 |
| Real Estate Investment Trusts | 998,445 | Private Placements | 853,318 |
| Preferred | 9,567 | Yankee Bonds | 625 |
| Convertible Preferred | 1,307 | Emerging Debt | 1,149,641 |
| Options - Equity | 804,428 | Options - Fixed Income | (158) |
| Futures - Equity | (33,686) | Futures - Fixed Income | 2,809 |
| Swaps - Equity | (25,775) | Swaps - Fixed Income | (211) |
| Total Global Public Equity | <u>\$ 10,777,971</u> | Total Fixed Income | <u>\$ 5,287,168</u> |
| Global Tactical Asset Allocation | | | |
| Commingled Funds Balanced | \$ 3,092,930 | | |
| Total Global Tactical Asset Allocation | <u>\$ 3,092,930</u> | | |
| Alternatives | | | |
| Hedge Funds | \$ 3,333,496 | | |
| Private Equity Limited Partnerships | 2,367,353 | | |
| Private Debt | 1,892,516 | | |
| Real Estate | 1,906,157 | | |
| Total Alternative Investments | <u>\$ 9,499,522</u> | | |
| Total Invested Assets | <u>\$ 30,836,446</u> | | |
| Invested Securities Lending Collateral | \$ 34,612 | | |

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

| | |
|--|-----------------------------|
| Total Invested Assets | \$ 30,836,446 |
| Short Term Investments classified as Cash & Cash Equivalents on Statement of Fiduciary Net Position | |
| Short Term Investment Funds (U.S. Regulated) | (1,144,204) |
| Commercial Paper | (426,228) |
| Discount Notes | (5,792) |
| Non U. S. Government Short Term | (8,261) |
| Corporate Bonds | (6,156) |
| Options - Cash | (1,397) |
| Futures - Cash | (545) |
| Total Investments on Statement of Fiduciary Net Position | <u>\$ 29,243,863</u> |

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

² RSIC's Public Equity benchmark as of 6/30/2018 is the MSCI All Country World Investable Market Index. The Benchmark is comprised of 53.30% MSCI US Equity, 35.36% MSCI EAFE + CAD, and 11.34% MSCI EM Equity. As of June 30, 2018, RSIC had a NAV of \$4,959,087,416 in Global Equity managers that invest to the MSCI World. The MSCI World is comprised of 60.68% MSCI US and 39.32% 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: Inputs other than quoted prices included within Level 1 that are observable for an asset or liability, either directly or indirectly.

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, 2018 (amounts in thousands):

| | | 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) |
| Investments by Fair Value Level | | At 6/30/2018 | | |
| Short Term Investments | | | | |
| Short Term Investment Funds (U. S. Regulated) | \$ 1,144,204 | \$ 1,144,204 | \$ - | \$ - |
| Certificates of Deposit | 29,177 | | 29,177 | |
| Commercial Paper | 550,063 | | 550,063 | |
| Discount Notes | 5,792 | | 5,792 | |
| U. S. Treasury Bills | 246,693 | 246,693 | | |
| Non U. S. Government Short Term | 8,261 | | 8,261 | |
| Corporate Bonds | 6,662 | | 6,662 | |
| Total Short Term Investments | \$ 1,990,852 | \$ 1,390,897 | \$ 599,955 | \$ - |
| Equity Allocation | | | | |
| Global Public Equity | | | | |
| Common Stocks | \$ 4,675,871 | \$ 4,675,871 | \$ - | \$ - |
| Real Estate Investment Trusts | 998,445 | 998,445 | | |
| Preferred | 9,567 | 2,470 | 7,097 | |
| Convertible Preferred | 1,307 | | 1,307 | |
| Total Global Public Equity | \$ 5,685,190 | \$ 5,676,786 | \$ 8,404 | \$ - |
| Fixed Income Allocation | | | | |
| U. S. Government | | | | |
| U.S. Government Treasuries | \$ 188,315 | \$ 188,315 | \$ - | \$ - |
| U.S. Government Agencies | 837,064 | | 837,064 | |
| Mortgage Backed | | | | |
| Government National Mortgage Association | 44,034 | | 44,034 | |
| Federal National Mortgage Association | 43,796 | | 43,796 | |
| Federal Home Loan Mortgage Association | 2,344 | | 2,344 | |
| Federal Home Loan Mortgage Association (Multiclass) | 13,771 | | 13,771 | |
| Collateralized Mortgage Obligations | 15,329 | | 15,329 | |
| Municipals | 39,207 | | 39,207 | |
| Corporate | | | | |
| Corporate Bonds | 1,761,577 | | 1,336,710 | 424,867 |
| Asset Backed Securities | 319,022 | | 319,022 | |
| Private Placements | 853,318 | | 853,318 | |
| Yankee Bonds | 625 | | 625 | |
| Total Fixed Income | \$ 4,118,402 | \$ 188,315 | \$ 3,505,220 | \$ 424,867 |
| Total Investments by Fair Value Level | \$ 11,794,444 | \$ 7,255,998 | \$ 4,113,579 | \$ 424,867 |
| Investments measured at the net asset value (NAV) | | | | |
| Strategic Partnership Short Duration | \$ 186,061 | | | |
| Global Equity | 5,170,346 | | | |
| Global Tactical Asset Allocation | 3,092,930 | | | |
| Mixed Credit | 16,685 | | | |
| Emerging Debt | 1,149,641 | | | |
| Hedge Funds | 3,333,496 | | | |
| Private Equity | 2,367,353 | | | |
| Private Debt | 1,892,516 | | | |
| Real Estate | 1,906,157 | | | |
| Total investments measured at the NAV | \$ 19,115,185 | | | |
| Total investments measured at fair value | \$ 30,909,629 | | | |
| Investment derivative instruments | | | | |
| Short Term Investments | | | | |
| Options - Cash | \$ 1,397 | \$ 1,774 | \$ (377) | \$ - |
| Futures - Cash | 545 | 545 | | |
| Equity Investments | | | | |
| Options - Equity | (18,104) | 27 | (18,131) | |
| Futures - Equity | (33,686) | (33,686) | | |
| Swaps - Equity | (25,775) | | (25,775) | |
| Fixed Income Investments | | | | |
| Options - Fixed Income | (158) | (49) | (109) | |
| Futures - Fixed Income | 2,809 | 2,809 | | |
| Swaps - Fixed Income | (211) | | (211) | |
| Total investment derivative instruments | \$ (73,183) | \$ (28,580) | \$ (44,603) | \$ - |
| Total Invested Assets | \$ 30,836,446 | | | |

Investments Measured at the Net Asset Value (NAV):

| | Fair Value | Unfunded Commitments ¹ | Redemption Frequency (if Currently Eligible) | Redemption Notice Period |
|--|----------------------|--------------------------------------|--|--------------------------------|
| Strategic Partnership Short Duration | \$ 186,061 | \$ - | Monthly | 5 - 10 days |
| Global Equity | 5,170,346 | | Daily/Monthly | 5 - 30 days |
| Global Tactical Asset Allocation | 3,092,930 | | Monthly/Quarterly | 5 - 14 days |
| Mixed Credit | 16,685 | | Monthly | 5 - 30 days |
| Emerging Debt | 1,149,641 | | Daily/Monthly | 10 - 15 days |
| Hedge Funds | 3,333,496 | | Monthly/Quarterly | 2 - 90 days |
| Private Equity | 2,367,353 | 1,090,568 | Illiquid | Illiquid |
| Private Debt | 1,892,516 | 1,585,383 | Illiquid | Illiquid |
| Real Estate | 1,906,157 | 789,987 | Illiquid | Illiquid |
| Infrastructure ² | | 145,937 | Illiquid | Illiquid |
| Total investments measured at the NAV | \$ 19,115,185 | | | |

¹ For purposes of this table, amounts are reported in thousands in US Dollars. The Private Equity Category includes €184,895,000 and AUD \$55,599,000 that have been converted to USD. The Infrastructure category includes €125,000,000 that has been converted to USD.

² At 6/30/18 no capital has been called for the Infrastructure fund.

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 11 funds that invest primarily in global developed and emerging equity public markets instruments. One of the funds invests in an equity options strategy. 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 five 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, except for one fund that may require a longer redemption timeframe and may be subject to gates and/or lock-ups.

Mixed Credit 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 four 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 14 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 6 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 44 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 25 funds that consist of investments in limited partnerships and 5 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.

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.

Infrastructure Funds. This investment type includes one fund that has been subscribed to but has not yet called capital. 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, 2018, 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) | \$ 1,144,204 | | \$ 1,144,204 | 0.08 |
| Invested Securities Lending Collateral | 34,612 | | 34,612 | 0.01 |
| Certificates of Deposit | 29,177 | | 29,177 | 0.05 |
| Commercial Paper | 550,063 | 3,950 | 546,113 | 0.08 |
| Discount Notes | 5,792 | | 5,792 | 0.08 |
| U. S. Treasury Bills | 246,693 | | 246,693 | 0.29 |
| Non U. S. Government Short Term | 8,261 | | 8,261 | 0.07 |
| Corporate Bonds | 6,662 | | 6,662 | 0.05 |
| Strategic Partnership Short Duration | 186,061 | | 186,061 | 0.13 |
| Options - Cash | 1,397 | 1,464 | (67) | 0.24 |
| Futures - Cash | 545 | | 545 | 1.14 |
| Total Short Term Investments | 2,213,467 | 5,414 | 2,208,053 | |
| Equity Allocation | | | | |
| Preferred | 9,567 | 6,749 | 2,818 | 3.31 |
| Convertible Preferred | 1,307 | | 1,307 | 0.04 |
| Total Equity Investments | 10,874 | 6,749 | 4,125 | |
| Fixed Income Allocation | | | | |
| U. S. Government | | | | |
| U.S. Government Treasuries | 188,315 | | 188,315 | 7.54 |
| U. S. Government Agencies | 837,064 | | 837,064 | 2.84 |
| Mortgage Backed | | | | |
| Government National Mortgage Association | 44,034 | 5,132 | 38,902 | 5.27 |
| Federal National Mortgage Association | 43,796 | | 43,796 | 4.99 |
| Federal Home Loan Mortgage Corporation | 2,344 | | 2,344 | 6.28 |
| Federal Home Loan Mortgage Association (FHLMC Multiclass) | 13,771 | | 13,771 | 9.15 |
| Collateralized Mortgage Obligations | 15,329 | | 15,329 | 9.92 |
| Municipals | 39,207 | 30,825 | 8,382 | 4.59 |
| Corporate | | | | |
| Corporate Bonds | 1,761,577 | 69,367 | 1,692,210 | 2.05 |
| Mixed Credit | 16,685 | | 16,685 | 0.02 |
| Asset Backed Securities | 319,022 | 27,952 | 291,070 | 0.65 |
| Private Placements | 853,318 | 86,781 | 766,537 | 1.10 |
| Yankee Bonds | 625 | | 625 | 1.59 |
| Emerging Debt | 1,149,641 | | 1,149,641 | 5.65 |
| Options - Fixed Income | (158) | (51) | (107) | (113.90) |
| Futures - Fixed Income | 2,809 | (308) | 3,117 | 1.81 |
| Swaps - Fixed Income | (211) | (2,920) | 2,709 | 10.16 |
| Total Fixed Income | \$ 5,287,168 | \$ 216,778 | \$ 5,070,390 | |
| Mixed Credit Hedge Fund Allocation | | | | |
| Mixed Credit Hedge Funds | 52,287 | | 52,287 | (0.06) |
| Total Mixed Credit Hedge Funds | \$ 52,287 | \$ - | \$ 52,287 | |
| Total Invested Assets | \$ 7,563,796 | \$ 228,941 | \$ 7,334,855 | |
| Total Portfolio Effective Duration (option adjusted duration) | | | | 2.16 |

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, 2018, were rated by Moody's and are presented below (amounts expressed in thousands).

Credit Risk

June 30, 2018

(Amounts expressed in thousands)

| Investment Type and Fair Value | AAA | AA | A | BAA | BA |
|---|---------------------|-------------------|-------------------|-------------------|-------------------|
| Short Term Investments | | | | | |
| Short Term Investment Funds (U. S. Regulated) | \$ 1,144,204 | \$ - | \$ - | \$ - | \$ - |
| Invested Securities Lending Collateral | | | | | |
| Certificates of Deposit | | | | | |
| Commercial Paper | | 257,202 | | 271,893 | |
| Discount Notes | 5,792 | | | | |
| Non U. S. Government Short Term | | | | | |
| Corporate Bonds | | 2,052 | 4,104 | | |
| Strategic Partnership Short Duration | | | | | |
| Options - Cash | | | | | |
| Futures - Cash | | | | | |
| Equity Investments | | | | | |
| Preferred | | | | 1,379 | 1,439 |
| Convertible Preferred | | | | 1,307 | |
| Fixed Income Allocation² | | | | | |
| Mortgage Backed: | | | | | |
| Federal National Mortgage Association | 43,796 | | | | |
| Federal Home Loan Mortgage Association | 2,344 | | | | |
| Federal Home Loan Mortgage Association (Multiclass) | 13,771 | | | | |
| Collateralized Mortgage Association | 15,329 | | | | |
| Municipals | 630 | | 12,900 | | |
| Corporate: | | | | | |
| Corporate Bonds | 66,597 | 168,553 | 369,673 | 249,489 | 206,022 |
| Mixed Credit | | | | | |
| Asset Backed Securities | 70,243 | 2,188 | 8,958 | 29,404 | 99,681 |
| Private Placements | 68,390 | 125,371 | 157,504 | 60,067 | 60,961 |
| Yankee Bonds | | | | | 625 |
| Emerging Debt | | | | | |
| Options - Fixed Income | | | | | |
| Futures - Fixed Income | | | | | |
| Swaps - Fixed Income | | | | | |
| Totals | \$ 1,431,096 | \$ 555,366 | \$ 553,139 | \$ 613,539 | \$ 368,728 |

Chart continued on Page 39

¹The column labeled Not Rated by S&P or Moody's represents securities that were either not rated or had a withdrawn rating.

²U.S. Treasury Bills, Notes and Bonds, Agencies and Government National Mortgage Association securities with a fair value of \$1.03 billion are not included because they are not subject to credit risk.

Credit Risk

| Not Rated | | | | | | | |
|------------|-----------|-----------|-----------|---|---------------------------------|---|--------------|
| B | CAA | CA | C | Int'l and EMD Commingled Funds or held in Strategic Partnerships | Rated by S&P; not by Moody's | Not rated by S&P or Moody's ¹ | TOTAL |
| | | | | | | | \$ 1,144,204 |
| | | | | | | 34,612 | 34,612 |
| | | | | | | 29,177 | 29,177 |
| | | | | | | 20,968 | 550,063 |
| | | | | | | | 5,792 |
| | | | | | | 8,261 | 8,261 |
| | | | | | 506 | | 6,662 |
| | | | | 186,061 | | | 186,061 |
| | | | | | | 1,397 | 1,397 |
| | | | | | | 545 | 545 |
| | | | | | | | |
| | | | | | | 6,749 | 9,567 |
| | | | | | | | 1,307 |
| | | | | | | | 43,796 |
| | | | | | | | 2,344 |
| | | | | | | | 13,771 |
| | | | | | | | 15,329 |
| | | | | | 7,752 | 17,925 | 39,207 |
| 231,609 | 44,012 | 8,146 | 12,866 | | 243,470 | 161,140 | 1,761,577 |
| | | | | | | 16,685 | 16,685 |
| 19,738 | 12,162 | 14,385 | | | 60,913 | 1,350 | 319,022 |
| 64,879 | 34,807 | 2,036 | | | 190,258 | 89,045 | 853,318 |
| | | | | | | | 625 |
| | | | | 1,149,641 | | | 1,149,641 |
| | | | | | | (158) | (158) |
| | | | | | | 2,809 | 2,809 |
| | | | | | | (211) | (211) |
| \$ 316,226 | \$ 90,981 | \$ 24,567 | \$ 12,866 | \$ 1,335,702 | \$ 502,899 | \$ 390,294 | \$ 6,195,403 |

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, 2018, there is no single issuer exposure within the portfolio that comprises

5 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, 2018, (amounts expressed in thousands):

| Currency | Cash & Cash Equivalents | Forward Contracts | Futures Contracts | Private Equity | Preferred Securities | Fixed Income | Equity | Total |
|---------------------|----------------------------|----------------------|----------------------|-------------------|-------------------------|-------------------|---------------------|---------------------|
| Australian Dollar | \$ 2,096 | \$ 29,327 | \$ 26 | \$ 39,740 | \$ - | \$ 3,198 | \$ 126,130 | \$ 200,517 |
| Canadian Dollar | 10,474 | 35,534 | 405 | | | 205 | 235,139 | 281,757 |
| Czech Koruna | | 43 | | | | | | 43 |
| Danish Krone | 141 | (10,987) | | | | 11,238 | 36,836 | 37,228 |
| Euro Currency | 18 | 54,677 | (5,126) | 186,379 | 2,470 | 188,588 | 556,195 | 983,201 |
| Hong Kong Dollar | (1,756) | 22,078 | (2) | | | | 75,325 | 95,645 |
| Hungarian Forint | 8,261 | (8,273) | | | | | | (12) |
| Israeli Shekel | 18 | (4,218) | | | | 4,227 | 5,579 | 5,606 |
| Japanese Yen | 2,615 | 106,825 | (2,997) | | | (450) | 402,466 | 508,459 |
| Mexican Peso | 326 | 1,311 | | | | | 3,606 | 5,243 |
| New Zealand Dollar | 55 | | | | | | 6,473 | 6,528 |
| Norwegian Krone | 456 | (549) | | | | | 38,441 | 38,348 |
| Pound Sterling | 5,243 | 71,070 | (671) | | | 10,743 | 294,015 | 380,400 |
| Russian Ruble (New) | | (288) | | | | | | (288) |
| Singapore Dollar | 407 | | | | | | 19,619 | 20,026 |
| South African Rand | | 118 | | | | | | 118 |
| Swedish Krona | 732 | 22,129 | (20) | | | | 48,340 | 71,181 |
| Swiss Franc | 246 | 137 | | | | | 102,130 | 102,513 |
| Totals | \$ 29,332 | \$ 318,934 | \$ (8,385) | \$ 226,119 | \$ 2,470 | \$ 217,749 | \$ 1,950,294 | \$ 2,736,513 |

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 \$192.1 and \$288.9 million, respectively, were held in trust by the clearing brokers on June 30, 2018. 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.

Derivatives directly managed by the Investment Commission are used primarily to facilitate changes to the asset allocation of the total plan and for their low cost of implementation. The Commission uses derivatives 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
- **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, 2018, (amounts expressed in thousands):

| Changes in Fair Value | | | | |
|-----------------------|---------------------------------|-------------|----------|--|
| | Classification | Gain/(Loss) | | |
| Futures Contracts | Net appreciation/(depreciation) | \$ | (4,385) | |
| Forward Contracts | Net appreciation/(depreciation) | | (1,039) | |
| Swaps | Net appreciation/(depreciation) | | (23,751) | |

| Fair Value | | | | |
|---------------------------|-------------------|--------------------|-------------------|--------------------|
| | Forward Contracts | Futures | Options | Swaps |
| Cash and Cash Equivalents | \$ (8,061) | \$ 545 | \$ 1,397 | \$ - |
| Fixed Income | | 2,809 | (158) | (211) |
| Equity | | (33,686) | 804,428 | (25,775) |
| Totals | <u>\$ (8,061)</u> | <u>\$ (30,332)</u> | <u>\$ 805,667</u> | <u>\$ (25,986)</u> |

At June 30, 2018, the Systems had the following exposure via futures contracts (dollar amounts expressed in thousands):

| Futures Contracts | Expiration | Long/Short | Quantity | Notional Value¹ |
|--|-------------------|-------------------|-----------------|-----------------------------------|
| 90DAY EURO\$ FUTURE (CME) | EXP DEC 19 | Short | (50) | \$ (12,129) |
| 90DAY EURO\$ FUTURE (CME) | EXP DEC 20 | Short | (86) | (20,859) |
| 90DAY EURO\$ FUTURE (CME) | EXP SEP 20 | Short | (138) | (33,474) |
| 90DAY EURO\$ FUTURE (CME) | EXP JUN 20 | Short | (316) | (76,646) |
| 90DAY EURO\$ FUTURE (CME) | EXP MAR 20 | Short | (209) | (50,693) |
| Total Cash & Cash Equivalents | | | | (193,801) |
| OMXS30 IND FUTURE (SSE) | EXP JUL 18 | Long | 703 | 12,267 |
| FTSE 100 INDEX FUTURE (ICF) | EXP SEP 18 | Long | 845 | 84,803 |
| TOPIX INDEX FUTURE (OSE) | EXP SEP 18 | Long | 750 | 117,174 |
| HANG SENG INDEX FUTURE (HKG) | EXP JUL 18 | Long | 112 | 20,504 |
| AMSTERDAM INDEX FUTURE (EOE) | EXP JUL 18 | Long | 146 | 18,805 |
| FTSE/MIB INDEX FUTURE (MIL) | EXP SEP 18 | Long | 110 | 13,850 |
| CAC40 10 EURO FUTURE (EOP) | EXP JUL 18 | Long | 908 | 56,405 |
| IBEX 35 INDEX FUTURE (MFM) | EXP JUL 18 | Long | 136 | 15,246 |
| EURO STOXX 50 FUTURE (EUX) | EXP SEP 18 | Long | 1,291 | 51,113 |
| DAX INDEX FUTURE (EUX) | EXP SEP 18 | Long | 131 | 47,064 |
| S&P/TSX 60 INDEX FUTURE (MSE) | EXP SEP 18 | Long | 310 | 45,403 |
| SPI 200 FUTURE (SFE) | EXP SEP 18 | Long | 298 | 33,841 |
| S & P 500 EMINI INDEX FUT (CME) | EXP SEP 18 | Long | 14,628 | 1,990,578 |
| Total Equity | | | | 2,507,053 |
| EURO-OAT FUTURE (EUX) | EXP SEP 18 | Short | (239) | (43,124) |
| JPN 10YR BOND FUTURE (OSE) | EXP SEP 18 | Short | (4) | (5,447) |
| EURO BUXL 30Y BND FUTURE (EUX) | EXP SEP 18 | Short | (39) | (8,091) |
| EURO-BUND FUTURE (EUX) | EXP SEP 18 | Short | (34) | (6,453) |
| CANADA 10YR BOND FUTURE (MSE) | EXP SEP 18 | Short | (7) | (727) |
| AUST 10Y BOND FUTURE (SFE) | EXP SEP 18 | Short | (241) | (23,035) |
| US LONG BOND FUTURE (CBT) | EXP SEP 18 | Short | (251) | (36,395) |
| US LONG BOND FUTURE (CBT) | EXP SEP 18 | Long | 25 | 3,625 |
| US 2YR TREAS NTS FUT (CBT) | EXP SEP 18 | Long | 2,962 | 627,435 |
| US 5YR TREAS NTS FUTURE (CBT) | EXP SEP 18 | Long | 3,866 | 439,244 |
| US 10YR NOTE FUTURE (CBT) | EXP SEP 18 | Long | 1,924 | 231,241 |
| US 5YR TREAS NTS FUTURE (CBT) | EXP SEP 18 | Long | 740 | 84,077 |
| US 10YR NOTE FUTURE (CBT) | EXP SEP 18 | Long | 741 | 89,059 |
| US 5YR TREAS NTS FUTURE (CBT) | EXP SEP 18 | Short | (218) | (24,769) |
| US 10YR ULTRA FUTURE (CBT) | EXP SEP 18 | Short | (34) | (4,360) |
| Total Fixed Income | | | | 1,322,280 |
| Total | | | | \$ 3,635,532 |

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, 2018, the Systems had the following forward exposures, listed by counterparty (amounts expressed in thousands):

| Broker | Notional Value | Fair Value | Counterparty Exposure |
|------------------------------------|---------------------|-------------------|-----------------------|
| Bank of America | \$ 43,151 | \$ 131 | 2.28% |
| Bank of Montreal | 175,677 | (2,272) | 9.27% |
| BNP Paribas | 14,116 | (131) | 0.74% |
| BNY Mellon | 240,546 | 777 | 12.70% |
| Brown Brothers Harriman | 14,819 | (3) | 0.78% |
| Citibank NA | 50,749 | 9 | 2.68% |
| Citigroup Global Markets | 364 | (1) | 0.01% |
| Commonwealth Bank of Australia | 175,638 | (2,233) | 9.27% |
| Credit Agricole | 128 | (10) | 0.01% |
| Credit Suisse International London | 1,365 | 1 | 0.07% |
| Goldman Sachs | 80,853 | 915 | 4.27% |
| HSBC Bank | 16,816 | 24 | 0.89% |
| JP Morgan Chase Bank | 89,060 | 1,754 | 4.70% |
| Merrill Lynch International | 56 | (2) | 0.00% |
| Morgan Stanley | 10,299 | 342 | 0.54% |
| Natwest Markets | 781 | 49 | 0.04% |
| Royal Bank of Canada | 425,129 | (2,284) | 22.44% |
| Standard Chartered Bank London | 17,047 | (447) | 0.90% |
| State Street Boston Capital Market | 152,994 | (184) | 8.08% |
| Toronto Dominion | 2,964 | (58) | 0.16% |
| UBS AG/Stamford CT | 206,451 | (2,280) | 10.90% |
| Westpac Banking Corp | 175,563 | (2,158) | 9.27% |
| Totals | \$ 1,894,566 | \$ (8,061) | 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, 2018, for currency forwards, swap agreements, and options (amounts in thousands):

| Quality rating | Forwards | Swaps | Options ¹ | Total |
|---|-------------------|--------------------|----------------------|--------------------|
| Aa2 | \$ (1,529) | \$ - | \$ - | \$ (1,529) |
| Aa3 | (5,100) | (22,991) | (226) | (28,317) |
| A1 | (1,817) | (2,763) | (91) | (4,671) |
| A2 | (1) | (4,175) | | (4,176) |
| A3 | (2) | | | (2) |
| Baa2 | 49 | | (109) | (60) |
| Not rated by Moody's; rated A+ by Fitch | 339 | | 37 | 376 |
| Total subject to credit risk | \$ (8,061) | \$ (29,929) | \$ (389) | \$ (38,379) |
| Centrally cleared: | | | | |
| Chicago Board Options Exchange | \$ - | \$ - | \$ (16,476) | \$ (16,476) |
| Chicago Mercantile Exchange | | 492 | | 492 |
| Intercontinental Exchange | | 1,512 | | 1,512 |
| LCH Ltd | | 1,939 | | 1,939 |
| Total not subject to credit risk | \$ - | \$ 3,943 | \$ (16,476) | \$ (12,533) |
| Totals | \$ (8,061) | \$ (25,986) | \$ (16,865) | \$ (50,912) |

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

At June 30, 2018, 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 | Russell 2000 Proxy | Russell 2000 Index Total Return | ICE LIBOR USD 3M - 30 bps | 9/28/2018 | \$ (273,449) | \$ (18,326) | \$ (18,325) |
| Barclays | Barclays US Agg Proxy | ICE LIBOR USD 1M + 24 bps | LBUSTRUU Index | 1/31/2019 | 347,116 | (1,093) | (4,619) |
| Barclays | Barclays US Securitized Proxy | ICE LIBOR USD 1M + 15 bps | LD19TRUU Index | 7/31/2018 | 129,575 | (200) | (2,273) |
| Barclays | Barclays US Corporate Proxy | ICE LIBOR USD 1M + 25 bps | LUACTRUU Index | 7/31/2018 | 98,452 | (772) | (3,571) |
| Barclays | Barclays US Agg Proxy | ICE LIBOR USD 1M + 26 bps | LBUSTRUU Index | 2/28/2019 | 355,788 | (1,152) | (892) |
| Barclays | Barclays US Agg Proxy | ICE LIBOR USD 1M + 27 bps | LBUSTRUU Index | 9/28/2018 | 296,294 | (966) | (7,975) |
| Goldman Sachs | MSCI World Swap Proxy | ICE LIBOR USD 3M | NDDUWI Index | 7/31/2018 | 541,492 | 894 | (30,972) |
| Goldman Sachs | Russell 2500 Growth Proxy | ICE LIBOR USD 3M + 29 bps | Russell 2500 Growth Index | 11/30/2018 | 141,914 | (3,651) | 11,900 |
| JP Morgan | Russell 2000 Proxy | Russell 2000 Index Total Return | ICE LIBOR USD 3M - 23 bps | 10/31/2018 | (72,662) | (4,692) | (4,692) |
| | | | | | <u>\$ 1,564,520</u> | <u>\$ (29,958)</u> | <u>\$ (61,419)</u> |

| Counterparty | Fixed Income Swaps | SCRS Pays | SCRS Receives | Maturity Date | Current Notional | Fair Value ¹ |
|-----------------------------|------------------------------|----------------|----------------|---------------|-------------------|-------------------------|
| Bank of America | Credit Default Swaps | Fixed/Variable | Fixed/Variable | various | \$ 2,450 | \$ 19 |
| Barclays | Credit Default Swaps | Fixed Rate | Variable Rate | 12/20/2023 | 400 | 8 |
| Credit Suisse | Credit Default Swaps | Variable Rate | Fixed Rate | 9/17/2058 | 12,500 | (6) |
| HSBC Securities | Credit Default Swaps | Variable Rate | Fixed Rate | 6/20/2021 | 1,200 | 9 |
| JP Morgan | Credit Default Swaps | Variable Rate | Fixed Rate | 9/17/2058 | 2,200 | (1) |
| | | | | | <u>\$ 18,750</u> | <u>\$ 29</u> |
| Chicago Mercantile Exchange | Cleared Interest Rate Swaps | Fixed Rate | Variable Rate | various | \$ 303,318 | \$ 492 |
| Intercontinental Exchange | Cleared Credit Default Swaps | Variable Rate | Fixed Rate | various | 99,600 | 1,512 |
| LCH.Ltd | Cleared Interest Rate Swaps | Fixed/Variable | Fixed/Variable | various | 149,658 | 1,939 |
| | | | | | <u>\$ 552,576</u> | <u>\$ 3,943</u> |

¹Fair 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, 2018, the Systems had the following option positions (amounts expressed in thousands):

| Option Contracts | Underlying Security | Expiration | Quantity | Fair Value ¹ |
|-----------------------------------|--------------------------------|---------------|--------------|-------------------------|
| Put Dec 19 097.000 ED 12/16/19 | 90DAY EURODOLLAR FUTURE DEC 19 | December 2019 | (1,083) | \$ (663) |
| Put Dec 19 097.625 ED 12/16/19 | 90DAY EURODOLLAR FUT DEC 19 | December 2019 | 1,083 | 1,841 |
| Put Dec 18 097.625 ED 12/17/18 | 90DAY EURODOLLAR FUTURE DEC 18 | December 2018 | 2,328 | 1,688 |
| Put Dec 18 097.500 ED 12/17/18 | 90DAY EURODOLLAR FUT DEC 18 | December 2018 | (2,328) | (1,091) |
| Call Aug 18 019.500 ED 082118 | MXN/USD SPOT OPTION 2018 | August 2018 | (3,050,000) | (97) |
| Call Aug 18 066.190 ED 082418 | RUB/USD SPOT OPTION 2018 | August 2018 | (1,400,000) | (12) |
| Call Aug 18 066.090 ED 082718 | RUB/USD SPOT OPTION 2018 | August 2018 | (1,400,000) | (12) |
| Call Aug 18 065.962 ED 082418 | RUB/USD SPOT OPTION 2018 | August 2018 | (3,400,000) | (25) |
| Call Aug 18 066.400 ED 08/24/2018 | RUB/USD SPOT OPTION 2018 | August 2018 | (2,300,000) | (15) |
| Call Aug 18 067.400 ED 081718 | RUB/USD SPOT OPTION 2018 | August 2018 | (1,000,000) | (4) |
| Call Aug 18 066.550 ED 081718 | RUB/USD SPOT OPTION 2018 | August 2018 | (1,800,000) | (9) |
| Call Aug 18 066.490 ED 081718 | RUB/USD SPOT OPTION 2018 | August 2018 | (1,800,000) | (9) |
| Call July 18 066.600 ED 07/9/18 | RUB/USD SPOT OPTION 2018 | July 2018 | (1,700,000) | (1) |
| Call July 18 066.3834 ED 070218 | RUB/USD SPOT OPTION 2018 | July 2018 | (1,400,000) | 0 |
| Call Aug 18 021.850 ED 081718 | MXN/USD SPOT OPTION 2018 | August 2018 | (1,600,000) | (4) |
| Call July 18 021.250 ED 071118 | MXN/USD SPOT OPTION 2018 | July 2018 | (480,000) | (1) |
| Call July 18 021.200 ED 070518 | MXN/USD SPOT OPTION 2018 | July 2018 | (2,020,000) | (1) |
| Call July 18 019.250 ED 071918 | MXN/USD SPOT OPTION 2018 | July 2018 | (3,050,000) | (96) |
| Call Aug 18 021.940 ED 081618 | MXN/USD SPOT OPTION 2018 | August 2018 | (1,800,000) | (3) |
| Call Aug 18 021.920 ED 082118 | MXN/USD SPOT OPTION 2018 | August 2018 | (1,800,000) | (4) |
| Put July 18 001.332 ED 071218 | USD/GBP SPOT OPTION 2018 | July 2018 | (1,441,000) | (21) |
| Put July 18 001.3225 ED 071218 | USD/GBP SPOT OPTION 2018 | July 2018 | (3,800,000) | (32) |
| Put Aug 18 000.722 ED 08/20/18 | USD/AUD SPOT OPTION 2018 | August 2018 | (8,200,000) | (32) |
| Total Cash & Cash Equivalents | | | | 1,397 |
| Put July 18 000.750 ED 07/18/18 | CDX SP CDX.NA.IG.30 V1 | July 2018 | (2,100,000) | (1) |
| Put July 18 000.750 ED 071818 | CDX SP CDX.NA.IG.30 V1 062023 | July 2018 | (2,200,000) | (1) |
| Put Dec 19 002.945 ED 120919 | IRS P US0003M R 2.945% 12/11/4 | December 2019 | 2,200,000 | 144 |
| Put Aug 18 002.940 ED 08/20/18 | IRS P USD 30Y 97BPS R 2.94% | August 2018 | 1,600,000 | 35 |
| Put Aug 18 002.800 ED 08/20/18 | IRS P USD 5Y 22BPS R 2.8% | August 2018 | (6,900,000) | (51) |
| Put Aug 18 002.905 ED 082018 | IRS P USD 30Y 98BPS R 2.905% | August 2018 | 4,900,000 | 130 |
| Put Aug 18 002.800 ED 082018 | IRS P USD 5Y 22BPS R 2.8% | August 2018 | (21,600,000) | (159) |
| Put Dec 19 002.750 ED 12/09/19 | IRS P US0003M R 2.75% 12/11/24 | December 2019 | (9,900,000) | (206) |
| Put Aug 18 119.500 ED 072718 | US 10YR NOTE FUTURE SEP 18 | August 2018 | (59) | (11) |
| Put Aug 18 161.500 ED 07/27/18 | EURO-BUND FUTURE SEP 18 | August 2018 | (78) | (28) |
| Put Aug 15 160.500 ED 07/27/18 | EURO-BUND FUTURE SEP 18 | August 2018 | (71) | (10) |
| Total Fixed Income | | | | (158) |
| Put July 18 2770.000 ED 072018 | S&P 500 INDEX SPX | July 2018 | (1,154) | (6,636) |
| Put July 18 2755.000 ED 072718 | S & P 500 INDEX (SPX) | July 2018 | (383) | (1,969) |
| Put July 18 2780.000 ED 071318 | S & P 500 INDEX (SPX) | July 2018 | (380) | (2,367) |
| Put Aug 18 2720.000 ED 083118 | S & P 500 INDEX (SPX) | August 2018 | (1,154) | (6,497) |
| Put July 18 2730.000 ED 070618 | S & P 500 INDEX (SPX) | July 2018 | (384) | (856) |
| Call Jan 19 3000.000 ED 011819 | S & P 500 INDEX (SPX) | January 2019 | 116 | 124 |
| Call Jan 19 055.000 ED 011819 | ISHARES MSCI EMERGING MARKET | January 2019 | 5,367 | 27 |
| Put July 18 2770.000 ED 072018 | S & P 500 INDEX (SPX) | July 2018 | 1,508 | 70 |
| Total Equity | | | | (18,104) |
| Total | | | | \$ (16,865) |

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, real estate and private infrastructure investments. At June 30, 2018, 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 | \$ 4,137,812 | \$ 3,304,186 | \$ 833,626 |
| Private Debt | 5,064,658 | 3,479,275 | 1,585,383 |
| Real Estate | 3,120,476 | 2,330,489 | 789,987 |
| Totals | \$ 12,322,946 | \$ 9,113,950 | \$ 3,208,996 |
| Limited Partnerships EUR | | | |
| Private Equity | € 429,080 | € 244,185 | € 184,895 |
| Infrastructure | 125,000 | | 125,000 |
| Totals | € 554,080 | € 244,185 | € 309,895 |
| Limited Partnerships AUD | | | |
| Private Equity | \$ 100,000 | \$ 44,401 | \$ 55,599 |
| Totals | \$ 100,000 | \$ 44,401 | \$ 55,599 |

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, 2018 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, 2018, the fair value of securities on loan was \$78.64 million. The fair value of the invested cash collateral was \$34.61 million, securities lending obligations were \$81.51 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 \$2.0 million, an increase from \$773 thousand in the prior year. Since November 2008, gains and losses from the Securities Lending Program have been excluded from the Total Plan performance calculations.

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 one day. The average weighted maturity of investments made with cash collateral was two days. At June 30, 2018, 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, 2018:

| | SCRS | PORS | GARS | JSRS | SCNG | 06/30/18 TOTALS | 06/30/17 TOTALS |
|--|-------------------|-------------------|---------------|-----------------|---------------|---------------------|--------------------|
| Securities lent for cash collateral | | | | | | | |
| Corporate bonds | \$ 11,941 | \$ 2,046 | \$ 14 | \$ 71 | \$ 11 | \$ 14,083 | \$ 15,354 |
| Global Public Equity | 54,737 | 9,380 | 62 | 324 | 53 | 64,556 | 142,317 |
| Global Fixed Income | | | | | | | 6,982 |
| Total | <u>\$ 66,678</u> | <u>\$ 11,426</u> | <u>\$ 76</u> | <u>\$ 395</u> | <u>\$ 64</u> | <u>\$ 78,639</u> | <u>\$ 164,653</u> |
| Securities lent for non-cash collateral | | | | | | | |
| U. S. Government securities | \$ 66,512 | \$ 11,398 | \$ 76 | \$ 394 | \$ 64 | \$ 78,444 | \$ - |
| Corporate Bonds | 168 | 29 | | 1 | | 198 | 7,447 |
| Global Public Equity | 726,125 | 124,433 | 827 | 4,300 | 700 | 856,385 | 93,693 |
| Total | <u>\$ 792,805</u> | <u>\$ 135,860</u> | <u>\$ 903</u> | <u>\$ 4,695</u> | <u>\$ 764</u> | <u>\$ 935,027</u> | <u>\$ 101,140</u> |
| Cash collateral invested as follows | | | | | | | |
| Repurchase agreements | \$ 29,348 | \$ 5,029 | \$ 33 | \$ 174 | \$ 28 | \$ 34,612 | \$ 123,275 |
| Total | <u>\$ 29,348</u> | <u>\$ 5,029</u> | <u>\$ 33</u> | <u>\$ 174</u> | <u>\$ 28</u> | <u>\$ 34,612</u> | <u>\$ 123,275</u> |
| Securities received as collateral | | | | | | | |
| U.S. Government securities | \$ 149,018 | \$ 25,537 | \$ 170 | \$ 883 | \$ 143 | \$ 175,751 | \$ 103,875 |
| Global Public Equity | 681,613 | 116,805 | 776 | 4,036 | 657 | 803,887 | |
| Global Fixed Income | 41,173 | 7,056 | 47 | 244 | 40 | 48,560 | |
| Total | <u>\$ 871,804</u> | <u>\$ 149,398</u> | <u>\$ 993</u> | <u>\$ 5,163</u> | <u>\$ 840</u> | <u>\$ 1,028,198</u> | <u>\$ 103,875</u> |

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, 2018, were as follows (amounts expressed in thousands):

| Transfers from: | Transfers to: | | | | | |
|--------------------|---------------|-----------------|-------------|-------------|-------------|-----------------|
| | SCRS | PORS | GARS | JSRS | SCNG | Total |
| SCRS | \$ - | \$ 1,534 | \$ - | \$ - | \$ - | \$ 1,534 |
| PORS | | | | | | - |
| GARS | | | | | | - |
| JSRS | | | | | | - |
| SCNG | | | | | | - |
| Total | <u>\$ -</u> | <u>\$ 1,534</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 1,534</u> |

The following schedule reflects amounts due to or due from other systems as of June 30, 2018, (amounts expressed in thousands):

| Due from: | Due to: | | | | | |
|-----------|-------------|---------------|-------------|-------------|-------------|---------------|
| | SCRS | PORS | GARS | JSRS | SCNG | Total |
| SCRS | \$ - | \$ 278 | \$ - | \$ - | \$ - | \$ 278 |
| PORS | | | | | | - |
| GARS | | | | | | - |
| JSRS | | | | | | - |
| SCNG | | | | | | - |
| Total | <u>\$ -</u> | <u>\$ 278</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ -</u> | <u>\$ 278</u> |

V. Related Party Transactions

The pension plans provide pension and other benefits to employees of all state agencies. Revenues attributed to these agencies are recorded in the financial statements as employee and employer contributions and constitute approximately 33 percent of combined contribution revenues.

At June 30, 2018, liabilities of approximately \$67.0 million were due to the Employee Insurance Program. Employee and employer contributions receivable of approximately \$76.3 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 \$4.8 million during the fiscal year.

PEBA directly received funds for the South Carolina Retirement System Trust Fund and the Police Officers Retirement System Trust Fund as budgeted

by the state in South Carolina's 2017-2018 Appropriations Act, Section 117.151. PEBA received the funds from the general fund of the state and in turn issued credit invoices to each employer based on each employer's proportionate share of the appropriated funds. Participating employers then applied the credit invoices towards contributions otherwise due to the Systems for the fiscal year. The amount of nonemployer funds appropriated totaled \$105 million and \$13.1 million for SCRS and PORS respectively.

The Retirement System Investment Commission is a separate state agency; however, the administrative costs of the Commission are funded by transfers from the Systems' trust funds. Transfers in the amount of approximately \$11.9 million were made to the Commission 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, 2018, the benefits held in trust for 4,808 TERI program participants totaled \$377,263,376.

A deferred retirement option plan exists 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, 2018, the benefits held in trust totaled \$331,916.

VII. Capital Assets

Capital assets at June 30, 2018, consist of the following amounts (expressed in thousands).

| | Beginning Balances 7/1/2017 | Additions | Deletions | Ending Balances 6/30/2018 |
|---------------------------------|-----------------------------------|-----------------|-------------|---------------------------------|
| Asset Class (at Cost) | | | | |
| Land | \$ 582 | \$ - | \$ - | \$ 582 |
| Building | 4,749 | | | 4,749 |
| Equipment | 2,070 | 41 | | 2,111 |
| Total Capital Assets | 7,401 | 41 | - | 7,442 |
| Accumulated Depreciation | | | | |
| Building | 2,942 | 119 | | 3,061 |
| Equipment | 1,922 | 97 | | 2,019 |
| Total Accumulated Depreciation | 4,864 | 216 | - | 5,080 |
| Capital Assets, Net | \$ 2,537 | \$ (175) | \$ - | \$ 2,362 |

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, 2018, the total amount accrued for unused annual leave for PEBA's Retirement Division employees was \$816,344 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, 2018, PEBA's contributions to SCRS for Retirement Division staff were \$1,130,610 of which \$80,190 represented the legislatively appropriated credit.

X. Net Pension Liability of Employers and Nonemployer

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, 2017, projected forward to the end of the fiscal year, and financial information as of June 30, 2018, using generally accepted actuarial procedures. Information included in the following schedule is based on the certification provided by our consulting actuary, GRS Consulting. A Schedule of Employers' and Nonemployer's 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' and Nonemployer's 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, 2018, is as follows (dollar amounts expressed in thousands):

| | Total Pension Liability | Plan Fiduciary Net Position | Employers' and Nonemployer's Net Pension Liability | Plan Fiduciary Net Position as a % of the Total Pension Liability |
|-------------|-------------------------|-----------------------------|--|---|
| SCRS | \$ 48,821,730 | \$ 26,414,916 | \$ 22,406,814 | 54.1% |
| PORS | 7,403,973 | 4,570,431 | 2,833,542 | 61.7% |
| GARS | 74,062 | 33,394 | 40,668 | 45.1% |
| JSRS | 305,472 | 160,036 | 145,436 | 52.4% |
| SCNG | 67,591 | 28,327 | 39,264 | 41.9% |

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 as of June 30, 2018. The Total Pension Liability as of June 30, 2018, is based on the July 1, 2017 actuarial valuation.

| | 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 |

¹Includes 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 System's 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 30 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 2018 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 on the following page. 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 | 47.0% | | |
| Global Public Equity ^{1,2} | 33.0% | 6.99% | 2.31% |
| Private Equity ^{2,3} | 9.0% | 8.73% | 0.79% |
| Equity Options Strategies | 5.0% | 5.52% | 0.28% |
| Real Assets | 10.0% | | |
| Real Estate (Private) ^{2,3} | 6.0% | 3.54% | 0.21% |
| Real Estate (REITs) ² | 2.0% | 5.46% | 0.11% |
| Infrastructure | 2.0% | 5.09% | 0.10% |
| Opportunistic | 13.0% | | |
| GTAA/Risk Parity ¹ | 8.0% | 3.75% | 0.30% |
| Hedge Funds (non-PA) ¹ | 2.0% | 3.45% | 0.07% |
| Other Opportunistic Strategies ¹ | 3.0% | 3.75% | 0.11% |
| Diversified Credit | 18.0% | | |
| Mixed Credit ^{1,2} | 6.0% | 3.05% | 0.18% |
| Emerging Markets Debt ¹ | 5.0% | 3.94% | 0.20% |
| Private Debt ^{1,2,3} | 7.0% | 3.89% | 0.27% |
| Conservative Fixed Income | 12.0% | | |
| Core Fixed Income | 10.0% | 0.94% | 0.09% |
| Cash and Short Duration (Net) | 2.0% | 0.34% | 0.01% |
| Total Expected Return | 100.0% | | 5.03% |
| Inflation for Actuarial Purposes | | | 2.25% |
| | | | 7.28% |

¹Portable 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.

²The target weights to Private Equity, Private Debt and Real Estate will be equal to their actual weights as of prior month end. Private Equity and Public Equity combine for 42 percent of entire portfolio. Private Debt and Mixed Credit combine for 13 percent of the entire portfolio. Private Real Estate and Real Estate (REITs) combine for 8 percent of entire portfolio.

³Staff and Consultant will notify the Commission if Private Markets assets exceed 25% of total assets.

The discount rate used to measure the total pension liability 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' and nonemployer's 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 | \$ 28,631,747 | \$ 22,406,814 | \$ 17,956,583 |
| PORS | 3,819,969 | 2,833,542 | 2,025,576 |
| GARS | 47,113 | 40,668 | 35,116 |
| JSRS | 178,963 | 145,436 | 117,750 |
| SCNG | 47,778 | 39,264 | 32,287 |

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.

XII. Litigation

In addition to the litigation mentioned below, controversies or disputes between the South Carolina Retirement Systems and its members arising out of the provisions of Title 9 of the South Carolina Code of Laws (Retirement provisions) are resolved through the "South Carolina Retirement Systems Claims Procedures Act" established by S.C. Code Ann. §9-21-10 et seq. Claims brought pursuant to the Claims Procedures Act generally involve matters pertinent to the individual member or beneficiary. Claims may not be brought on behalf of a class under the Claims Procedures Act.

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

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 valuation, including the incidental death benefit program for SCRS, PORS, GARS and JSRS. The July 1, 2017 actuarial valuations reflect the inclusion of the assets and liabilities of the incidental death benefit program and accidental death benefits for PORS.

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

South Carolina Retirement Systems Required Supplementary Information

Schedule of Changes in the Employers' and Nonemployer's Net Pension Liability¹

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

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

¹Schedules 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' and Nonemployer's Net Pension Liability¹

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

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

¹Schedules 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' and Nonemployer's Net Pension Liability¹

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

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

¹Schedules 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' and Nonemployer's Net Pension Liability¹

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

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

¹Schedules 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' and Nonemployer's Net Pension Liability¹

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

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

¹Schedules 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' and Nonemployer's Net Pension Liability¹

(Dollar amounts expressed in thousands)

| | Total Pension Liability | Plan Fiduciary Net Position | Employers' and Nonemployer's 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 | | | | | | |
| 6/30/2018 | \$ 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 | | | | | | |
| 6/30/2018 | 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 | | | | | | |
| 6/30/2018 | 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 | | | | | | |
| 6/30/2018 | 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 | | | | | | |
| 6/30/2018 | 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 |

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

²Projected covered payroll is based on the actuarial valuation associated with the measurement date and includes payroll for members earning but not yet receiving benefits.

³The 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 | | | | | |
| 6/30/2018 | \$ 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% |
| 6/30/2009 | 827,502 | 827,502 | | 7,559,172 | 10.9% |
| PORS | | | | | |
| 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% |
| 6/30/2009 | 124,148 | 124,148 | | 1,060,747 | 11.7% |
| GARS⁴ | | | | | |
| 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% |
| 6/30/2009 | 2,495 | 2,495 | | 3,854 | 64.7% |

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

South Carolina Retirement Systems

Required Supplementary Information (continued)

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 | | | | | |
| 6/30/2018 | \$ 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% |
| 6/30/2009 | 8,414 | 8,414 | | 18,661 | 45.1% |
| SCNG⁵ | | | | | |
| 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 |
| 6/30/2009 | 4,052 | 4,052 | | 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. For years prior to June 30, 2010, the Annual Pension Cost (APC) for SCNG includes both the Annual Required Contribution (ARC) and the discounted present value of the balance of the Net Pension Obligation (NPO). For fiscal years ended June 30, 2010 forward, the APC was calculated as part of the actuarial valuation and includes in the ARC.

South Carolina Retirement Systems Required Supplementary Information (continued)

Schedule of Investment Returns¹

| Fiscal Year Ending June 30 | Annual Money Weighted Rate of Return, Net of Investment Expense |
|-------------------------------|--|
| 2018 | 7.91% |
| 2017 | 11.88 |
| 2016 | (.47) |
| 2015 | 1.59 |
| 2014 | 15.30 |

¹Schedule 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 2018 for each of the individual plans administered by PEBA.

Summary of Actuarial Methods and Significant Assumptions¹

| | SCRS | PORS | GARS | JSRS | SCNG |
|----------------------------|---|---|--------------------|---|--------------------|
| Valuation date | 07/01/16 | 07/01/16 | 07/01/16 | 07/01/16 | 07/01/16 |
| 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 years variable, but not to exceed 30 years ² | 30 years variable, but not to exceed 30 years ² | 11 years, closed | 30 years variable, but not to exceed 30 years | 17 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 | 7.50% ² | 7.50% ² | 7.50% ² | 7.50% ² | 7.50% ² |
| 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 lowered the investment rate of return from 7.50 to 7.25 percent and schedules the amortization period to be reduced one year for each of the next 10 years, to 20 years.

³Includes inflation at 2.25%.

South Carolina Retirement Systems

Schedule of Changes in Fiduciary Net Position

SCRS Pension Trust Fund Year Ended June 30, 2018

With summarized comparative totals for the year ended June 30, 2017

(Amounts expressed in thousands)

| | EMPLOYEE FUND | EMPLOYER FUND | DEATH BENEFIT FUND | QEBA FUND | TOTAL | 2017 TOTAL |
|---|---------------------|----------------------|--------------------------|--------------|----------------------|----------------------|
| Additions | | | | | | |
| Employee contributions | | | | | | |
| State | \$ 236,153 | \$ 25,488 | \$ - | \$ - | \$ 261,641 | \$ 250,811 |
| Public school | 334,324 | 37,847 | | | 372,171 | 352,621 |
| Other | 220,741 | 14,128 | | | 234,869 | 223,111 |
| Employer contributions | | | | | | |
| State | | 428,023 | 5,787 | 699 | 434,509 | 389,494 |
| Public school | | 537,641 | 6,740 | | 544,381 | 489,296 |
| Other | | 318,237 | 3,350 | | 321,587 | 290,057 |
| Nonemployer contributions | | | | | | |
| State | | 36,726 | | | 36,726 | |
| Public school | | 43,822 | | | 43,822 | |
| Other | | 24,426 | | | 24,426 | |
| Total contributions | 791,218 | 1,466,338 | 15,877 | 699 | 2,274,132 | 1,995,390 |
| Investment income | | | | | | |
| Net appreciation | | | | | | |
| in fair value of investments | | 1,787,006 | 7,423 | | 1,794,429 | 2,641,803 |
| Interest and dividend income | | 505,800 | 2,452 | | 508,252 | 416,925 |
| Investment expense | | (317,139) | (287) | | (317,426) | (268,173) |
| Net income from investing activities | | 1,975,667 | 9,588 | | 1,985,255 | 2,790,555 |
| From securities lending activities: | | | | | | |
| Securities lending income | | 1,876 | 9 | | 1,885 | 488 |
| Securities lending borrower rebates | | (191) | (1) | | (192) | 172 |
| Net income from securities lending activities | | 1,685 | 8 | | 1,693 | 660 |
| Total net investment income | | 1,977,352 | 9,596 | | 1,986,948 | 2,791,215 |
| Supplemental retirement benefits funded by the State | | 355 | | | 355 | 393 |
| Total additions | 791,218 | 3,444,045 | 25,473 | 699 | 4,261,435 | 4,786,998 |
| Deductions | | | | | | |
| Refunds of contributions to members | 113,867 | | | | 113,867 | 105,169 |
| Transfers of contributions to other systems | 876 | 658 | | | 1,534 | 1,550 |
| Regular retirement benefits | | 2,718,019 | | 699 | 2,718,718 | 2,574,859 |
| Deferred retirement benefits | | 707,932 | | | 707,932 | 332,414 |
| Supplemental retirement benefits | | 355 | | | 355 | 393 |
| Death benefits | | (44) | 22,328 | | 22,284 | 22,677 |
| Depreciation | | 189 | 1 | | 190 | 236 |
| Administrative expenses | | 14,398 | 70 | | 14,468 | 13,233 |
| Total deductions | 114,743 | 3,441,507 | 22,399 | 699 | 3,579,348 | 3,050,531 |
| Interfund transfers according to statutory requirements | | | | | | |
| Contributions by members at retirement | (392,064) | 392,064 | | | | |
| Interest credited to members' accounts | 277,790 | (277,790) | | | | |
| Net interfund transfers | (114,274) | 114,274 | | | | |
| Net increase in Net Position | 562,201 | 116,812 | 3,074 | | 682,087 | 1,736,467 |
| Net Position Restricted for Pensions | | | | | | |
| Beginning of year | 7,938,850 | 17,669,644 | 124,335 | | 25,732,829 | 23,996,362 |
| End of year | <u>\$ 8,501,051</u> | <u>\$ 17,786,456</u> | <u>\$ 127,409</u> | <u>\$ -</u> | <u>\$ 26,414,916</u> | <u>\$ 25,732,829</u> |

South Carolina Retirement Systems

Schedule of Changes in Fiduciary Net Position

PORS Pension Trust Fund
Year Ended June 30, 2018

With summarized comparative totals for the year ended June 30, 2017

(Amounts expressed in thousands)

| | EMPLOYEE FUND | EMPLOYER FUND | DEATH BENEFIT FUND | ACCIDENTAL DEATH FUND | QEBA FUND | TOTAL | 2017 TOTAL |
|---|---------------------|---------------------|--------------------------|-----------------------------|--------------|---------------------|---------------------|
| Additions | | | | | | | |
| Employee contributions | | | | | | | |
| State | \$ 41,222 | \$ 2,192 | \$ - | \$ - | \$ - | \$ 43,414 | \$ 39,934 |
| Public school | 55 | 451 | | | | 506 | 436 |
| Other | 85,968 | 8,764 | | | | 94,732 | 87,470 |
| Employer contributions | | | | | | | |
| State | | 64,604 | 867 | 867 | 2 | 66,340 | 59,747 |
| Public school | | 750 | 10 | 10 | | 770 | 673 |
| Other | | 141,110 | 1,837 | 1,736 | | 144,683 | 131,586 |
| Nonemployer contributions | | | | | | | |
| State | | 4,070 | | | | 4,070 | |
| Public school | | 44 | | | | 44 | |
| Other | | 9,008 | | | | 9,008 | |
| Total contributions | 127,245 | 230,993 | 2,714 | 2,613 | 2 | 363,567 | 319,846 |
| Investment income | | | | | | | |
| Net appreciation | | | | | | | |
| in fair value of investments | | 293,663 | 2,567 | 3,439 | | 299,669 | 431,853 |
| Interest and dividend income | | 83,810 | 860 | 1,153 | | 85,823 | 68,259 |
| Investment expense | | (54,013) | (101) | (135) | | (54,249) | (44,306) |
| Net income from investing activities | | 323,460 | 3,326 | 4,457 | | 331,243 | 455,806 |
| From securities lending activities: | | | | | | | |
| Securities lending income | | 311 | 3 | 4 | | 318 | 80 |
| Securities lending borrower rebates | | (32) | | | | (32) | 28 |
| Net income from securities lending activities | | 279 | 3 | 4 | | 286 | 108 |
| Total net investment income | | 323,739 | 3,329 | 4,461 | | 331,529 | 455,914 |
| Supplemental retirement benefits funded by the State | | 13 | | | | 13 | 15 |
| Transfers of contributions from other systems | 876 | 658 | | | | 1,534 | 1,278 |
| Total additions | 128,121 | 555,403 | 6,043 | 7,074 | 2 | 696,643 | 777,053 |
| Deductions | | | | | | | |
| Refunds of contributions to members | 23,899 | | | | | 23,899 | 19,964 |
| Regular retirement benefits | | 369,534 | | | 2 | 369,536 | 352,986 |
| Supplemental retirement benefits | | 13 | | | | 13 | 15 |
| Death Benefits | | | 2,751 | | | 2,751 | 2,104 |
| Accidental death benefits | | | | 1,734 | | 1,734 | 1,748 |
| Depreciation | | 25 | | | | 25 | 32 |
| Administrative expenses | | 2,321 | 24 | 32 | | 2,377 | 2,117 |
| Total deductions | 23,899 | 371,893 | 2,775 | 1,766 | 2 | 400,335 | 378,966 |
| Interfund transfers according to statutory requirements | | | | | | | |
| Contributions by members at retirement | (71,048) | 71,048 | | | | | |
| Interest credited to members' accounts | 36,849 | (36,849) | | | | | |
| Net interfund transfers | (34,199) | 34,199 | | | | | |
| Net increase in Net Position | 70,023 | 217,709 | 3,268 | 5,308 | | 296,308 | 398,087 |
| Net Position Restricted for Pensions | | | | | | | |
| Beginning of year | 1,034,549 | 3,139,081 | 42,956 | 57,537 | | 4,274,123 | 3,876,036 |
| End of year | <u>\$ 1,104,572</u> | <u>\$ 3,356,790</u> | <u>\$ 46,224</u> | <u>\$ 62,845</u> | <u>\$ -</u> | <u>\$ 4,570,431</u> | <u>\$ 4,274,123</u> |

South Carolina Retirement Systems

Schedule of Changes in Fiduciary Net Position

GARS Pension Trust Fund
Year Ended June 30, 2018

With summarized comparative totals for the year ended June 30, 2017

(Amounts expressed in thousands)

| | EMPLOYEE FUND | EMPLOYER FUND | QEBA FUND | TOTAL | 2017 TOTAL |
|---|------------------|------------------|--------------|-----------|------------|
| Additions | | | | | |
| Contributions | | | | | |
| Employee contributions - State | \$ 287 | \$ - | \$ - | \$ 287 | \$ 468 |
| Employer contributions - State | | 5,426 | 2 | 5,428 | 4,539 |
| Total contributions | 287 | 5,426 | 2 | 5,715 | 5,007 |
| Investment income | | | | | |
| Net appreciation | | | | | |
| in fair value of investments | | 2,090 | | 2,090 | 3,130 |
| Interest and dividend income | | 647 | | 647 | 510 |
| Investment expense | | (363) | | (363) | (312) |
| Net income from investing activities | | 2,374 | | 2,374 | 3,328 |
| From securities lending activities: | | | | | |
| Securities lending income | | 2 | | 2 | 1 |
| Net income from securities lending activities | | 2 | | 2 | 1 |
| Total net investment income | | 2,376 | | 2,376 | 3,329 |
| Transfers of contributions from other systems | | | | | 19 |
| Total additions | 287 | 7,802 | 2 | 8,091 | 8,355 |
| Deductions | | | | | |
| Refunds of contributions to members | | | | | |
| Transfers of contributions to other systems | | | | | |
| Regular retirement benefits | | 6,450 | 2 | 6,452 | 6,678 |
| Death benefits | | 16 | | 16 | 59 |
| Administrative expenses | | 18 | | 18 | 17 |
| Total deductions | | 6,484 | 2 | 6,486 | 6,754 |
| Interfund transfers according to statutory requirements | | | | | |
| Contributions by members at retirement | (271) | 271 | | | |
| Interest credited to members' accounts | 198 | (198) | | | |
| Net interfund transfers | (73) | 73 | | | |
| Net increase in Net Position | 214 | 1,391 | | 1,605 | 1,601 |
| Net Position Restricted for Pensions | | | | | |
| Beginning of year | 6,852 | 24,937 | | 31,789 | 30,188 |
| End of year | \$ 7,066 | \$ 26,328 | \$ - | \$ 33,394 | \$ 31,789 |

South Carolina Retirement Systems

Schedule of Changes in Fiduciary Net Position

JSRS Pension Trust Fund
Year Ended June 30, 2018

With summarized comparative totals for the year ended June 30, 2017

(Amounts expressed in thousands)

| | EMPLOYEE FUND | EMPLOYER FUND | QEBA FUND | TOTAL | 2017 TOTAL |
|---|------------------|------------------|--------------|------------|------------|
| Additions | | | | | |
| Contributions | | | | | |
| Employee contributions - State | \$ 2,742 | \$ 274 | \$ - | \$ 3,016 | \$ 2,928 |
| Employer contributions - State | | 10,899 | 144 | 11,043 | 10,534 |
| Total contributions | 2,742 | 11,173 | 144 | 14,059 | 13,462 |
| Investment income | | | | | |
| Net appreciation | | | | | |
| in fair value of investments | | 10,491 | | 10,491 | 15,462 |
| Interest and dividend income | | 3,101 | | 3,101 | 2,488 |
| Investment expense | | (1,879) | | (1,879) | (1,555) |
| Net income from investing activities | | 11,713 | | 11,713 | 16,395 |
| From securities lending activities: | | | | | |
| Securities lending income | | 11 | | 11 | 3 |
| Securities lending borrower rebates | | (1) | | (1) | 1 |
| Net income from securities lending activities | | 10 | | 10 | 4 |
| Total net investment income | | 11,723 | | 11,723 | 16,399 |
| Transfers of contributions from other systems | | | | | 253 |
| Total additions | 2,742 | 22,896 | 144 | 25,782 | 30,114 |
| Deductions | | | | | |
| Refunds of contributions to members | | | | | 629 |
| Regular retirement benefits | | 17,511 | 144 | 17,655 | 17,679 |
| Death benefits | | 156 | | 156 | 293 |
| Depreciation | | 1 | | 1 | 1 |
| Administrative expenses | | 85 | | 85 | 78 |
| Total deductions | | 17,753 | 144 | 17,897 | 18,680 |
| Interfund transfers according to statutory requirements | | | | | |
| Contributions by members at retirement | (2,149) | 2,149 | | | |
| Interest credited to members' accounts | 963 | (963) | | | |
| Net interfund transfers | (1,186) | 1,186 | | | |
| Net increase in Net Position | 1,556 | 6,329 | | 7,885 | 11,434 |
| Net Position Restricted for Pensions | | | | | |
| Beginning of year | 26,703 | 125,448 | | 152,151 | 140,717 |
| End of year | \$ 28,259 | \$ 131,777 | \$ - | \$ 160,036 | \$ 152,151 |

South Carolina Retirement Systems

Schedule of Changes in Fiduciary Net Position

SCNG Pension Trust Fund

Year Ended June 30, 2018

With summarized comparative totals for the year ended June 30, 2017

(Amounts expressed in thousands)

| | <u>2018 Total</u> | <u>2017 Total</u> |
|---|-------------------|-------------------|
| Additions | | |
| Contributions | | |
| State appropriated | \$ 4,814 | \$ 4,591 |
| Total contributions | <u>4,814</u> | <u>4,591</u> |
| Investment income | | |
| Net appreciation | | |
| in fair value of investments | 1,669 | 2,384 |
| Interest and dividend income | 536 | 395 |
| Investment expense | <u>(305)</u> | <u>(246)</u> |
| Net Income from investing activities | <u>1,900</u> | <u>2,533</u> |
| From securities lending activities: | | |
| Securities lending income | <u>2</u> | <u></u> |
| Net income from securities lending activities | <u>2</u> | <u></u> |
| Total net investment income | <u>1,902</u> | <u>2,533</u> |
| Total additions | <u>6,716</u> | <u>7,124</u> |
| Deductions | | |
| Regular retirement benefits | 4,411 | 4,425 |
| Administrative expenses | <u>14</u> | <u>13</u> |
| Total deductions | <u>4,425</u> | <u>4,438</u> |
| Net increase in Net Position | 2,291 | 2,686 |
| Net Position Restricted for Pensions | | |
| Beginning of year | 26,036 | 23,350 |
| End of year | <u>\$ 28,327</u> | <u>\$ 26,036</u> |

South Carolina Retirement Systems

Schedule of Administrative Expenses

Year Ended June 30, 2018

(Amounts expressed in thousands)

Personnel Services

| | |
|---------------------------------|---------------|
| Salaries and Wages | \$ 8,731 |
| Employee Benefits | 2,934 |
| Total Personnel Services | 11,665 |

Professional and Consultant Fees

| | |
|---|--------------|
| Information Technology | 793 |
| Medical and Health Services | 303 |
| Financial Audit | 139 |
| Actuarial Services | 382 |
| Management Professional Services | 966 |
| Legal Services | 29 |
| Total Professional and Consultant Fees | 2,612 |

Operating Expenses

| | |
|------------------------------------|--------------|
| Facilities Management | 247 |
| Building Renovations | 497 |
| Building Rent | 211 |
| Software Licenses and Programs | 578 |
| Furniture and Equipment - Expensed | 222 |
| Communications and Utilities | 326 |
| Insurance | 181 |
| Postage | 152 |
| Supplies | 192 |
| Miscellaneous Expenses | 79 |
| Total Operating Expenses | 2,685 |

| | |
|--------------------------------------|------------------|
| Total Administrative Expenses | \$ 16,962 |
|--------------------------------------|------------------|

Allocation of Administrative Expenses

| | |
|--------------------------------------|------------------|
| SCRS | \$ 14,468 |
| PORS | 2,377 |
| GARS | 18 |
| JSRS | 85 |
| SCNG | 14 |
| Total Administrative Expenses | \$ 16,962 |

South Carolina Retirement Systems

Schedule of Professional and Consultant Fees¹

Year Ended June 30, 2018

(Amounts expressed in thousands)

| Professional / Consultant Type | Nature of Service Provided | Amounts Paid |
|---|--------------------------------------|-----------------|
| Bruner, Powell, Wall, & Mullins | Legal Services | \$ 11 |
| CliftonLarsonAllen | Audit | 139 |
| Find Great People | Personnel Services | 21 |
| GRS Consulting | Actuary Services | 258 |
| Ice Miller | IRC Consulting Services | 18 |
| Linea Solutions | Operational Consulting Services | 861 |
| NWN Corporation | IT Installation Services | 17 |
| OPTIV Security | IT Security Consulting Services | 59 |
| Roper Personnel Services | Personnel Services | 70 |
| Segal Consulting | Actuarial Audit | 117 |
| SHI International | Software Implementation and Training | 13 |
| SunGard Availability Services | IT Disaster Recovery | 173 |
| Tapfin | Application Development Resources | 456 |
| USC Department of Internal Medicine | Disability Review | 67 |
| Vocational Rehabilitation | Disability Review | 237 |
| Aggregate of payees less than \$10,000 each | Professional and Consulting Services | 95 |
| Total Professional and Consultant Fees | | \$ 2,612 |

¹A 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, 2018

(Amounts expressed in thousands)

| | SCRS | PORS | GARS | JSRS | SCNG | TOTALS ¹ |
|--|----------------|---------------|-------------|--------------|-------------|---------------------|
| Short Term | \$ 1,429 | \$ 244 | \$ 2 | \$ 8 | \$ 1 | \$ 1,684 |
| Fixed Income: | | | | | | |
| Core Fixed Income | 2,309 | 391 | 3 | 14 | 2 | 2,719 |
| Mixed Credit | 7,230 | 1,229 | 8 | 43 | 7 | 8,517 |
| Emerging Market Debt | 6,884 | 1,172 | 8 | 41 | 7 | 8,112 |
| Global Public Equity | 26,339 | 4,477 | 30 | 156 | 25 | 31,027 |
| Equity Options Strategy | 3,971 | 673 | 5 | 23 | 4 | 4,676 |
| Infrastructure | 2,348 | 399 | 3 | 14 | 2 | 2,766 |
| Global Tactical Asset Allocation | 8,943 | 1,528 | 10 | 53 | 9 | 10,543 |
| Alternatives: | | | | | | |
| Hedge Funds | 76,109 | 13,040 | 87 | 451 | 73 | 89,760 |
| Private Debt | 41,923 | 7,184 | 48 | 248 | 40 | 49,443 |
| Private Equity | 78,499 | 13,452 | 89 | 465 | 76 | 92,581 |
| Real Estate | 38,865 | 6,657 | 44 | 230 | 38 | 45,834 |
| Strategic Partnerships ² | 8,610 | 1,476 | 10 | 51 | 8 | 10,155 |
| Beta Overlay | 966 | 164 | 1 | 6 | 1 | 1,138 |
| Total Investment Manager Fees | 304,425 | 52,086 | 348 | 1,803 | 293 | 358,955 |
| Bank Fees and Investment Expenses ³ | 13,001 | 2,163 | 15 | 76 | 12 | 15,267 |
| Total Investment Expenses | <u>317,426</u> | <u>54,249</u> | <u>363</u> | <u>1,879</u> | <u>305</u> | <u>374,222</u> |
| Securities Lending Expenses: | | | | | | |
| Borrower Rebates | \$ 192 | \$ 32 | \$ - | \$ 1 | \$ - | 225 |
| Total Securities Lending Expenses | <u>\$ 192</u> | <u>\$ 32</u> | <u>\$ -</u> | <u>\$ 1</u> | <u>\$ -</u> | <u>\$ 225</u> |

¹ All investment manager fees, whether directly invoiced (\$54,383) or deducted from the fund on a net basis (\$304,572) 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.

**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, 2018, 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, 2018.

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.

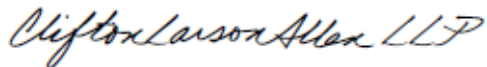
The Honorable Henry D. McMaster, Governor
Mr. George L. Kennedy, CPA, State Auditor,
and Board of Directors
South Carolina Public Employee Benefit Authority

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

Baltimore, Maryland
October 15, 2018