

**NORTH CAROLINA DEPARTMENT OF
STATE TREASURER INVESTMENT PROGRAMS**

**FINANCIAL STATEMENTS
WITH INDEPENDENT AUDITORS' REPORT**

FISCAL YEAR ENDED JUNE 30, 2018

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
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This audit required approximately 590 hours at a cost of \$77,650

INDEPENDENT AUDITORS' REPORT

Dale R. Folwell, CPA, State Treasurer
North Carolina Department of State Treasurer
Investment Programs

Report on the Financial Statements

We have audited the accompanying financial statements of the External Investment Pool (the Pool), the Bond Index Investment Pool (the BIF), and the Equity Index Investment Account (the EIF) of the North Carolina Department of State Treasurer Investment Programs, collectively referred to as "Investment Programs," as of and for the year then ended June 30, 2018, and the related notes to the financial statements, which collectively comprise the Investment Programs' basic financial statements as listed in the table of contents.

Management's Responsibility for the Financial Statements

Management is responsible for the preparation and fair presentation of these financial statements in accordance with 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 opinions 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 Investment Program'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 Investment Program's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

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

Opinions

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the net position of the Investment Programs as of June 30, 2018, and the respective changes in financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America.

Other Matters

Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the management's discussion and analysis, 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 financial statements. The supplementary information is presented for purposes of additional analysis and is not a required part of the financial statements.

The 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 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 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 Investment Programs' 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 internal control over financial reporting and compliance.



CliftonLarsonAllen LLP

Baltimore, Maryland
October 15, 2018

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

Introduction

This section of the financial statements of the North Carolina Department of State Treasurer Investment Programs (State Treasurer Investments) presents our discussion and analysis of the External Investment Pool's (the Pool), the Bond Index Investment Pool's (BIF), and the Equity Index Investment Account's (EIF) financial position as of June 30, 2018 and 2017. Since this discussion and analysis is designed to focus on current activities, it should be read in conjunction with the State Treasurer Investments' basic financial statements, which follow this section.

For the purposes of presenting the basic financial statements, investments of the Pool are allocated to broad classifications that follow the North Carolina General Statutes definitions in Section 147-69.2(b). These "portfolios" are described in Note 3 and include the Short Term Investment Fund (STIF), Long Term Investment Fund (LTIF), Equity Investment portfolio, Real Estate Investment portfolio, Alternative Investment portfolio, Opportunistic Fixed Income Investment portfolio, and the Inflation Sensitive Investment portfolio. Amounts associated with these portfolios are presented in the tables in Note 3. The classifications defined in the Investment Policy Statement of the Department of State Treasurer Investments are used for the purposes of Management's Discussion and Analysis of the economic and financial environment, investment performance, and risk management of the Pool. The Supplementary Information contains a mapping of the Investment Policy Statement's classifications to the statutory classifications which are used to prepare the basic financial statements of the Pool as of June 30, 2018.

The BIF (Note 7) is an external government sponsored bond index investment pool in which the Treasurer is authorized to invest funds for governmental entities (Ancillary Governmental Participant Investment Program or AGPIP) which are outside the Retirement Systems defined as The Teachers' and State Employees' Retirement System, Consolidated Judicial Retirement System, Legislative Retirement System, Firefighters' and Rescue Squad Workers' Pension Fund, North Carolina National Guard Pension Fund, Local Governmental Employees' Retirement System, and Retiree Health Benefit Fund.

The EIF (Note 8) is an equity index investment account for AGPIP where the Treasurer has contracted with an external party to invest in a commingled equity index investment trust.

Financial Statements

The Pool, BIF, and EIF's basic financial statements include the statement of fiduciary net position and statement of changes in fiduciary net position, which have been presented in accordance with accounting principles generally accepted in the United States as applicable to governmental entities.

The statement of fiduciary net position provides information on the financial position of the Pool, BIF, and EIF for the fiscal year ended June 30, 2018. The statement of changes in fiduciary net position presents the results of the investing activities during the fiscal year ended June 30, 2018. The notes to the financial statements offer additional discussion that is essential to the full understanding of the data presented in the financial statements. The notes give more detail about accounting policies, significant account balances and activities, material risks, obligations, contingencies and subsequent events, if any.

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

Statements of Fiduciary Net Position

The following statements of fiduciary net position present the assets, liabilities, and net position held in trust (assets minus liabilities) of the Pool as of the end of each of the respective fiscal years and are point in time financial statements.

Statements of Fiduciary Net Position

	As of June 30	
	2018	2017
	<i>(In Thousands)</i>	
Assets		
Cash and cash equivalents	\$ 351,672	\$ 324,943
Securities lending collateral	709,909	724,516
Investments, at fair value	114,774,574	109,861,609
Receivables	450,692	413,471
Total assets	\$ 116,286,847	\$ 111,324,539
Liabilities		
Other payables	\$ 126,074	\$ 95,840
Obligations under securities lending	709,909	724,516
Total liabilities	835,983	820,356
Net Position		
Net position held in trust	\$ 115,450,864	\$ 110,504,183

The following statements of fiduciary net position present the assets, liabilities and net position held in trust (assets minus liabilities) of the BIF as of the end of each of the respective fiscal years and are point in time financial statements.

Statements of Fiduciary Net Position

	As of June 30	
	2018	2017
	<i>(In Thousands)</i>	<i>(In Thousands)</i>
Assets		
Investments, at fair value	\$ 1,533,104	\$ 1,586,606
Receivables	36,076	19,719
Total assets	\$ 1,569,180	\$ 1,606,325
Liabilities		
Other payables	\$ 25,978	\$ 19,864
Total liabilities	25,978	19,864
Net Position		
Net position held in trust	\$ 1,543,202	\$ 1,586,461

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

Statements of Fiduciary Net Position (Continued)

The following statements of fiduciary net position present the assets, liabilities, and net position held in trust (assets minus liabilities) of the EIF as of the end of each of the respective fiscal years and are point in time financial statements.

Statements of Fiduciary Net Position

	As of June 30	
	2018	2017
	<i>(In Thousands)</i>	<i>(In Thousands)</i>
Assets		
Investments, at fair value	\$ 579,767	\$ 411,837
Total assets	\$ 579,767	\$ 411,837
Net Position		
Net position held in trust	\$ 579,767	\$ 411,837

Analysis of Statements of Fiduciary Net Position

Total investments in the Pool increased to approximately \$115 billion during the fiscal year ended June 30, 2018, as gains from operations outpaced distributions and redemptions from the Pool.

Total investments in the BIF decreased to approximately \$1.53 billion from \$1.59 billion during the fiscal year ended June 30, 2018, as losses and redemptions outpaced any purchases.

Total investments in the EIF increased to approximately \$580 million from \$412 million during the fiscal year ended June 30, 2018, as gains from operations and purchases outpaced any distributions.

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

Statements of Changes in Fiduciary Net Position

The following statements of changes in net position present the net investment income earned by the Pool as well as expenses, net pension fund, and other withdrawals.

Statements of Changes in Fiduciary Net Position

	Fiscal Years Ended June 30	
	2018	2017
	<i>(In Thousands)</i>	
Additions		
Investment income		
Interest and dividend income	\$ 2,008,352	\$ 1,790,296
Net appreciation in fair value of investments	5,061,735	7,829,602
Other investment income	566,339	394,886
Securities lending income	19,158	23,823
Total investment income	\$ 7,655,584	\$ 10,038,607
Deductions		
Investment management expenses	543,299	499,368
Other and administrative expenses	82,597	86,733
Securities lending expenses	4,870	7,709
Total deductions	\$ 630,766	\$ 593,810
Net increase in net position resulting from operations	7,024,818	9,444,797
Distributions to participants		
Distributions paid and payable	(7,024,818)	(9,444,797)
Share transactions		
Reinvestment of distributions	7,025,144	9,447,240
Net share redemptions	(2,078,463)	(3,261,848)
Change in net position	4,946,681	6,185,392
Net position held in trust:		
Beginning of year	110,504,183	104,318,791
End of year	\$ 115,450,864	\$ 110,504,183

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

Statements of Changes in Fiduciary Net Position (Continued)

The following statements of changes in net position present the net investment income earned by the BIF as well as expenses and other purchases and withdrawals.

Statements of Changes in Fiduciary Net Position

	Fiscal Years Ended June 30	
	2018	2017
	<i>(In Thousands)</i>	<i>(In Thousands)</i>
Additions		
Investment income		
Interest and dividend income	\$ 47,251	\$ 40,257
Net depreciation in fair value of investments	(54,696)	(56,270)
Other investment income	113	80
Total investment loss	<u>\$ (7,332)</u>	<u>\$ (15,933)</u>
Deductions		
Investment management expenses	266	323
Total deductions	<u>\$ 266</u>	<u>\$ 323</u>
Net decrease in net position resulting from operations	(7,598)	(16,256)
Distributions to participants		
Distributions paid and payable	7,598	16,256
Share transactions		
Reinvestment of distributions	(7,598)	(16,256)
Net share purchases (redemptions)	(35,661)	1,602,717
Change in net position	(43,259)	1,586,461
Net position held in trust:		
Beginning of year	1,586,461	-
End of year	<u>\$ 1,543,202</u>	<u>\$ 1,586,461</u>

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

Statements of Changes in Fiduciary Net Position (Continued)

The following statements of changes in net position present the net investment income earned by the EIF as well as expenses and other purchases and withdrawals.

	Fiscal Years Ended June 30	
	2018	2017
	<i>(In Thousands)</i>	<i>(In Thousands)</i>
Additions		
Investment income		
Interest and dividend income	\$ 81	\$ 3,823
Net appreciation in fair value of investments	45,811	62,657
Other investment income	-	10
Total investment income	<u>\$ 45,892</u>	<u>\$ 66,490</u>
Deductions		
Investment management expenses	109	723
Total deductions	<u>\$ 109</u>	<u>\$ 723</u>
Net increase in net position resulting from operations	45,783	65,767
Distributions to participants		
Distributions paid and payable	(45,783)	(65,767)
Share transactions		
Reinvestment of distributions	45,783	65,767
Net share purchases	122,147	346,070
Change in net position	167,930	411,837
Net position held in trust:		
Beginning of year	411,837	-
End of year	<u>\$ 579,767</u>	<u>\$ 411,837</u>

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

Analysis of Changes in Fiduciary Net Position

The Pool had total investment income of \$7.7 billion in fiscal year 2018, a decrease of \$2.3 billion over fiscal year 2017. The year over year decrease in total investment income was primarily attributable to a decrease in net appreciation. Net appreciation reflects realized and unrealized gains or losses. The Public Equity portfolio was the primary driver of the decrease in net appreciation. This decrease was due to lower total returns, as the Public Equity portfolio earned 12.5% in the current fiscal year, relative to 19% in the prior fiscal year. Other investment income for the Pool increased by roughly \$170 million due to increased operating income within the private market asset classes. Interest and dividend income for the Pool increased by \$218 million relative to the prior fiscal year. The increase was primarily due to higher yields within the LTIF and STIF portfolios. Total deductions increased by \$37 million, which was largely attributable to increases in overall investment management expenses. Investment management expenses include management and performance based fees paid to external investment managers. Although the department has decreased investment management fees through various cost efficiency efforts, total investment management expenses have increased for the year as a result of higher performance based fees being paid due to strong returns in many of our private market funds. Net share redemptions from the Pool decreased by \$1.2 billion, as the prior fiscal year net share redemptions were elevated as a result of roughly \$1.6 billion in Ancillary Governmental Participant Investment Program assets that were removed from the Pool in August 2016 and moved to the BIF and EIF funds.

The BIF had net depreciation in fair value of \$55 million in fiscal year 2018, driven largely by rising interest rates. This depreciation was offset by interest and dividend income.

The EIF had net appreciation in fair value of \$46 million as equity markets experienced positive returns over the fiscal year.

Legislative Restrictions

The State Treasurer is required to comply with General Statutes 147-86.41 through 147-86.49, the Sudan Divestment Act, which requires the State Treasurer to develop a list of entities engaging in the prohibited conduct and update the list on an annual basis, refrain from making investment in such companies and divest from the same within 180 days of being listed. General Statutes 147-86.55 through 147-86.63, the Iran Divestment Act, requires the State Treasurer to develop a list of entities engaging in prohibited activities and update the list annually, refrain from contracting with or making investments in such companies, and divesting from the same within 180 days of being listed. Indirect investments through structures such as index funds, commingled funds, limited partnerships, or derivative instruments are excepted from the statutes under General Statutes 147-86.42(5a) and 147-86.57(3).

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

Legislative Restrictions (Continued)

The Divestment from Companies Boycotting Israel Act (North Carolina General Statutes 147-86.80 through 147-86.84) places investment restrictions on the North Carolina Retirement Systems and the Department of State Treasurer. Specifically, pursuant to the North Carolina Department of State Treasurer's "Boycott Israel Divestment Policy," adopted in compliance with the statute, the Department of State Treasurer shall refrain from making investments in companies on the state Treasurer's list of entities engaging in certain boycotting activities against Israel. The State Treasurer shall review the list of restricted companies on an annual basis and divest from the same within 180 days of being listed. Further, per General Statutes 147-86.82(a) and 147-86.83, listed companies are ineligible to contract with the state, or any political subdivision of thereof, where the value of the contract is over one thousand dollars (\$1,000).

Economic Discussion

Roughly nine years into its recovery, the U.S. economy continues to grow, with falling unemployment rates and steadily rising inflation. For the year ended June 30, 2018, Gross Domestic Product (GDP) adjusted for inflation and seasonality increased at a rate of 2.8%; the unemployment rate was 4.0%, consumer price inflation was 2.9% year over year; and core consumer price inflation (i.e., removing the volatile food and energy sectors) was 2.3% year over year. The Federal Reserve successfully completed three additional rate hikes during the fiscal year, increasing the target federal funds rate by 0.25% each time in December 2017, March 2018, and June 2018 ending the year at a target range of 1.75-2.00%. These moves were widely expected by the financial markets, which have continued to closely track and anticipate further moves from the Federal Reserve. Despite a series of unexpected political events and global tensions throughout the fiscal year, market volatility remained relatively subdued, thanks in part to the passage of tax reform, improving corporate profits and generally accommodative central bank policies around the globe. West Texas Intermediate crude oil prices experienced some volatility during the fiscal year. On net overall, the price of WTI crude was up roughly \$22 a barrel, moving from roughly \$48 to \$70. Given the pace of rate hikes from the Federal Reserve, improved GDP growth, and an uptick in inflation, U.S. Treasury interest rates ended the fiscal year higher across the curve. The rise in rates were more significant on the short end of the curve, with 2-year maturity tenor rising 115 basis points, while the 10-year maturity tenor rose only 55 basis points, resulting in increased flattening of the yield curve. Investment grade corporate bonds (i.e., credit quality ratings) experienced a slight increase in their yield premiums compared to similar duration U.S. Treasury bonds during the year, while noninvestment grade corporate bonds experienced a slight decrease in their yield premiums as default rates remained low. Domestic and international equity markets experienced strong returns over the fiscal year.

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

External Investment Pool Portfolio Discussion

The Investment Management Division of the Department of State Treasurer's goal is to strengthen and sustain the retirement systems by providing a long-term rate of return that approximates the actuarial rate of return while managing risk in the portfolio. The division conducts its activities in accordance with the Investment Policy Statement for the North Carolina Retirement Systems, which is approved by the state treasurer in consultation with the Investment Advisory Committee. This policy covers investment objectives, asset allocation ranges, rebalancing processes and other issues.

It is the policy of the state treasurer to invest consistent with the following objectives:

- A. Provide investment returns sufficient for the pension fund to make timely payment of statutory benefits to current and future members and keep contribution rates at a reasonable level over the long-term. To achieve this, long-term projected investment returns should be generally consistent with the actuarial assumed rate of return unless otherwise determined by the treasurer.
- B. Avoid excessive volatility in contribution rates over the intermediate-term by maintaining a moderate risk profile and diversifying with respect to economic and financial risk factors. It is acceptable to limit the use of return-seeking strategies in order to avoid excessive volatility.
- C. Additionally:
 - 1. Achieve cost-efficiency in the overall investment program
 - 2. Exceed composite benchmark returns for the pension fund and broad categories of investments within reasonable risk limits and over market cycles
 - 3. Ensure sufficient liquidity to meet the pension fund's obligations over all time periods
 - 4. Comply with all governing statutes as consistent with fiduciary obligations

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

External Investment Pool Portfolio Discussion (Continued)

North Carolina's defined benefit plans are consistently ranked in the top ten of state retirement funding ratios.

The discussion below refers to classifications in the Investment Policy Statement. The Supplementary Information contains a mapping of the Investment Policy Statement's classifications to the statutory classifications.

The Total Pension Plan generated a total return of 7.3% for the fiscal year, outperforming the benchmark's 6.1% return.

The Public Equity portfolio generated a total return of 12.5% for the fiscal year, outperforming the benchmark's 10.6% return. Stock returns were generally strong across the globe, with domestic markets posting some of the largest gains. The Russell 3000 Index in the U.S. returned 14.8%, with the largest gains seen in smaller market capitalization stocks (17.6% for the Russell 2000 Index). Internationally, the MSCI ACWI ex-U.S. IMI index returned 7.8%, with the emerging markets falling in line (8.2% for the MSCI Emerging Markets Index). One of the largest initiatives for the fiscal year was to begin managing U.S. stocks internally. The drivers of this initiative was to reduce external investment management costs, increase control over assets, as well as increase investment and operational expertise of internal staff. In late 2017, the investment management division began managing domestic equity passive index accounts internally. As of June 30, 2018, nearly \$10 billion of domestic equity securities were managed by the internal public equity team.

The Private Equity portfolio generated a total return of 16.3% for the fiscal year, outperforming the benchmark's 13.7% return. While all segments of the portfolio contributed positively to returns, the strongest gains came from Buyout and Venture Capital/Growth Equity strategies, which together comprised two-thirds of the portfolio's market value at fiscal year-end.

The Non-Core Real Estate portfolio generated a total return of 15.9% for the fiscal year, outperforming the benchmark's 11.0% return. The Core Real Estate portfolio generated a total return of 7.6%, outperforming the benchmark's 7.2% return. Real estate returns were supported by steady fundamentals and healthy capital markets during the year. While the pace of appreciation has moderated following several years of robust growth, demand for high quality, well-located assets with stable cash flows continued to outpace supply, which was supportive of returns. In addition, well-executed business plans for the Pool's investments contributed to benchmark outperformance in both the Non-Core and Core Real Estate asset classes.

The Opportunistic Fixed Income portfolio generated a total return of 6.7% for the fiscal year, outperforming the benchmark's -1.0% return. As credit spreads remained tight and with the backdrop of solid economic conditions, the portfolio was positioned to generate attractive yields. In particular, the portfolio's allocations to private debt strategies, bank loans, as well as structured and distressed credit, generated steady returns despite the threat of higher interest rates as the Federal Reserve continued to move away from their accommodative posture.

The Investment Grade Fixed Income portfolio generated a total return of -0.37%, outperforming the benchmark's return of -0.50%. The portfolio was challenged by rising interest rates over the fiscal year. Within the portfolio, government bonds and corporate bonds experienced negative returns for the year, while the mortgage portfolio posted slightly positive returns.

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MANAGEMENT'S DISCUSSION AND ANALYSIS
FISCAL YEAR ENDED JUNE 30, 2018**

External Investment Pool Portfolio Discussion (Continued)

The Pension Cash portfolio generated a total return of 1.4% for the fiscal year, outperforming the benchmark's 1.3% return.

The Inflation Sensitive portfolio generated a total return of 6.2% for the fiscal year, outperforming the benchmark's 3.8% return. The strongest component of the asset class on an absolute basis was Real Assets & Other Diversifiers, as lending, infrastructure, and secondary strategies generated strong returns. Private Natural Resources also contributed positively to the asset class' return, as both lending and timberland strategies continued their recovery on strengthening commodity prices.

The Multi-Strategy portfolio generated a total return of 6.3% for the fiscal year, outperforming the benchmark's 5.7% return. This outperformance was largely driven by the equity rebalancing strategy employed within the portfolio.

BIF Portfolio Discussion

The BIF portfolio generated a total return of -0.5% for the fiscal year, underperforming the benchmark's -0.4% return. The BIF portfolio is designed to passively replicate the return and risk profile of the Bloomberg Barclays U.S. Aggregate Bond Index. Both the portfolio and the benchmark struggled as rising interest rates put downward pressure on the prices of bonds. Government securities and corporate bonds experienced the largest losses, while mortgage bonds experienced slight gains.

EIF Portfolio Discussion

The EIF generated a total return of 11.0% for the fiscal year, outperforming the benchmark's 10.7% return. The EIF portfolio is designed to passively replicate the return and risk profile of the Morgan Stanley Capital International All Country World Index. Both the portfolio and the benchmark benefited from strong equity markets globally, especially within the domestic markets.

Request for Information

This financial report is designed to provide our citizens, taxpayers, customers, investors, and creditors with a general overview of the North Carolina Department of State Treasurer's investment finances and to demonstrate the accountability of the Department and State Treasurer for the money they receive. If you have questions about this report or need additional financial information, contact the North Carolina Department of State Treasurer, 3200 Atlantic Avenue, Raleigh, NC 27604, United States. The Department's website is www.nctreasurer.com and investment reports are available on that site at that address.

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
STATEMENT OF FIDUCIARY NET POSITION
AS OF JUNE 30, 2018
(IN THOUSANDS)**

	As of June 30, 2018		
	External Investment Pool	Bond Index Investment Pool	Equity Index Investment Account
Assets			
Cash and cash equivalents	\$ 351,672	\$ -	\$ -
Securities lending collateral	709,909	-	-
Investments, at fair value	114,774,574	1,533,104	579,767
Receivables:			
Accrued interest and dividends	386,014	10,178	-
Investments sold, but not settled	61,395	25,898	-
Other receivables	3,283	-	-
Total receivables	450,692	36,076	-
Total assets	\$ 116,286,847	\$ 1,569,180	\$ 579,767
Liabilities			
Accounts payable and accrued liabilities	18,216	-	-
Investments purchased, but not settled	107,858	25,978	-
Obligations under securities lending	709,909	-	-
Total liabilities	\$ 835,983	\$ 25,978	\$ -
Net Position			
Net position held in trust	\$ 115,450,864	\$ 1,543,202	\$ 579,767

See accompanying Notes to Financial Statements.

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
STATEMENT OF CHANGES IN FIDUCIARY NET POSITION
FISCAL YEAR ENDED JUNE 30, 2018
(IN THOUSANDS)**

	<u>External Investment Pool</u>	<u>Bond Index Investment Pool</u>	<u>Equity Index Investment Account</u>
Additions:			
Investment income:			
Interest and dividend income	\$ 2,008,352	\$ 47,251	\$ 81
Net appreciation (depreciation) in fair value of investments	5,061,735	(54,696)	45,811
Other investment income	566,339	113	-
Securities lending income	19,158	-	-
Total investment income (loss)	<u>\$ 7,655,584</u>	<u>\$ (7,332)</u>	<u>\$ 45,892</u>
Deductions			
Investment management expenses	543,299	266	109
Administrative and other expenses	82,597	-	-
Securities lending expense	4,870	-	-
Total deductions	<u>\$ 630,766</u>	<u>\$ 266</u>	<u>\$ 109</u>
Net increase (decrease) in net position resulting from operations	7,024,818	(7,598)	45,783
Distributions to participants			
Distributions paid (received) and payable (receivable)	(7,024,818)	7,598	(45,783)
Share transactions			
Reinvestment (purchase) of distributions	7,025,144	(7,598)	45,783
Net share purchases (redemptions)	(2,078,463)	(35,661)	122,147
Change in net position	4,946,681	(43,259)	167,930
Net position held in trust:			
Beginning of year	110,504,183	1,586,461	411,837
End of year	<u>\$ 115,450,864</u>	<u>\$ 1,543,202</u>	<u>\$ 579,767</u>

See accompanying Notes to Financial Statements.

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
INVESTMENT PROGRAMS
NOTES TO FINANCIAL STATEMENTS
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1. Financial Reporting Entity

The North Carolina Department of State Treasurer Investment Programs "State Treasurer Investments" contain deposits from funds and component units of the State of North Carolina, except for certain investments of the Escheat Fund and the Bond Proceeds Investment Accounts. State Treasurer Investments include the External Investment Pool (the Pool), the Bond Index Investment Pool (BIF), and the Equity Index Investment Account (EIF).

The primary participants of the Pool include Teachers' and State Employees' Retirement System, Consolidated Judicial Retirement System, Legislative Retirement System, Firefighters' and Rescue Squad Workers' Pension Fund, North Carolina National Guard Pension Fund, Local Governmental Employees' Retirement System, and Retiree Health Benefit Fund.

The Pool, a governmental set of investments of the Treasurer, consists of the following individual investment portfolios: Short-term Investment Fund (STIF), Long-term Investment Fund (LTIF), , Equity Investment Portfolio, Real Estate Investment Portfolio, Alternative Investment Portfolio, Opportunistic Fixed Income Investment Portfolio, Cash Pool, and Inflation Sensitive Investment Portfolio. The Pool operates under General Statutes 147-69.1 to 147-69.3. The statutes address credit and other risks to which the Treasurer adheres in the management of the Pool. The deposits are commingled; therefore, the North Carolina Department of State Treasurer (the Treasurer) considers all investment portfolios listed above to be part of the Pool. The Pool is not a legally separate entity within the state of North Carolina. Also, the Pool is not registered with the Securities and Exchange Commission and is not subject to any formal oversight other than that of the legislative body of the state of North Carolina.

Participants in the BIF may include public hospitals, the Local Government Other Post Employment Benefit Trust, the Law Enforcement Officer Special Separation Allowance trusts (LEOSSAs), the Death Benefit Plan of N.C., the Disability Income Plan of N.C., the Register of Deeds' Supplemental Pension Fund, and other funds and component units of the state of North Carolina with investment authority under General Statute 147-69.2. See Note 7 for additional information.

The EIF primary participants are public hospitals, local government other postemployment benefit funds, and LEOSSAs. See Note 8 for additional information.

The accompanying financial statements present only the net position of the State Treasurer Investments and do not purport to, and do not, present fairly the financial position of the state of North Carolina as of June 30, 2018 and the changes in its financial position for the year then ended in conformity with accounting principles generally accepted in the United States.

2. Summary of Significant Accounting Policies

Basis of Presentation

The accompanying financial statements were prepared in accordance with accounting principles generally accepted in the United States (GAAP) for governments as applicable to governmental units. The Governmental Accounting Standards Board (GASB) is the accepted standard-setting body for establishing governmental accounting and reporting principles.

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Measurement Focus and Basis of Accounting

The financial statements are reported using the economic resources measurement focus and the accrual basis of accounting. Under this method, additions are recorded when earned and deductions are recorded at the time liabilities are incurred, regardless of the timing of related cash flows.

Cash and Cash Equivalents

The Pool reports all cash on hand and deposits in banks, including demand deposits, as cash and cash equivalents. Restricted cash represents the Pool's cash held by counterparties as collateral against the Pool's derivatives. Cash held by counterparties as collateral is not available to the Pool for general operating purposes, but may be applied against amounts due to derivative counterparties or returned to the Pool when the collateral requirements are exceeded or at the maturity of the derivatives. Cash equivalents are highly liquid investments with an original maturity of ninety days or less when purchased.

Securities Lending

Cash received as collateral on securities lending transactions is used to purchase investments. These investments are reported as securities lending collateral in the accompanying financial statements and are primarily repurchase agreements, which are reported at cost. A corresponding liability is also reported as obligations under securities lending in the accompanying financial statements of the Pool for the amount owed to the broker at the termination of the lending agreement. Income and expenses related to securities lending are reported at gross amount.

Valuation of Investments and Derivatives

Investments and derivatives are reported at fair value with significant exceptions noted below. Repurchase agreements and non-negotiable certificates of deposit in the STIF are reported at cost which approximates fair value.

In the Pool, fair values are determined daily for the LTIF and Equity Investment portfolios, and quarterly for the Real Estate Investment and Alternative Investment portfolios. The Opportunistic Fixed Income Investment portfolio is valued quarterly except for hedge fund investments which are valued monthly. The Inflation Sensitive Investment portfolio consists primarily of limited partnerships which are valued quarterly. It also contains futures and fixed income securities which are valued daily or monthly. In the LTIF portfolio, the fair value of fixed income securities is calculated by a third-party pricing vendor based on future principal and interest payments discounted using market yields. For the Alternative Investment portfolio (private equity investment partnerships and hedge funds), the Real Estate Investment portfolio (limited partnerships and other investments), the Opportunistic Fixed Income Investment and Inflation Sensitive Investment portfolios (limited partnerships, hedge funds, and other nonpublicly traded investments) the methodology for determining an estimated fair value is established by the general partner, which may utilize a third-party pricing source or an independent real estate appraiser.

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
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Valuation of Investments and Derivatives (Continued)

Contracts with these partnerships, hedge funds, and other investments require an annual audit, except for certain older investments that are immaterial to the financial statements.

For the BIF and EIF, fair values are determined daily. In addition, the fair values for the fixed income securities in the BIF are calculated by a third-party pricing vendor based on future principal and interest payments discounted using market yields.

The general partners' estimated fair values are based on the partnership's and fund's respective net asset values (NAV). The most significant input into the NAV of such an entity is the fair value of its holdings. These nonpublicly traded assets are valued at current fair value, taking into consideration the financial performance of the issuer, cash flow analysis, recent sales prices, market comparable transactions, a new round of financing, a change in economic conditions, and other pertinent information. The fair values of certain investments may require significant management judgment or estimation. Fair value is determined using the best information available for a hypothetical transaction at the measurement date, not using forced sale or fire sale pricing. Participants' shares sold and redeemed are determined in the same manner as is used to report investments, and the Treasurer does not provide or obtain legally binding guarantees to support share values. Net investment income earned by the Pool and BIF is generally distributed on a pro rata basis.

Forward foreign currency contracts and futures contracts are included in the Statements of Net Position as "Investments, at fair value." Investments, at fair value, incorporate unrealized gains or losses on outstanding forward foreign currency contracts and futures contracts. Gains or losses, incurred when forward foreign currency contracts and futures contracts entered into by the Pool mature or are closed out, are included in "Net appreciation (depreciation) in fair value of investments" in the Statements of Changes in Fiduciary Net Position.

Accounts Payable and Accrued Liabilities

Accounts payable and accrued liabilities include amounts due for administrative and investment management expenses.

Income Recognition

Investment transactions are accounted for on a trade (investment) date basis. Net appreciation (depreciation) in the fair value of investments consists of both the realized and unrealized gains or losses which include those resulting from the sale of assets during the year as well as changes in the fair market value of the investments held at fiscal year-end. Interest and dividend income is recorded on the accrual basis, with dividends accruing on the ex-dividend date.

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Investment Management Expenses

The Investment Management Division (IMD) at the North Carolina Department of State Treasurer hires external investment managers to invest a significant portion of the investment assets. The State Treasurer typically pays investment management fees based on individually negotiated investment management agreements. The fees, usually paid quarterly, may be based on a sliding scale of the portfolio's net asset value at quarter-end, calculated by multiplying each level of net position by a specified basis point charge, or may be performance-related, typically associated with exceeding a market benchmark and/or hurdle rate. Fees are paid from the appropriate manager's portfolio and are recognized as an expense over the time period for which the fees are applicable. Certain investment management fees, usually in private equity portfolios, are paid at the beginning of the period. These charges are reported on the Statements of Changes in Net Position as part of the State Treasurer's investment management expenses.

Administrative and Other Expenses

Certain administrative expenses of the Pool are paid by the Treasurer. These expenses consist of charges to the individual funds administered by IMD and include custodial fees, bank charges, the Treasurer's allocated costs of administering the plan, partnership expenses and other costs of administering the investment portfolios. These charges are reported on the Statements of Changes in Net Position as part of the Pool's administrative and other expenses.

Use of Estimates

The preparation of financial statements in conformity with accounting principles generally accepted in the United States requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities at the date of the financial statements and the reported amounts of income and expense during the reporting period. Actual results could differ from those estimates.

3. External Investment Pool Deposits and Investments

All deposits are cash and cash equivalents. As of June 30, 2018, the balance of the Pool's deposits was \$351.7 million. Also at June 30, 2018, the amount of restricted cash held by the Pool was \$16.6 million.

Unless specifically exempt, every agency of the state and certain component units are required by General Statute 147-77 to deposit moneys received with the Treasurer or with a depository institution in the name of the Treasurer. Deposits to the Pool may be made in any bank, savings and loan association or trust company in the state as approved by the Treasurer. General Statute 147-79 requires depositories to collateralize all balances that are not FDIC insured. The depositories must maintain specified security types in a third-party escrow account established by the Treasurer.

The Treasurer is directed by statute to establish, maintain, administer, manage and operate investment programs for the Pool's assets, pursuant to the applicable statutes. In doing so, the Treasurer has full powers as a fiduciary and, with IMD staff, manages the investment programs so assets may be readily converted into cash when needed.

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER
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3. External Investment Pool Deposits and Investments (Continued)

In establishing the comprehensive management program, the Treasurer, utilizing a professional investment staff, has developed an investment strategy for each portfolio that recognizes the guidelines of the governing General Statutes. In addition to the Treasurer and IMD staff managing these programs, the Investment Advisory Committee (IAC) provides opinions on policies and opinions on general strategy for the Pension Fund investments, including asset allocation, in consultation with IMD staff.

Investment Portfolios

The Pool invests in the following individual investment portfolios as of June 30, 2018:

Statutory Asset Allocation	
<i>(in Thousands)</i>	
Short-Term Investment Fund	\$ 22,353,204
Long-Term Investment Fund	24,156,617
Equity Investment	39,423,881
Real Estate Investment	8,495,641
Alternative Investment	7,003,841
Opportunistic Fixed Income Investment	5,712,559
Inflation Sensitive Investment	6,350,879
Cash Pool	1,277,952
Total Investments	<u><u>\$ 114,774,574</u></u>

STIF – This fixed-income investment portfolio is the primary cash management account and is managed in such a manner as to be readily convertible into cash. The primary participants of this portfolio are the General Fund and the Highway Funds. Other participants may include universities and various boards, commissions, community colleges, and school administrative units that make voluntary deposits with the Treasurer as well as the remaining portfolios listed below. The Teachers’ and State Employees’ Retirement System, Consolidated Judicial Retirement System, Legislative Retirement System, Firefighters’ and Rescue Squad Workers’ Pension Fund, North Carolina National Guard Pension Fund, Local Governmental Employees’ Retirement System, and Retiree Health Benefit Fund (collectively the North Carolina Retirement Systems) hold a cash allocation that is invested in STIF and provides liquidity for the Pool.

LTIF – This portfolio holds fixed-income investments, including Government National Mortgage Association (GNMA) certificates, corporate bonds, U.S. Treasuries, and U.S. agency obligations. Since the deposits in this fund are typically not needed for day-to-day operations, the investment vehicles used generally have a longer term and higher yield than those held in the STIF. The sole participants of the portfolio are the North Carolina Retirement Systems.

Equity Investment – This portfolio primarily holds an equity-based trust. The North Carolina Retirement Systems are the sole participants in the portfolio.

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Investment Portfolios (Continued)

Real Estate Investment – This portfolio holds investments in real estate-based trust funds, limited partnerships and other limited liability investment vehicles, group annuity contracts, and accounts managed under contractual relationships giving an external investment manager discretion. The North Carolina Retirement Systems are the sole participants in the portfolio.

Alternative Investment – This portfolio holds investments in limited partnerships and other limited liability investment vehicles, hedge funds, and equities received in the form of distributions from its primary investments. The North Carolina Retirement Systems are the sole participants in the portfolio.

Opportunistic Fixed Income Investment – This portfolio holds investments in debt-related strategies made primarily through limited partnerships or other limited liability vehicles. The North Carolina Retirement Systems are the sole participants in the portfolio.

Inflation Sensitive Investment – This portfolio holds investments in assets that are acquired for the primary purpose of providing protection against risks associated with inflation made primarily through limited partnerships or other limited liability vehicles which hold fixed income securities including U.S. Treasuries and corporate bonds. The North Carolina Retirement Systems are the sole participants in the portfolio.

Cash Pool – The cash pool is managed in a manner to be readily convertible into cash. It holds a collective investment fund with a maturity of less than 60 days. The sole participants are the North Carolina Retirement Systems.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of debt instruments. There is no formally adopted investment policy to manage interest rate risk. Fixed income assets of the STIF are invested in a laddered maturity approach that focuses on short maturity securities with ample liquidity. The STIF had a weighted average maturity of 1.4 years as of June 30, 2018. Most of the cash and cash equivalents of the major governmental and enterprise funds are invested in this portfolio.

The Pool maintained by the Treasurer had the following investments and maturities in the STIF as of June 30, 2018:

STIF	Investment Maturities (in Years)				
	Carry Amount	Less Than 1	1 to 5	6 to 10	More Than 10
	<i>(In Thousands)</i>				
As of June 30, 2018					
U.S. treasuries	\$ 8,816,754	\$ 8,816,754	\$ -	\$ -	\$ -
U.S. agencies	12,805,951	2,519,000	10,286,951	-	-
Securities purchased with cash collateral under securities lending program:					
Repurchase agreements	27,480	27,480	-	-	-
Repurchase agreements	655,000	655,000	-	-	-
Total short-term investment fund assets	<u>\$ 22,305,185</u>	<u>\$ 12,018,234</u>	<u>\$ 10,286,951</u>	<u>\$ -</u>	<u>\$ -</u>

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Interest Rate Risk (Continued)

The assets of the LTIF are primarily invested in securities with maturities longer than five years. The longer maturity range is more sensitive to interest rate changes; however, the longer duration structure of the portfolio provides a better match to the long duration characteristics of the North Carolina Retirement Systems' liabilities. The Treasurer considers the maturity for interest rate risk purposes to be the length of time to the next reset date rather than the stated maturity. The LTIF had a weighted average maturity of 17.7 years as of June 30, 2018.

The LTIF holds investments in GNMA mortgage pass-through funds. Critical to the pricing of these securities are the specific features of the cash flows from the interest and principal payments of the underlying mortgages. Therefore, these valuations are sensitive to the potential of principal prepayments by mortgagees in periods of changing interest rates. Also, included within the LTIF are U.S. government agencies and corporate bonds which may carry call options in which the issuer has the option to prepay the principal at certain dates over the life of the security. As such, these types of securities are more sensitive to the decline in long-term interest rates than similar securities without call options. In addition to the corporate bonds with call options, there are corporate bonds with variable coupon rates that reset on specific dates. Critical to the cash flows and pricing of these securities are the changes in interest rates.

The Pool maintained by the Treasurer had the following investments and maturities in the LTIF as of June 30, 2018:

LTIF	Investment Maturities (in Years)				
	Carry Amount	Less Than 1	1 to 5	6 to 10	More Than 10
	<i>(In Thousands)</i>				
As of June 30, 2018					
U.S. treasuries	\$ 6,091,892	\$ -	\$ 332,713	\$ 2,942,542	\$ 2,816,637
U.S. agencies	708,867	-	-	-	708,867
Mortgage pass-through	8,681,326	-	3,038	14,092	8,664,196
Securities purchased with cash collateral under securities lending program:					
Repurchase agreements	251,428	251,428	-	-	-
Domestic corporate bonds	8,674,529	72,004	775,264	3,905,242	3,922,019
Total long-term investment fund assets	\$ 24,408,042	\$ 323,432	\$ 1,111,015	\$ 6,861,876	\$ 16,111,719

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Interest Rate Risk (Continued)

The Other Investment Portfolios of the Pool (Equity, Real Estate, Alternative, Opportunistic Fixed Income and Inflation Sensitive) hold fixed income investments in U.S. treasuries, corporate bonds, and collective investment funds. The Pool maintained by the Treasurer had the following investments and maturities separated by Other Investment Portfolios as of June 30, 2018:

Other Investment Portfolios	Investment Maturities (in Years)				
	Carry Amount	Less Than 1	1 to 5	6 to 10	More Than 10
<i>(In Thousands)</i>					
As of June 30, 2018					
U.S. treasuries	\$ 350,387	\$ 218,274	\$ 132,113	\$ -	\$ -
Asset-backed securities	20,535	3,726	23	703	16,083
Commercial mortgage-backed securities	8,860	316	-	-	8,544
Collateralized mortgage obligations	60,470	15,009	370	-	45,091
Collective investment funds	1,587,181	1,587,181	-	-	-
Domestic corporate bonds	343,539	110,465	74,644	94,764	63,666
Foreign government bonds	14,226	199	5,633	8,394	-
Securities purchased with cash collateral under securities lending program:					
Asset-backed securities	26,855	26,855	-	-	-
Repurchase agreements	403,641	403,641	-	-	-
Total other investment portfolios assets	<u>\$ 2,815,694</u>	<u>\$ 2,365,666</u>	<u>\$ 212,783</u>	<u>\$ 103,861</u>	<u>\$ 133,384</u>

The major investment classifications had the following attributes as of June 30, 2018:

Investment Classification	Principal Amount	Range of Interest Rates
<i>(In Thousands)</i>		
STIF		
U.S. treasuries	\$ 8,850,000	0.63%-1.50%
U.S. agencies	12,806,000	1.10%-3.22%
Securities purchased with cash collateral under securities lending program:		
Repurchase agreements	27,480	2.07%-2.12%
Repurchase agreements	655,000	2.17%
LTIF		
U.S. treasuries	5,559,949	0.75%-7.63%
U.S. agencies	530,786	4.65%-7.13%
Mortgage pass-throughs	8,566,152	3.00%-9.00%
Securities purchased with cash collateral under securities lending program:		
Repurchase agreements	251,428	1.92%-2.12%
Domestic corporate bonds	8,479,818	1.85%-10.50%

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Interest Rate Risk (Continued)

Investment Classification (Continued)	Principal Amount	Range of Interest Rates
	<i>(In Thousands)</i>	
Other investment portfolios		
U.S. treasuries	353,564	0.00%-1.88%
Asset-backed securities	24,231	0.01% -4.50%
Commerical mortgage-backed securities	77,309	0.83%-6.12%
Collateralized mortgage obligations	134,811	1.00% - 6.50%
Collective investment funds	1,587,181	0.00%-2.10%
Domestic corporate bonds	527,799	0.00%-12.31%
Foreign government bonds	14,650	2.88% - 10.00%
Securities purchased with cash collateral under securities lending program:		
Asset-backed securities	27,255	2.22%-3.11%
Repurchase agreements	403,641	1.92%-2.12%

Credit Risk

Credit risk is the risk an issuer or other counterparty to an investment will not fulfil its obligations such as the chance that a bond issuer will fail to pay interest or principal in a timely manner, or that negative perceptions of the issuer's ability to make these payments will cause security prices to decline. These circumstances may arise due to a variety of factors such as financial weakness, bankruptcy, litigation and/or adverse political developments. Certain fixed income securities, including obligations of the U.S. government or those explicitly guaranteed by the U.S. government, are not considered to have credit risk.

General Statute 147-69.1 limits credit risk by restricting the STIF's corporate obligations, asset-backed securities, and commercial paper to securities that bear the highest rating of at least one nationally recognized rating service and do not bear a rating below the highest by any nationally recognized rating service.

The STIF had the following credit quality distribution for securities with credit exposure as of June 30, 2018:

STIF	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated
	<i>(In Thousands)</i>					
As of June 30, 2018						
U.S. agencies	\$ -	\$ 12,805,951	\$ -	\$ -	\$ -	\$ -
Securities purchased with cash collateral under securities lending program:						
Repurchase agreements	-	27,480	-	-	-	-
Repurchase agreements	-	655,000	-	-	-	-
Total short-term investment fund assets	\$ -	\$ 13,488,431	\$ -	\$ -	\$ -	\$ -

Excluded from this chart are securities exempt from credit risk such as U.S. Treasuries and GNMA's.

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Credit Risk (Continued)

General Statute 147-69.2 specifies the cash investment options for the LTIF and limits credit risk by restricting the LTIF's asset-backed securities and corporate obligations to securities that bear one of the four highest ratings of at least one nationally recognized rating service when acquired. In the LTIF, all holdings were rated BBB (or equivalent) or higher at the time of purchase by at least one of the nationally recognized rating agencies.

The LTIF had the following credit quality distribution for securities with credit exposure as of June 30, 2018:

LTIF	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated
	<i>(In Thousands)</i>					
As of June 30, 2018						
U.S. agencies	\$ -	\$ 708,867	\$ -	\$ -	\$ -	\$ -
Domestic corporate bonds	71,231	754,531	3,974,411	3,567,352	307,004	-
Securities purchased with cash collateral under securities lending program:						
Repurchase agreements	-	251,428	-	-	-	-
Total long-term investment fund assets	\$ 71,231	\$ 1,714,826	\$ 3,974,411	\$ 3,567,352	\$ 307,004	\$ -

Excluded from this chart are securities exempt from credit risk such as U.S. Treasuries and GNMA's.

The Other Investment Portfolios of the Pool had the following credit quality distribution for securities with credit exposure as of June 30, 2018:

Other Investment Portfolios	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated
	<i>(In Thousands)</i>					
As of June 30, 2018						
Asset-backed securities	\$ -	\$ -	\$ 2,713	\$ -	\$ 5,937	\$ 11,885
Commercial mortgage-backed securities	3,227	2,186	798	-	2,330	319
Collateralized mortgage obligations	495	5,906	-	-	50,904	3,165
Collective investment funds	-	-	-	-	-	1,587,181
Domestic corporate bonds	6,993	23,396	27,419	102,084	143,734	39,913
Foreign government bonds	-	-	4,621	5,957	3,648	-
Securities purchased with cash collateral under securities lending program:						
Asset-backed securities	-	23,631	306	-	2,918	-
Repurchase agreements	-	403,641	-	-	-	-
Total other investment portfolios assets	\$ 10,715	\$ 458,760	\$ 35,857	\$ 108,041	\$ 209,471	\$ 1,642,463

Excluded from this chart are securities exempt from credit risk such as U.S. Treasuries and GNMA's.

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Custodial Credit Risk

Custodial credit risk for deposits is the risk that, in the event of a bank failure, the Pool's deposits may not be recovered. As of June 30, 2018, the Pool's deposits were exposed to custodial credit risk for non-negotiable certificates of deposit in the amount of \$75.5 million. The non-negotiable certificates of deposit were uninsured and were collateralized with securities not in the name of the Treasurer and held by an agent.

For an investment, custodial credit risk is the risk that, in the event of the failure of the counterparty, the Treasurer will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. As of June 30, 2018, the investments purchased with cash collateral under the securities lending programs of \$710 million were not exposed to custodial credit risk since the securities were held by the counterparty in separate accounts in the name of the Treasurer. All other investments of the Pool were not exposed to custodial credit risk at year-end. There is no formally adopted investment policy to manage custodial credit risk for these investment types.

The Treasurer's deposit policy for custodial credit risk is limited to complying with the collateralization rules of the North Carolina Administrative Code (Chapter 20 NCAC 7). The collateral securities must be governmental in origin (e.g., U.S. Treasury, U.S. agency, or state and local government obligations) or the highest grade commercial paper and bankers' acceptances. The market value of the collateral must not be less than the value of the uninsured deposits. The depositories may elect to collateralize deposits separately (dedicated method) or include deposits of the North Carolina local government units in a collateral pool with the state and certain component units (pooling method).

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. Mutual funds, money market funds, and external pooled accounts are excluded from this disclosure requirement. Obligations explicitly guaranteed by the U.S. Government are not considered to have credit risk. However, more than 5% of the Pool's securities were invested in Federal Home Loan Mortgage Corporation. These investments totalled \$8.9 billion and comprised 7.8% of the Pool's total investments. These investments are held primarily by the STIF and LTIF portfolios and are classified as U.S. Agencies. Effective June 30, 2018 there is no formal policy regarding concentration of credit risk.

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Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment or a deposit. There is no formally adopted investment policy to limit foreign currency exposure.

The Pool had the following exposure to foreign currency risk as of June 30, 2018:

Currency	Carrying Value As of June 30, 2018					Total
	Investment Type					
	Equity Based Trust - International	Alternative Investment - Private Equity Investment Partnerships	Real Estate Trust Funds	Opportunistic Fixed Income Investment Partnership		
	<i>(In Thousands)</i>					
Euro	\$ 4,089,995	\$ 321,064	\$ 75,633	\$ 51,075	\$	4,537,767
Japanese Yen	2,750,105	-	29,112	-		2,779,217
Pound Sterling	1,889,672	89,129	317,712	-		2,296,513
Hong Kong Dollar	1,130,476	-	62,078	-		1,192,554
Swiss Franc	831,606	-	2,496	-		834,102
Australian Dollar	561,995	-	13,307	-		575,302
Swedish Krona	464,729	-	3,502	-		468,231
Danish Krone	294,259	-	-	-		294,259
New Taiwan Dollar	115,597	-	62	-		115,659
South Korean Won	161,380	-	-	-		161,380
Indian Rupee	143,940	-	1,346	-		145,286
Singapore Dollar	168,536	-	8,920	-		177,456
Canadian Dollar	160,831	-	8,120	-		168,951
Brazil Cruzeiro Real	76,482	-	3,096	-		79,578
Norwegian Krone	68,388	-	431	-		68,819
S. African Rand	36,227	-	6,327	-		42,554
Malaysian Ringgit	21,808	-	2,866	-		24,674
New Zealand Dollar	18,451	-	206	-		18,657
Turkish Lira	17,628	-	596	-		18,224
Thai Baht	16,985	-	3,840	-		20,825
Mexican Peso	15,259	-	3,635	-		18,894
Israeli Shekel	14,267	-	249	-		14,516
UAE Dirham	13,924	-	967	-		14,891
Qatari Riyal	9,958	-	-	-		9,958
Indonesian Rupiah	8,966	-	1,530	-		10,496
Philippines Peso	2,759	-	5,164	-		7,923
Other Currencies	12,273	-	1,153	-		13,426
Total investments subject to foreign currency risk	\$ 13,096,496	\$ 410,193	\$ 552,348	\$ 51,075	\$	14,110,112

The Pool recognized an aggregate foreign currency transaction loss of \$189.4 million for the fiscal year ended June 30, 2018 as part of the Pool's net depreciation in fair value of investments. Transaction gains or losses result from a change in exchange rates between the U.S. dollar and the currency in which a foreign currency transaction is denominated.

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4. External Investment Pool Fair Value Measurement

The Pool categorizes fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The hierarchy levels are summarized in the three broad levels listed below:

Level 1 – Unadjusted quoted prices for identical instruments in active markets.

Level 2 – Quoted prices for similar instruments in active markets; quoted prices for identical or similar instruments in markets that are not active; and model-derived valuations in which all significant inputs and significant value drivers are observable.

Level 3 – Valuations derived from valuation techniques in which significant value drivers are unobservable.

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4. External Investment Pool Fair Value Measurement (Continued)

The Pool had the following recurring fair value measurements as of June 30, 2018:

Investments and Derivative Instruments at Fair Value

	Fair Value Measurements Using			
	As of June 30, 2018	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
	<i>(In Thousands)</i>			
Investments measured at fair value				
STIF				
U.S. Treasuries	\$ 8,816,754	\$ -	\$ 8,816,754	\$ -
U.S. Agencies	12,805,951	-	12,805,951	-
Subtotal	<u>\$ 21,622,705</u>	<u>\$ -</u>	<u>\$ 21,622,705</u>	<u>\$ -</u>
LTIF				
U.S. Treasuries	6,091,892	50,100	6,041,792	-
U.S. Agencies	708,867	-	708,867	-
Mortgage pass-through	8,681,326	-	8,681,326	-
Domestic corporate bonds	8,674,529	-	8,674,529	-
Subtotal	<u>\$ 24,156,614</u>	<u>\$ 50,100</u>	<u>\$ 24,106,514</u>	<u>\$ -</u>
Other investment portfolios				
U.S. Treasuries-inflation	350,387	26,580	323,807	
Asset-backed securities	20,535		20,535	
Collateralized mortgage obligations	60,470		60,470	
Commercial mortgage-backed securities	8,860		8,860	
Securities purchased with cash collateral under equity securities lending program:				
Asset-backed securities	26,855		26,855	
Equity securities - domestic	17,138,587	17,138,587		
Equity securities - foreign	14,773,082	14,773,082		
Equity securities - preferred domestic	32,265	13,668		18,597
Equity securities - preferred foreign	57,454	57,454		
Domestic corporate bonds	343,539		287,986	55,553
Foreign government bonds	14,226		14,226	
Subtotal	<u>\$ 32,826,260</u>	<u>\$ 32,009,371</u>	<u>\$ 742,739</u>	<u>\$ 74,150</u>
Investment derivative instruments				
Futures contracts	4,082	4,082	-	-
Futures contracts (liability)	(8,883)	(8,883)	-	-
Total investment derivative instruments	<u>\$ (4,801)</u>	<u>\$ (4,801)</u>	<u>\$ -</u>	<u>\$ -</u>
Total investments by fair value level	<u>\$ 78,600,778</u>	<u>\$ 32,054,670</u>	<u>\$ 46,471,958</u>	<u>\$ 74,150</u>

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4. External Investment Pool Fair Value Measurement (Continued)

Investments measured at the Net Asset Value (NAV)

		Unfunded commitments	Redemption frequency (if currently eligible)	Redemption notice period (days)
<i>(In Thousands)</i>				
Commingled international equity funds ⁽¹⁾	\$ 3,802,055	\$ -	Daily	1
Commingled real estate funds ⁽²⁾	753,342	-	Daily, quarterly	1 - 60
Core real estate funds ⁽³⁾	4,195,548	664,165	Quarterly, illiquid	90-illiquid
Equity rebalancing ⁽⁴⁾	1,563,711	-	Daily	1 - 5
Hedge funds			Illiquid	N/A
			Daily, monthly, quarterly, illiquid	
Global public equity - hedged ⁽⁵⁾	2,835,253	-		3 - 180
Inflation sensitive - publicly traded natural resources ⁽⁶⁾	1,898	-	Daily, monthly	5 - 35
Inflation sensitive - real assets and other diversifiers ⁽⁷⁾	222,085	-	Quarterly Weekly, quarterly, illiquid	60
Multi-strategy funds ⁽⁸⁾	141,968	-		5 - illiquid
Opportunistic fixed income - distressed credit ⁽⁹⁾	106,090	-	Illiquid	15 - 90
			Monthly, quarterly, annually	
Opportunistic fixed income - hedged fixed income ⁽¹⁰⁾	2,697,410	27,952		15 - 90
Inflation protected bonds ⁽¹¹⁾	389,910	-	Monthly	30
Long-only public equity ⁽¹²⁾	839,922	35,000	Illiquid	Illiquid
Non-core real estate funds ⁽¹³⁾	3,200,032	1,649,633	Illiquid	Illiquid
			Daily, annually, illiquid	
Private credit ⁽¹⁴⁾	2,909,059	1,052,299		60 - illiquid
Private equity funds ⁽¹⁵⁾	5,067,415	3,040,234	Illiquid	Illiquid
Private infrastructure funds ⁽¹⁶⁾	628,851	30,539	Illiquid	Illiquid
Private multi-strategy funds ⁽¹⁷⁾	227,194	145,033	Illiquid	Illiquid
Private natural resources funds ⁽¹⁸⁾	2,622,379	686,933	Illiquid	Illiquid
Private real asset funds ⁽¹⁹⁾	1,679,352	958,838	Illiquid	Illiquid
Collective investment funds ⁽²⁰⁾	1,587,181	-	Daily	1
Total investments at the NAV	<u>\$ 35,470,655</u>			
Subtotal	<u>\$ 114,071,433</u>			
Certificates of deposit (non-negotiable)	75,500			
Repurchase agreements	1,337,550			
Investments at cost	<u>\$ 1,413,050</u>			
Total Investments and Securities Lending Collateral	<u>\$ 115,484,483</u>			

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4. External Investment Pool Fair Value Measurement (Continued)

- (1) *Commingled International Equity Funds* Six funds. Each are valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.
- (2) *Commingled Real Estate Funds* Four funds. Each are valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments.
- (3) *Core Real Estate Funds* Nineteen funds. These investments are valued using net assets valued as of the previous quarter end, plus current quarter cash flows. These investments include a mix of predominately U.S. domiciled equity and debt investments in core commercial real estate. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.
- (4) *Equity rebalancing* One fund. This investment is valued at NAV per share. This investment is an options-based equity rebalancing program used as a tool to maintain asset exposures within plan policy portfolio tolerances.
- (5) *Hedge funds – Global Public Equity-Hedged* Five funds. These investments are valued at the NAV per share, and may include various equity-based hedge fund strategies. Currently, the strategies represented in this category include one which aims to target a specific beta relative to the MSCI ACWI Total Return Index, and one which seeks to profit by purchasing securities trading at a discount to their intrinsic value. **Two funds have lockups of two and three years. These lockups will expire in September 2018 and July 2019, respectively, after which time quarterly liquidity will be available with up to a 45 – 180 day notice.*
- (6) *Hedge funds – Inflation Sensitive-Publicly Traded Natural Resources* Three funds. These investments are valued at NAV per share. These strategies invest in commodity and natural resource public equity and public debt using long-only or hedged implementations.
- (7) *Hedge Funds - Inflation Sensitive-Real Assets and Other Diversifiers* One fund. This investment is valued at NAV per share. These investments may include infrastructure, real assets (e.g. ships, airplanes, rail cars, mines, real estate, etc.), royalties, and combinations of any of this and other investments whose primary purpose is providing protection against risks associated with inflation. Currently, the strategy represented in this category is one which invests in a combination of equity and debt instruments of companies which derive at a minimum 50% of their revenues from energy infrastructure and natural resources.
- (8) *Hedge Funds - Multi-Strategy Funds* Four funds. These investments are valued at NAV per share. These investments have the flexibility to invest across markets, asset classes, commodities, and currencies, including hedging. Strategies may include opportunistic, event-driven, relative value, global macro, rebalancing, tail hedging and overlays.
- (9) *Hedge Funds - Opportunistic Fixed Income-Distressed Credit* One fund. This investment is valued at NAV per share. These investments may include strategies that trade distressed debt, but occasionally actively participate in restructuring and seek control post-reorganization of target issuers. These strategies may have equity exposure.
- (10) *Hedge Funds - Opportunistic Fixed Income - Hedged Fixed Income* Eight funds. These investments are valued at NAV per share. These investments include hedged implementations of market neutral strategies, relative value strategies, and multi-strategy (i.e., predominantly fixed income) utilizing non-investment grade instruments.

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4. External Investment Pool Fair Value Measurement (Continued)

- (11) *Inflation Protected Bonds* One fund. This investment is valued at NAV per share. These strategies may invest in Treasury Inflation Protected Securities, non-U.S. inflation linked bonds, or floating rate debt. Currently, the strategy represented in this category is one which invests primarily in publicly traded securities, but also has the ability to invest up to 15% in private investments.
- (12) *Long-only Public Equity* One fund. This investment is valued at NAV per share. These investments may include publicly traded U.S. equity, non-U.S. equity, and global equity securities held in long-only vehicles. Currently, the strategy represented in this category is one with a North American focus, which takes an activist role in investing. As such, its portfolio will tend to be concentrated in its positioning. ***The strategy was entered in December 2015, from which time the funds were subject to an initial five-year lockup. Funds may be withdrawn as of the last day of each calendar year following the expiration of this initial lockup period, provided that 90 days written notice is given.*
- (13) *Non-Core Real Estate Funds* 88 funds. These investments are valued using net assets valued as of the previous quarter end, plus current quarter cash flows. These investments include a mix of global equity and debt investments in commercial and residential real estate, and each strategy falls into one of three major categories: Value (with a target allocation of 50%), Opportunistic (with a target allocation of 50%) and Special Situations (with a target allocation of 0%). These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.
- (14) *Private Credit Funds* 27 funds. These investments are valued using net assets valued as of the previous quarter end, plus current quarter cash flows. These investments include a mix of non-investment grade or unrated obligations, debt securities and asset-backed securities, including but not limited to bank loans, high yield, mortgage-backed securities, convertibles, whole loans, mezzanine debt, credit default swaps, collateralized debt obligations and sovereign debt. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.
- (15) *Private Equity Funds* 118 funds. These investments are valued using net assets valued as of the previous quarter end, plus current quarter cash flows. These investments include a mix of buyout, venture capital, growth equity, and private special situations vehicles. All investments fall into one of three major categories: Growth (with a target allocation of 20%), Buyout (with a target allocation of 50%) and Special Situations (with a target allocation of 30%). These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.
- (16) *Private Infrastructure Funds* Four funds. These investments are valued using net assets valued as of the previous quarter end, plus current quarter cash flows. These strategies invest in various infrastructure-related markets including but not limited to utilities, transportation, energy and communication. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.

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4. External Investment Pool Fair Value Measurement (Continued)

- ⁽¹⁷⁾ *Private Multi-Strategy Funds* Two funds. These investments are valued using net assets valued as of the previous quarter end, plus current quarter cash flows. These investments have the flexibility to invest across markets, asset classes, commodities, and currencies, including hedging. Strategies may include opportunistic, event-driven, relative value, global macro, rebalancing, tail hedging and overlays. Currently the strategy represented in this category is considered opportunistic, and will tactically invest across a broad range of investible assets. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.
- ⁽¹⁸⁾ *Private Natural Resources Funds* 30 funds. These investments are valued using net assets valued as of the previous quarter end, plus current quarter cash flows. These strategies make non-public equity or debt investments in timberland, energy, agriculture, and other natural resources implementations. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.
- ⁽¹⁹⁾ *Private Real Asset Funds* Nine funds. These investments are valued using net assets valued as of the previous quarter end, plus current quarter cash flows. These investments represent a mix of strategies including ships, airplanes, rail cars, mines, real estate and other markets whose primary purpose is providing protection against risks associated with inflation. These funds are not eligible for redemption. Distributions are received as underlying investments within the funds are liquidated, which on average can occur over the span of 5-10 years.
- ⁽²⁰⁾ *Collective Investment Funds* Two funds. These funds are invested in the BNY Mellon EB Temporary Investment Fund and the BlackRock T-Fund. These funds primarily invest in instruments issued by the U.S. Government and Federal agencies, short-term corporate obligations, commercial paper, and certificates of deposit. The average weighted maturity of these funds does not exceed 60 days.

Valuation Methodologies and Inputs

On-the-run U.S. Treasuries, bonds, and equity securities classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Futures contracts are marked to market and settled on a daily basis in an actively traded market.

Level 2 U.S. Treasuries are evaluated by using data from several live feeds which include active market makers and inter-dealer brokers. Sources are reviewed on the basis of their historical accuracy for individual issues and maturity ranges.

Level 2 U.S. Agencies, which are primarily mortgage pass-through securities, use a dealer derived to-be-announced (TBA) security as a benchmark, plus a dollar (or pay up) adjustment which is based on market data for the underlying collateral. When the underlying TBA is not applicable or observable, a discounted cash flow is calculated using a spread to the treasury curve based on applicable market data and internally generated long-term speed.

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Valuation Methodologies and Inputs (Continued)

Level 2 bonds are priced using both spread-based and priced-based evaluations. For spread-based evaluations, an option adjusted spread model is developed incorporating credit risk and based on the new issue market, secondary trading, and dealer quotes. For priced-based evaluations, evaluators use recently executed transactions of similar securities and dealer quotes to arrive at appropriate pricing. These methods also are used to value Canadian government bonds, which make up foreign government bonds classified as Level 2.

Level 2 asset-backed securities are priced using a model which considers days to final maturity to generate a yield based on the relevant curve for the security. Adjustments to the yield can be made as market conditions warrant. Days are counted from settlement to final maturity using the relevant settlement convention for each market. A bid evaluation is calculated from these inputs.

Level 2 collateralized mortgage obligations and commercial mortgage-backed securities are evaluated using predicted cash flows, adjusted by an applicable spread/price adjustment incorporating benchmark yields, collateral performance, and prevailing market conditions.

Level 3 bonds and commercial paper are priced using broker quotes. Level 3 equity securities are priced using manager pricing.

5. External Investment Pool Securities Lending

Based on General Statute 147-69.3(e), the Treasurer lends securities from its Pool to broker-dealers and other entities (borrowers) for collateral that will be returned for the same securities in the future. The Treasurer's custodian manages the securities lending program for the internally managed fixed income portfolios and for the equity based trust. During the year, the securities lending program lent U.S. government and agency securities, corporate bonds, equity securities and notes for collateral. The program is permitted to receive cash, U.S. government and agency securities as collateral for the securities lent.

The collateral is initially pledged at 102% of the market value of the domestic securities lent in both the fixed income portfolios and the equity based trust and 105% of the market value of foreign securities lent in the equity based trust program. Additional collateral is required if its value falls to less than 100% of the market value of the securities lent. There are no restrictions on the amount of loans that can be made. Substantially all security loans can be terminated on demand by either the Treasurer or the borrower. The Treasurer cannot pledge or sell the collateral securities received unless the borrower defaults.

The cash collateral received is invested by the lending provider and held in a separate account in the name of the Treasurer. The policies for investments purchased with cash collateral under the securities lending program are set forth in the contract with the lending provider. The weighted average maturities of the cash collateral investments are more than the weighted average maturities of the securities loans.

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5. External Investment Pool Securities Lending (Continued)

As of June 30, 2018, the Treasurer had no credit risk exposure to borrowers because the amounts the Treasurer owed the borrowers exceeded the amounts the borrowers owed the Treasurer. The lending provider is contractually obligated to indemnify the Treasurer for certain conditions, the most important is default on the part of the borrowers.

As of September 15, 2016, securities purchased with cash collateral under the current securities lending guidelines are limited to repurchase agreements and shares in money market funds registered under the Investment Company Act of 1940 and that comply with Rule 2a-7. The securities pledged as collateral for repurchase agreements are limited to securities issued or guaranteed by the U.S. government or its agencies. All counterparties for repurchase agreements must have a short-term debt rating of at least A2, P2, or F2 by at least one of the nationally recognized statistical rating organisations.

Under prior securities lending contractual guidelines, additional flexibility was given with regards to acceptable assets purchased with cash collateral. As of June 30, 2018, a total of \$26.9 million remained in securities approved under prior guidelines, consisting of asset backed securities. These securities will remain in the account until maturity or until sold. The weighted average maturity of investments, including the securities purchased under prior guidelines, was three days.

As of June 30, 2018, the fair value of loaned securities was \$8.8 billion; the fair value of the associated collateral was \$9 billion of which \$710 million was cash.

6. External Investment Pool Derivatives

Derivative instruments are securities that derive value from another asset and are in the form of a contract between two or more parties. Common derivatives are futures contracts, forward contracts, options, and swaps.

The Pool maintained by the Treasurer has investments in equity and commodity futures, foreign currency forward and spot currency contracts. All of these derivative instruments are designated as investment derivatives; they are used to implement portfolio strategies, capture valuation opportunities, and to exploit market inefficiencies. The primary risks managed by using these derivative instruments include foreign exchange rate and market price risks.

Futures contracts are standardized, exchange-traded contracts to purchase or sell a specific financial instrument at a predetermined price. Gains and losses on futures contracts are settled daily based on underlying principal value and do not involve an actual transfer of the specific instrument. The exchange assumes the risk that the counterparty will not pay and generally requires margin payments to minimize such risk. Futures are generally used to achieve the desired market exposure of a security or index or to rebalance the total portfolio.

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6. External Investment Pool Derivatives (Continued)

Schedule of all foreign derivatives outstanding at June 30, 2018 are presented below by currency:

Fair value of foreign currency contracts, Assets (Liabilities)				
As of June 30, 2018				
Currency	Forwards Currency Contracts	Spot Currency Contracts	Foreign Equity Futures	Total
(In Thousands)				
Australian Dollar	\$ 3	\$ 1	\$ 20	\$ 24
Brazilian Real	(3)	(5)	-	(8)
British Pound Sterling	(146)	2	(18)	(162)
Canadian Dollar	(63)	-	-	(63)
Chinese Yuan	10	-	-	10
Egyptian Pound	(22)	-	-	(22)
Euro	278	6	(198)	86
Hong Kong Dollar	(1)	(2)	-	(3)
Indian Rupee	(18)	-	-	(18)
Indonesian Rupiah	66	-	-	66
Israeli Shekel	(11)	-	-	(11)
Japanese Yen	93	(6)	(164)	(77)
Malaysian Ringgit	(4)	(1)	-	(5)
Mexican Peso	(36)	-	-	(36)
New Zealand Dollar	(3)	-	-	(3)
Norwegian Krone	370	-	-	370
Philippine Peso	98	-	-	98
Polish Zloty	42	-	-	42
Singapore Dollar	(186)	-	-	(186)
South African Rand	18	15	-	33
Swedish Krona	(243)	(1)	-	(244)
Swiss Franc	(87)	2	-	(85)
Thai Baht	(10)	-	-	(10)
Turkish Lira	(55)	5	-	(50)
Total	<u>\$ 90</u>	<u>\$ 16</u>	<u>\$ (360)</u>	<u>\$ (254)</u>

7. Bond Index Investment Pool

North Carolina Department of State Treasurer provides an external government sponsored bond index investment pool (BIF) in which the Treasurer is authorized to invest funds for governmental entities which are outside the Retirement Systems. The BIF invests in high quality debt securities eligible under General Statute 147-69.2(b) (1)-(6). The BIF consists of a separate account managed by a fund manager selected by the Department of State Treasurer.

The deposits are commingled; and therefore, the State Treasurer considers all funds to be part of a single pool. The BIF contains deposits from funds and component units of the state of North Carolina reporting entity as well as deposits from certain legally separate organizations outside the state of North Carolina reporting entity. The BIF is not registered with the Securities and Exchange Commission and is not subject to any formal oversight other than that of the legislative body of the state of North Carolina.

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7. Bond Index Investment Pool (Continued)

Participants in the BIF may include public hospitals, Law Enforcement Officer Special Separation Allowance trusts (LEOSSAs), the Local Government Other Post Employment Benefit Trust, the Death Benefit Plan of N.C., the Disability Income Plan of N.C., the Register of Deeds' Supplemental Pension Fund, and other funds and component units of the state of North Carolina with investment authority under General Statute 147-69.2.

At June 30, 2018, there were eighteen OPEBs and one hospital participating in the BIF.

Net investment income earned by the BIF is distributed on a pro rata basis to all participants on a monthly basis net of fees.

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of debt instruments. There is no formally adopted investment policy to manage interest rate risk. The BIF had a weighted average maturity of 8.24 years as of June 30, 2018.

The BIF maintained by the Treasurer had the following investments and maturities as of June 30, 2018:

Bond Index	Investment Maturities (in Years)				
	Carry Amount	Less Than 1	1 to 5	6 to 10	More Than 10
	<i>(In Thousands)</i>				
As of June 30, 2018					
U.S. Treasuries	\$ 576,590	\$ -	\$ 312,735	\$ 174,141	\$ 89,714
U.S. Agencies	26,285	-	14,712	8,227	3,346
Commercial mortgage-backed securities	27,011	-	-	782	26,229
Asset-backed securities	6,968	-	6,968	-	-
Mortgage pass-through	430,934	-	-	13,374	417,560
Collective investment funds	13,937	13,937	-	-	-
Municipal bonds	9,994	-	181	124	9,689
Domestic corporate bonds	388,321	-	155,476	103,075	129,770
Foreign government bonds	53,064	-	39,301	9,435	4,328
Total investment fund assets	\$ 1,533,104	\$ 13,937	\$ 529,373	\$ 309,158	\$ 680,636

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Interest Rate Risk (Continued)

The major investment classifications had the following attributes as of June 30, 2018:

As at June 30, 2018

Investment Classification	Principal Amount	Range of Interest Rates
<i>(In Thousands)</i>		
Bond Index		
U.S. Treasuries	\$ 574,550	0.75%-6.88%
U.S. Agencies	26,000	1.13%-6.25%
Commercial mortgage-backed securities	27,056	1.68%-4.12%
Asset-backed securities	7,100	1.59%-1.92%
Mortgage pass-through	429,177	2.50%-5.50%
Collective investment funds	13,937	2.09%
Municipal bonds	8,055	3.00%-7.55%
Domestic corporate bonds	389,810	1.10%-9.25%
Foreign government bonds	53,805	0.88%-8.13%

Credit Risk

Credit risk is the risk an issuer or other counterparty to an investment will not fulfil its obligations such as the chance that a bond issuer will fail to pay interest or principal in a timely manner, or that negative perceptions of the issuer's ability to make these payments will cause security prices to decline. These circumstances may arise due to a variety of factors such as financial weakness, bankruptcy, litigation and/or adverse political developments. Certain fixed income securities, including obligations of the U.S. government or those explicitly guaranteed by the U.S. government, are not considered to have credit risk.

General Statute 147-69.2 specifies the cash investment options for the BIF and limits credit risk by restricting the BIF's asset-backed securities and corporate obligations to securities that bear one of the four highest ratings of at least one nationally recognized rating service when acquired. In the BIF, all holdings were rated BBB (or equivalent) or higher at the time of purchase by at least one of the nationally recognized rating agencies.

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Credit Risk (Continued)

The BIF had the following credit quality distribution for securities with credit exposure as of June 30, 2018:

Bond Index	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated
<i>(In Thousands)</i>						
As of June 30, 2018						
U.S. Agencies	\$ -	\$ 26,285	\$ -	\$ -	\$ -	\$ -
Commercial mortgage-backed securities	26,229	782	-	-	-	-
Asset-backed securities	6,968	-	-	-	-	-
Mortgage pass-through	-	331,993	-	-	-	-
Collective investment funds	13,937	-	-	-	-	-
Municipal bonds	571	5,913	2,198	1,312	-	-
Domestic corporate bonds	1,928	24,338	138,067	211,430	12,558	-
Foreign government bonds	32,222	2,644	5,635	12,563	-	-
Total investment fund assets	\$ 81,855	\$ 391,955	\$ 145,900	\$ 225,305	\$ 12,558	\$ -

Excluded from this chart are securities exempt from credit risk such as U.S. Treasuries and GNMA's.

Custodial Credit Risk

Custodial credit risk is the risk that, in the event of the failure of the counterparty, the Treasurer will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. As of June 30, 2018, the investments of the BIF were not exposed to custodial credit risk since the securities were held in separate accounts in the name of the Treasurer. There is no formally adopted investment policy to manage custodial credit risk for these investment types.

Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of a government's investment in a single issuer. Mutual funds, money market funds, and external pooled accounts are excluded from this disclosure requirement. Obligations explicitly guaranteed by the U.S. Government are not considered to have credit risk. However, more than 5% of the BIF's securities were invested in Federal Home Loan Mortgage Corporation (FHLMC) and Federal National Mortgage Association (FNMA). FHLMC investments totalled \$97.8 million and comprised 6.4% of BIF's total investments; FNMA investments totalled \$256.9 million and comprised 16.8% of BIF's total investments. These investments are classified as U.S. Agencies. Effective June 30, 2018, there is no formal policy regarding concentration of credit risk.

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Fair Value Measurement

The BIF categorizes fair value measurements within the fair value hierarchy established by generally accepted accounting principles. The BIF had the following recurring fair value measurements as of June 30, 2018:

Investments and Derivative Instruments at Fair Value

	As of June 30, 2018	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)
<i>(In Thousands)</i>				
Investments measured at fair value				
Bond Index Fund				
U.S. Treasuries	\$ 576,590	\$ 3,546	\$ 573,044	\$ -
U.S. Agencies	26,285	-	26,285	-
Asset-backed securities	6,968	-	6,968	-
Commercial mortgage-backed securities	27,011	-	27,011	-
Mortgage pass-through	430,934	-	430,934	-
Municipal bonds	9,994	-	9,994	-
Domestic corporate bonds	388,321	-	388,321	-
Foreign government bonds	53,064	-	53,064	-
Total investments by fair value level	<u>\$ 1,519,167</u>	<u>\$ 3,546</u>	<u>\$ 1,515,621</u>	<u>\$ -</u>
Investments measured at the Net Asset Value (NAV)		Unfunded commitments	Redemption frequency	Redemption notice (days)
Collective investment fund ⁽¹⁾	13,937	-	Daily	1
Total investments	<u>\$ 1,533,104</u>			

⁽¹⁾ One fund. This fund invests in a diversified portfolio of U.S. government securities, U.S. government agency securities, and repurchase agreements. It is operated on an amortized cost basis, and transacts at \$1.00 per unit.

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Valuation Methodologies and Inputs

On-the-run U.S. Treasuries classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities.

Level 2 U.S. Treasuries are evaluated by using data from several live feeds which include active market makers and inter-dealer brokers. Sources are reviewed on the basis of their historical accuracy for individual issues and maturity ranges.

Level 2 U.S. Mortgage pass-through securities use a dealer derived to-be-announced (TBA) security as a benchmark, plus a dollar (or pay up) adjustment which is based on market data for the underlying collateral. When the underlying TBA is not applicable or observable, a discounted cash flow is calculated using a spread to the treasury curve based on applicable market data and internally generated long-term spread.

Level 2 domestic corporate bonds are priced using both spread-based and priced-based evaluations. For spread-based evaluations, an option adjusted spread model is developed incorporating credit risk and based on the new issue market, secondary trading, and dealer quotes. For price-based evaluations, evaluators use recently executed transactions of similar securities and dealer quotes to arrive at appropriate pricing. These methods are also used to value Canadian government bonds. For non-US/Canadian foreign government bonds, the majority of issues are evaluated using discounted cash flow models, incorporating option-adjusted features as appropriate.

8. Equity Index Investment Account

The State Treasurer has contracted with an external party (Trustee) to create the equity index investment account (EIF). Participation in this equity index investment account consists of public hospital trusts, LEOSAs, and local government other post-employment benefit trust (OPEB) funds. These trusts are part of a commingled equity index investment trust (Trust). The Trustee manages the assets in the Trust primarily in equity and equity-based securities in accordance with the General Statutes. The Trustee maintains custody of the underlying securities in the name of the Trust, services the securities, and maintains all related accounting records.

Pursuant to General Statute 159-30.1, the State Treasurer manages the OPEB trusts' assets. These trusts are established for local governments, public authorities, any entity eligible to participate in the state's Local Governmental Employees' Retirement System, and local school administrative units. Eligible participants make voluntary contributions to the trusts for the purpose of depositing and investing all or part of the contribution from their other post-employment benefit plans. As of June 30, 2018 there were 22 participants of which 17 participate in the EIF. Each participant is responsible for making its own investment decision with respect to the allocation of assets between investment options.

The State Treasurer also manages the public hospitals' assets. As of June 30, 2018, there were four participants consisting of the Margaret R. Pardee Hospital Trust, New Hanover Regional Medical Center Trust, Columbus Regional Healthcare Trust and Watauga Medical Center Trust. One public hospital is also a participant in the BIF.

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Custodial Credit Risk

Custodial credit risk is the risk that, in the event of the failure of the counterparty, the Treasurer will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. As of June 30, 2018, the investments of the EIF were not exposed to custodial credit risk. There is no formally adopted investment policy to manage custodial credit risk for these investment types.

Fair Value Measurement

EIF investments, a commingled global equity index fund, are valued at the net asset value of units held at the end of the period based upon the fair value of the underlying investments. As of June 30, 2018, the EIF had a recurring fair value measurement of \$580 million. The redemption frequency of the EIF is daily, with a two-day redemption notice.

9. Commitments and Contingencies

The Treasurer has entered into contracts with external fund managers of the Real Estate Investment, Alternative Investment, Inflation Sensitive Investment, and Opportunistic Fixed Income Investment portfolios, where the Treasurer agrees to commit capital to these investments. The portfolios are part of the Treasurer's Pool as described in Note 3. At June 30, 2018, there was an unfunded commitment of \$225 million to a separate account in the Inflation Sensitive Investment portfolio.

The Treasurer is a defendant in legal proceedings and claims arising out of the ordinary course of business. The Treasurer believes it has adequate legal defenses and that the ultimate outcome of these actions will not have a material adverse effect on the State Treasurer Investment Programs' financial position.

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Introduction

The financial statements include investments managed by the Treasurer. The tradition of conservative fiscal management has served North Carolina's public workers and taxpayers well throughout the years. The Teachers' and State Employees' Retirement System, Consolidated Judicial Retirement System, Legislative Retirement System, Firefighters' and Rescue Squad Workers' Pension Fund, North Carolina National Guard Pension Fund, Local Governmental Employees' Retirement System, and Retiree Health Benefit Fund (collectively NCRS) continue that tradition with a significant allocation in fixed income assets (bonds) combined with reasonable exposure to more volatile growth-oriented assets and a diversified portfolio. The result of this strategy is a fund that obtains lower returns than the typical large public fund peer in strong equity markets, but is a top performer in turbulent economic and financial market environments.

NCRS comprised 85% of the total net position of the Pool. Following is a discussion of the Investment Policy Statement, risk and returns relative to the benchmarks, management and incentive fees paid and peer cost comparison relative to NCRS.

Investment Policy Statement

The pension fund investments are allocated according to the Investment Policy Statement (IPS), which was finalized during fiscal year 2014 and became effective July 1, 2014. Periodically, the Investment Management Division conducts an asset liability study utilizing updated capital market assumptions, and presents the results to the Treasurer and the Investment Advisory Committee. There have been no changes to the asset allocation policy since July 1, 2014. The table below maps the investment policy statement's classifications to the statutory classifications which are used to prepare the financial statements as of June 30, 2018. The numbers only reflect net position of the NCRS funds in the statutory asset classes excluding securities lending. The Investment Portfolios chart in Note 3 for these portfolios reflects gross investments for all of the state Treasurer Pool.

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Statutory Classification									
Public Equity ¹	Long Term ²	Pension Cash ²	Fixed Income _{2,8}	Alternatives ³	Real Estate ⁴	Inflation Sensitive ⁵	Opportunistic Fixed Income ⁶	Public Equity Limited Liability ⁷	Total

<i>(In Thousands)</i>										
IPS Classification	Public Equity	\$35,836,674						\$3,675,175	\$39,511,849	
	Private Equity				\$5,074,695				5,074,695	
	Non-Core Real Estate					\$3,200,032			3,200,032	
	Opportunistic Fixed Income						\$5,712,559		5,712,559	
	Investment Grade Fixed Income and Cash		\$24,574,627	\$3,022,277					27,596,904	
	Pension Cash			\$3,464,317					3,464,317	
	Inflation Sensitive						\$6,356,061		6,356,061	
	Core Real Estate					5,305,255			5,305,255	
	Multi-Strategy				1,932,873				1,932,873	
	Total	\$35,836,674	\$24,574,627	\$3,464,317	\$3,022,277	\$7,007,568	\$8,505,287	\$6,356,061	\$5,712,559	\$3,675,175

¹ NCGS 147-69.2(b)(8)(a),(c)

² NCGS 147-69.1(c) and NCGS § 147-69.2(b)(1)-(6b)

³ NCGS 147-69.2(b)(9)

⁴ NCGS 147-69.2(b)(7)

⁵ NCGS 147-69.2(b)(9a)

⁶ NCGS 147-69.2(b)(6c)

⁷ NCGS 147-69.2(b)(8)(b)

⁸ Consists solely of investments in STIF

As of June 30, 2018

NCRS assets only

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Investment Returns

The following supplementary information includes a discussion of the retirement system's risk and returns compared to benchmarks, total management and incentive fees paid, and comparisons to peer cost benchmarks.

As of June 30, 2018 the North Carolina Retirement System (NCRS) had the following investment returns over applicable one, three, five and ten-year periods:

Investment Returns as of June 30, 2018 (% , Net of Fees)

Asset Classification	1 Year	3 Year	5 Year	10 Year
Growth	12.37	8.69	10.13	6.52
Benchmark	9.51	7.35	8.68	5.72
Public Equity	12.53	8.77	10.18	6.93
Benchmark	10.55	7.87	9.31	6.19
Private Equity	16.29	10.01	11.53	6.73
Benchmark	13.70	9.03	10.38	7.73
Non-Core Real Estate	15.90	13.12	14.83	3.14
Benchmark	11.04	7.55	9.03	0.73
Opportunistic Fixed Income	6.74	4.40	5.03	6.53
Benchmark	(0.96)	1.98	2.18	0.57
Rates & Liquidity	(0.20)	2.08	2.84	5.09
Benchmark	(0.44)	2.21	3.01	4.84
Investment Grade Fixed Income and Cash	(0.37)	2.13	2.89	5.11
Benchmark	(0.50)	2.26	3.05	4.87
Pension Cash	1.39	1.07	0.83	-
Benchmark	1.29	0.66	0.41	-
Inflation Sensitive & Diversifiers	6.78	5.82	4.64	1.05
Benchmark	5.34	4.49	4.52	(0.15)
Inflation Sensitive	6.24	3.93	1.89	(1.59)
Benchmark	3.78	1.05	0.22	(0.60)
Core Real Estate	7.64	8.41	8.52	5.11
Benchmark	7.22	8.69	9.87	4.88

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Investment Returns as of June 30, 2018 (% , Net of Fees) (Continued)

Asset Classification (Continued)	1 Year	3 Year	5 Year	10 Year
Multi-Strategy Benchmark	6.27 5.70	5.83 4.71	7.41 6.41	5.91 4.64
Total Pension Plan Implementation Benchmark	7.32 6.06	6.22 5.55	7.27 6.46	6.11 5.47
Long-Term Policy Benchmark	6.54	5.33	6.15	4.95

The Growth benchmark used is a blend of the Public Equity, Private Equity, Non-Core Real Estate and Opportunistic Fixed Income benchmarks at their policy weights. The Public Equity benchmark is a dynamically weighted combination of the MSCI ACWI IMI Net (Long-Only) and a beta adjusted MSCI ACWI IMI Net (Hedged Equity). Private Equity's benchmark is comprised of the following Burgiss Group Private iQ indices: 50% Buyout, 20% Venture Capital, and 30% Distressed. The Non-Core Real Estate benchmark is comprised of the following Burgiss Group Private iQ indices: 80% U.S. Non-Core Real Estate (Opportunistic and Value-Added) and 20% Non-U.S. Non-Core Real Estate (Opportunistic and Value-Added). Opportunistic Fixed Income's benchmark is comprised of 50% HFRX Distressed Securities Index, 20% HFRX Relative Value Index, 15% Credit Suisse Leveraged Loan Index, and 15% BOAML High Yield Index.

The overall Rates & Liquidity benchmark is a blend of the Investment Grade Fixed Income & Cash and Pension Cash benchmarks at their policy weights. The benchmark used for Investment Grade Fixed Income & Cash is comprised of 10% iMoneyNet First Tier Institutional Money Market Funds Net Index and 90% custom BOAML Core Investment Grade Index. The Custom BOAML index is comprised of the following weightings: 30% BOAML 5+ Years Governments, 35% BOAML 5+ Years Investment Grade Corporates, and 35% BOAML Mortgage Master. The Pension Cash benchmark used is the iMoneyNet First Tier Institutional Money Market Net Index.

The Inflation Sensitive & Diversifiers benchmark used is a blend of the Inflation Sensitive and Core Real Estate benchmarks at their policy weights. The Inflation Sensitive benchmark is a dynamically weighted combination of the Bank of America Merrill Lynch 1-3 Years U.S. Inflation -Linked Treasury Index (TIPS), the Bloomberg Commodities Index (Commodities), and a combination of benchmarks of investments classified within Private Natural Resources or Other Real Assets and Diversifiers. The Core Real Estate Benchmark is comprised of 80% NCREIF ODCE Net and 20% FTSEEPRA NAREIT Global Index.

The Multi-Strategy benchmark is comprised of a dynamically weighted combination of the HFRX ED: Multi-Strategy Index, net of fees, and the market value weighted benchmarks for any other total fund strategies within the portfolio.

The Benchmarks used for the total plan are the Implementation and Long-Term Policy Benchmarks. The Implementation Benchmark is a blend of the asset class benchmarks at policy weights. It is currently as follows: 58% Growth, 29% Rates and Liquidity, 11% Inflation Sensitive & Diversifiers, and 2% Multi-Strategy. Lastly, the Long-Term Policy Benchmark is comprised of 57% MSCI ACWI IMI Net, 33% BOAML 5+ Years U.S. Treasury Index, 6% Bloomberg Commodity Index, and 4% BOAML 1-3 Years U.S. Inflation-Linked Treasury Index.

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Peer Comparison of Returns and Risks

The below chart outlines the one, three, five and ten-year average returns and exposure to risk within the different percentiles of public funds in comparison to the performance and exposure to risk of the North Carolina Retirement System.

National Peer Data on Gross of Fees Returns and Exposure to Risk as of June 30, 2018 (%)

	1 Year	3 Year	5 Year	10 Year
Returns				
25 th Percentile	9.79	7.79	8.78	6.99
Median	9.13	7.35	8.27	6.60
75 th Percentile	8.12	6.85	8.07	6.33
NC Pension Fund	7.79	6.80	7.87	6.63
Risk*				
25 th Percentile	4.56	5.86	5.71	9.70
Median	4.26	5.40	5.23	9.18
75 th Percentile	3.68	4.72	4.65	7.97
NC Pension Fund	3.06	4.55	4.62	7.85

Source: BNY Mellon Total Funds - Public Funds \$20+ Billion (Gross of Fees)

* Volatility of Returns (Standard Deviation)

Cost

The IMD utilizes external managers for a portion of the Retirement Systems. Over time, the department, with advice and counsel of the Investment Advisory Committee, has used a lower risk and lower cost approach to investing the Retirement Systems when compared to peers. While costs have risen somewhat over time as more diverse external investment strategies were pursued, the all-in cost of investing the North Carolina Retirement Systems remains modest and IMD continues to seek out cost-efficiencies in their operations.

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Management and Incentive Fees for the External Investment Pool

The management and incentive fees incurred to external investment managers, by asset class, were as follows for the year ended June 30, 2018.

Total Investment Management Fees Incurred as of June 30, 2018

Asset Classification	Management Fees	Incentive Fees	Total Fees	Portfolio Market Value (1)	Ratio of Fees to Market Value
	<i>(In Thousands)</i>				
Public Equity	\$ 64,541	\$ 10,998	\$ 75,539	\$ 39,511,849	0.19%
Private Equity	57,317	43,947	101,264	5,074,695	2.00%
Non-Core Real Estate	48,150	115,226	163,376	3,200,032	5.11%
Opportunistic Fixed Income	57,223	35,080	92,303	5,712,559	1.62%
Investment Grade Fixed Income & Cash	-	-	-	27,596,904	0.00%
Pension Cash	665	-	665	3,464,317	0.02%
Inflation Sensitive	58,688	2,571	61,259	6,356,061	0.96%
Core Real Estate	27,515	15,094	42,609	5,305,255	0.80%
Multi-Strategy	6,284	-	6,284	1,932,873	0.33%
Total	\$ 320,383	\$ 222,916	\$ 543,299	\$ 98,154,545	0.55%

(1) NCRS assets only

In addition to the fees shown in this table, internal administrative expenses of the Pool and trade transaction costs (for the internally managed fixed income portfolio) are paid by the Treasurer. These charges are reported on the Statements of Changes in Fiduciary Net Position.

Peer Cost Comparison

For the years ended December 31, 2017 and 2016, the Treasurer's cost of investment can be compared to the median peer amount utilizing the following table.

Cost of Investment Compared to Peers as of December 31

Total (bps)	2017	2016
Median Peer	59.8	59.0
North Carolina Retirement Systems	42.9	50.5
Percentile	15%	38%

Source: CEM [Cost Effectiveness Measurement]. CEM benchmarking methodology excludes certain fees that are reported by the Pool, but not reported by most peers. See text below.

For the calendar years ended 2017 and 2016, the peer group consisted of 14 U.S. public pension funds managing \$48 billion to \$170 billion, and 14 U.S. public pension funds managing \$44 billion to \$170 billion, respectively. For the calendar year ended December 31, 2017, the median peer managed \$87 billion versus North Carolina's \$94 billion. For the calendar year ended December 31, 2016, the median peer managed \$71 billion versus North Carolina's \$88 billion. The CEM benchmarking methodology excludes carry/performance fees for private investments because some peers do not provide such data. All such fees and expenses have been deducted from all reported investment returns. The CEM methodology differs from that used by the Department in preparing the data in the section titled "Management and Incentive Fees."

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Expenses Paid: Management and Incentive Fee (\$ Billions of Average Market Value)							
	0 bps	0 - 25bps	25 - 50bps	50 - 100bps	100 - 150bps	150+bps	Total
	<i>(In Thousands)</i>						
Public Equity	\$ 3,981,678	\$ 23,967,858	\$ 10,175,499	\$ 292,513	\$ 438,571	\$ 590,072	\$ 39,446,191
Private Equity	525,480	28,754	560,184	1,094,412	886,255	1,942,670	5,037,755
Non-Core Real Estate	215,823	17,720	52,726	484,293	622,317	2,134,893	3,527,772
Opportunistic Fixed Income	157,297	238,027	665,185	1,815,913	732,219	2,037,250	5,645,891
Investment Grade Fixed Income & Cash	27,596,904	-	-	-	-	-	27,596,904
Pension Cash	3,499,915	-	-	-	-	-	3,499,915
Inflation Sensitive	369,652	69,786	1,601,281	1,891,542	1,374,627	988,866	6,295,754
Core Real Estate	173,588	355,246	927,930	2,801,193	222,706	530,711	5,011,374
Multi-Strategy	491	1,528,871	631	185,733	145,331	17,492	1,878,549
Total Fund	\$ 36,520,828	\$ 26,206,262	\$ 13,983,436	\$ 8,565,599	\$ 4,422,026	\$ 8,241,954	\$ 97,940,105

Expenses Paid: Management and Incentive Fee (% of Asset Class Average Market Value)							
	0 bps	0 - 25bps	25 - 50bps	50 - 100bps	100 - 150bps	150+bps	Total
Public Equity	10.09%	60.76%	25.80%	0.74%	1.11%	1.50%	100.00%
Private Equity	10.43%	0.57%	11.12%	21.73%	17.59%	38.56%	100.00%
Non-Core Real Estate	6.12%	0.50%	1.49%	13.73%	17.64%	60.52%	100.00%
Opportunistic Fixed Income	2.79%	4.22%	11.78%	32.16%	12.97%	36.08%	100.00%
Investment Grade Fixed Income & Cash	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Pension Cash	100.00%	0.00%	0.00%	0.00%	0.00%	0.00%	100.00%
Inflation Sensitive	5.87%	1.11%	25.43%	30.05%	21.83%	15.71%	100.00%
Core Real Estate	3.46%	7.09%	18.52%	55.90%	4.44%	10.59%	100.00%
Multi-Strategy	0.03%	81.39%	0.03%	9.89%	7.73%	0.93%	100.00%
Total Fund	37.29%	26.76%	14.28%	8.75%	4.52%	8.42%	100.00%

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Fee Type by Contract (Asset Class Average Market Value)					
	No Fees	Management Only	Incentive Only	Management & Incentive	Total
			<i>(In Thousands)</i>		
Public Equity	\$ 3,264,302	\$ 35,118,576	\$ 34,690	\$ 1,028,623	\$ 39,446,191
Private Equity	32,600	20,529	-	4,984,626	5,037,755
Non-Core Real Estate	-	-	-	3,527,772	3,527,772
Opportunistic Fixed Income	-	262,465	-	5,383,426	5,645,891
Investment Grade Fixed Income & Cash	27,596,904	-	-	-	27,596,904
Pension Cash	3,499,915	-	-	-	3,499,915
Inflation Sensitive	152,075	1,000,040	182,844	4,960,795	6,295,754
Core Real Estate	-	1,156,354	-	3,855,020	5,011,374
Multi-Strategy	-	1,528,871	-	349,678	1,878,549
Total Fund	\$ 34,545,796	\$ 39,086,835	\$ 217,534	\$ 24,089,940	\$ 97,940,105

Fee Type by Contract (% of Asset Class Average Market Value)					
	No Fees	Management Only	Incentive Only	Management & Incentive	Total
Public Equity	8.28%	89.03%	0.09%	2.61%	100.00%
Private Equity	0.65%	0.41%	0.00%	98.95%	100.00%
Non-Core Real Estate	0.00%	0.00%	0.00%	100.00%	100.00%
Opportunistic Fixed Income	0.00%	4.65%	0.00%	95.35%	100.00%
Investment Grade Fixed Income & Cash	100.00%	0.00%	0.00%	0.00%	100.00%
Pension Cash	100.00%	0.00%	0.00%	0.00%	100.00%
Inflation Sensitive	2.42%	15.88%	2.90%	78.80%	100.00%
Core Real Estate	0.00%	23.07%	0.00%	76.93%	100.00%
Multi-Strategy	0.00%	81.39%	0.00%	18.61%	100.00%
Total Fund	35.27%	39.91%	0.22%	24.60%	100.00%

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Average Market Value

The market value of investments held by investment managers are averaged monthly from July 1, 2017 to June 30, 2018. This schedule is presented in average market value because it measures the performance of an investment manager over the past year, instead of ending market value where the performance is measured as of June 30, 2018. Note: The Investment Returns schedule is reported at ending market value and the External Investment Pool Fee Schedule by Basis Points and the External Investment Pool Fee Schedule-Fee Type by Contract are presented at average market value. Thus, the asset market values reported on these schedules will not agree.

Management Fee

A management fee represents a charge by the investment manager as consideration for serving as a delegated fiduciary with respect to investment duties and powers assigned under a contract. Generally, this fee is expressed as an annual fixed percentage of some base value. Depending on the type of investment structure and strategy, this base value can be a function of the market value of the investments, cost basis of the investments, or the total capital that the investment manager may request under a contractual commitment.

Incentive Fee

An incentive fee represents a profit sharing arrangement with the investment manager as consideration for serving as a delegated fiduciary with respect to investment duties and powers assigned under a contract. These profit sharing arrangements may also be referred to as carried interest or a performance fee. Depending on the type of investment structure and strategy, incentive fees can be charged against all profits earned or applied only to the profits above an agreed upon level that is often referred to as a hurdle rate of return. Incentive fees can be paid annually based on realized and/or unrealized profits, at agreed to interim milestones, or paid only as a measure of realized profits (i.e., generally all are subject to certain criteria and conditions).

Fund of Funds

Consistent with industry convention, cost figures do not include the fees and expenses of investment managers that are held within fund of fund vehicles. Such fees and expenses have been deducted from all reported investment returns.