

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

**FINANCIAL STATEMENTS  
WITH INDEPENDENT AUDITORS' REPORT**

**FISCAL YEAR ENDED JUNE 30, 2020**

**NORTH CAROLINA DEPARTMENT OF  
STATE TREASURER INVESTMENT PROGRAMS  
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## 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, 2020, 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 opinion.

### ***Opinion***

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Investment Programs as of June 30, 2020, 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 opinions on the financial statements that collectively comprise the Investment Programs' basic financial statements. The supplementary information, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of the financial statements.

The 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.

The other supplementary information, as listed in the table of contents, has not been subjected to the auditing procedures applied in the audits of the basic financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

**Other Reporting Required by Government Auditing Standards**

In accordance with *Government Auditing Standards*, we have also issued our report dated October 15, 2020 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, 2020

**NORTH CAROLINA DEPARTMENT OF  
STATE TREASURER INVESTMENT PROGRAMS  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
FISCAL YEAR ENDED JUNE 30, 2020**

**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, 2020 and 2019. 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, Inflation Sensitive Investment portfolio, and the Cash Pool 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, 2020.

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's, BIF's, 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, 2020. The statement of changes in fiduciary net position presents the results of the investing activities during the fiscal year ended June 30, 2020. 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.

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STATE TREASURER INVESTMENT PROGRAMS  
MANAGEMENT'S DISCUSSION AND ANALYSIS  
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**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 (External Pool)**

	<b>As of June 30</b>	
	<b>2020</b>	<b>2019</b>
	<i>(In Thousands)</i>	
<b>Assets</b>		
Cash and cash equivalents	\$ 268,857	\$ 440,357
Securities lending collateral	1,361,725	1,946,595
Investments, at fair value	125,430,249	118,842,063
Receivables	475,294	767,772
Total assets	127,536,125	121,996,787
<b>Liabilities</b>		
Other payables	\$ 79,125	367,718
Obligations under securities lending	1,361,725	1,946,595
Total liabilities	1,440,850	2,314,313
<b>Net Position</b>		
Net position held in trust	\$ 126,095,275	\$ 119,682,474

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 (BIF)**

	<b>As of June 30</b>	
	<b>2020</b>	<b>2019</b>
	<i>(In Thousands)</i>	
<b>Assets</b>		
Investments, at fair value	\$ 1,639,536	\$ 1,595,802
Receivables	29,439	58,729
Total assets	1,668,975	1,654,531
<b>Liabilities</b>		
Other payables	32,244	43,749
<b>Net Position</b>		
Net position held in trust	\$ 1,636,731	\$ 1,610,782

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**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 (EIF)**

	<b>As of June 30</b>	
	<b>2020</b>	<b>2019</b>
	<i>(In Thousands)</i>	
<b>Assets</b>		
Investments, at fair value	\$ 690,231	\$ 634,147
Total assets	690,231	634,147
<b>Net Position</b>		
Net position held in trust	\$ 690,231	\$ 634,147

**Analysis of Statements of Fiduciary Net Position**

Investments, at fair value, in the External Investment Pool increased 5.5% to approximately \$125 billion from approximately \$119 billion during the fiscal year ended June 30, 2020, as a result of gains from operations and net share purchases.

Investments, at fair value, in the BIF increased 2.7% to approximately \$1.64 billion from \$1.60 billion during the fiscal year ended June 30, 2020, as gains from operations outpaced net share redemptions.

Investments, at fair value, in the EIF increased 8.8% to approximately \$690 million from \$634 million during the fiscal year ended June 30, 2020, as a result of gains from operations and net share purchases.

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**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 other purchases and other withdrawals.

**Statements of Changes in Fiduciary Net Position (Ext Pool)**

	<b>Fiscal Years Ended June 30</b>	
	<b>2020</b>	<b>2019</b>
	<i>(In Thousands)</i>	
<b>Additions</b>		
Investment income		
Interest and dividend income	\$ 2,208,555	\$ 2,253,719
Net appreciation in fair value of investments	2,580,307	4,402,703
Other investment income	368,393	578,305
Securities lending income	34,524	39,513
Total investment income	5,191,779	7,274,240
<b>Deductions</b>		
Investment management expenses	409,726	488,173
Other and administrative expenses	56,946	78,011
Securities lending expenses	21,397	22,097
Total deductions	488,069	588,281
Net increase in net position resulting from operations	4,703,710	6,685,959
<b>Distributions to participants</b>		
Distributions paid and payable	(4,703,710)	(6,685,959)
<b>Share transactions</b>		
Reinvestment of distributions	4,705,598	6,684,798
Net share purchases (redemptions)	1,707,203	(2,453,188)
Change in net position	6,412,801	4,231,610
Net position held in trust:		
Beginning of year	119,682,474	115,450,864
End of year	\$ 126,095,275	\$ 119,682,474

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**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 (BIF)**

	<b>Fiscal Years Ended June 30</b>	
	<b>2020</b>	<b>2019</b>
	<i>(In Thousands)</i>	
<b>Additions</b>		
Investment income		
Interest and dividend income	\$ 46,632	\$ 49,172
Net appreciation in fair value of investments	87,733	70,746
Other investment income	138	178
Total investment income	134,503	120,096
<b>Deductions</b>		
Investment management expenses	387	348
Total deductions	387	348
Net increase in net position resulting from operations	134,116	119,748
<b>Distributions to participants</b>		
Distributions paid and payable	(134,116)	(119,748)
<b>Share transactions</b>		
Reinvestment of distributions	134,116	119,748
Net share redemptions	(108,167)	(52,168)
Change in net position	25,949	67,580
Net position held in trust:		
Beginning of year	1,610,782	1,543,202
End of year	\$ 1,636,731	\$ 1,610,782

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**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.

**Statements of Changes in Fiduciary Net Position (EIF)**

	<b>Fiscal Years Ended June 30</b>	
	<b>2020</b>	<b>2019</b>
	<i>(In Thousands)</i>	
<b>Additions</b>		
Investment income		
Interest and dividend income	\$ 29	\$ 21
Net appreciation in fair value of investments	14,120	36,525
Total investment income	14,149	36,546
<b>Deductions</b>		
Investment management expenses	80	83
Total deductions	80	83
Net increase in net position resulting from operations	14,069	36,463
<b>Distributions to participants</b>		
Distributions paid and payable	(14,069)	(36,463)
<b>Share transactions</b>		
Reinvestment of distributions	14,069	36,463
Net share purchases	42,015	17,917
Change in net position	56,084	54,380
Net position held in trust:		
Beginning of year	634,147	579,767
End of year	\$ 690,231	\$ 634,147

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**Analysis of Changes in Fiduciary Net Position**

The External Investment Pool had total investment income of \$5.2 billion in fiscal year 2020, a decrease of \$2.1 billion from fiscal year 2019. 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 net appreciation was lower due to earning lower returns in nearly all asset classes as the investment markets felt the impact of the COVID-19 pandemic and subsequent lockdowns. The LTIF portfolio offset some of the decrease in net appreciation caused by the lower returns in other asset classes, as the LTIF portfolio earned 11.6% in the current fiscal year, relative to 9.7% in the prior fiscal year. Interest and dividend income for the Pool decreased by \$45.2 million relative to the prior fiscal year. The decrease was primarily due to lower yields within the LTIF and STIF portfolios and having a lower investment balance in the Public Equity portfolio earning dividends, as a result of the de-risking strategy that was implemented at the beginning of the fiscal year. Total deductions decreased by \$100.2 million, which was largely attributable to decreases in overall investment management expenses. Investment management expenses include management and performance-based fees paid to external investment managers. For fiscal year 2020 net share purchases into the Pool were \$1.7 billion, largely driven by monies that were received as part of the CARES Act, compared to net share redemptions of \$2.5 billion in the prior year.

The BIF had total investment income of \$134.5 million in fiscal year 2020, an increase of \$14.4 million from the prior fiscal year 2019. The year over year increase in investment income was driven by net appreciation in the fair value of the investments. This increase in net appreciation was driven largely by decreases in US Treasury yields. The fair value of bonds typically reflects an inverse relationship to yields as a fall in yields results in a rise in fair value.

The EIF had total investment income of \$14.1 million for the fiscal year 2020, a decrease of \$22.4 million from the prior fiscal year 2019. The year over year decrease was attributable to lower total returns earned on broad equity markets for the current fiscal year.

**Legislative Restrictions**

The State Treasurer is required to comply with the Sudan Divestment Act, North Carolina General Statutes 147-86.41 through 147-86.49, which requires the State Treasurer to (i) develop and annually update a list of entities engaging in certain activities in Sudan, (ii) refrain from making investment in such companies, and (iii) divest from the same within 180 days of their being listed. The Iran Divestment Act, General Statutes 147-86.55 through 147-86.63, is similar. It requires the State Treasurer to (i) develop and annually update a list of entities engaging in specific activities in Iran, (ii) refrain from contracting with or investing in such companies, and (iii) divest from the same within 180 days of their being listed. Indirect investments through structures such as index funds, commingled funds, limited partnerships, or derivative instruments are excepted from these two Acts under General Statutes 147-86.42(5a) and 147-86.57(3), respectively.

The Divestment from Companies Boycotting Israel Act, North Carolina General Statutes 147-86.80 through 147-86.84, functions similarly to the Sudan and Iran Divestment Acts. Specifically, pursuant to a policy adopted in compliance with the statute, the State Treasurer must not invest in companies on its list of those engaged in a "boycott of Israel," a statutorily-defined term. The State Treasurer is required to annually update the list and divest from such companies within 180 days of their being listed. In addition, listed companies are ineligible to contract with the State or any of its political subdivisions where the value of the contract is over \$1,000.

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MANAGEMENT'S DISCUSSION AND ANALYSIS  
FISCAL YEAR ENDED JUNE 30, 2020**

**Economic Discussion**

Over the fiscal year, there was substantial economic and investment market volatility. Over the first three quarters of the fiscal year, the U.S. economy continued to grow, with falling unemployment rates and steady inflation. As the COVID-19 pandemic made its way to the US in early 2020, economic activity substantially decreased, as fear and lockdowns slowed consumer behavior. For the year ended June 30, 2020, Gross Domestic Product (GDP) adjusted for inflation and seasonality experienced a year over year change of -9.1%; the unemployment rate was 11.1%, consumer price inflation was 0.6% year over year; and core consumer price inflation (i.e., removing the volatile food and energy sectors) was 1.2% year over year. To combat the economic slowdown caused by the COVID-19 pandemic and resulting lockdowns, the Federal Government implemented large fiscal and monetary stimulus packages, via significant deficit spending, Federal Reserve balance sheet expansion, and multiple rate cuts. Over the year, the Federal Reserve lowered the Federal Funds Target Rate by 225 basis points, ending the fiscal year at 0.125%. From the beginning of the fiscal year through mid-February, domestic equity markets, as measured by the S&P 500 Index, experienced strong total returns, gaining nearly 16.5%. However, as COVID-19 pandemic took hold, equity markets collapsed with the S&P 500 falling nearly 34% through late March from its high point in mid-February. Corporate bonds, both investment grade and non-investment grade were not spared as investors fled to the safety of US Treasury securities. Credit spreads jumped nearly 300 basis points on investment grade corporate bonds, and nearly 700 basis points on non-investment grade corporate bonds. As the economic disruption substantially changed the short-term supply and demand dynamics for WTI crude oil, we saw the price for a barrel of oil go negative for a couple days. After the Federal Government implemented the substantial fiscal and monetary stimulus, equity, fixed income, and other assets sharply reversed the negative trend. Domestic equity markets, as measured by the S&P 500 index ended the fiscal year in positive territory, gaining nearly 7.5% for the 1-year period ending June 30, 2020. Also, credit spreads on investment grade and non-investment grade corporate bonds nearly reverted back to their pre-COVID-19 levels.

**NORTH CAROLINA DEPARTMENT OF  
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MANAGEMENT'S DISCUSSION AND ANALYSIS  
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**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 State 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'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 classification, as defined in the Investment Policy Statement, generated a total return of 4.4% for the fiscal year, outperforming the benchmark's 3.6% return.

The Public Equity portfolio generated a total return of 4.9% for the fiscal year, outperforming the benchmark's 1.2% return. The Domestic Equity portfolio returned 8.4% for the year, while the International Equity portfolio returned only 1.2%. As of June 30, 2020, nearly \$12 billion of domestic equity securities were managed by the internal public equity team.

The Private Equity portfolio generated a total return of 2.4% for the fiscal year, outperforming the benchmark's -0.8% return. While three of four segments of the portfolio contributed positively to returns, the strongest gains came from the Venture Capital/Growth Equity strategies with a total return of 6.2%.

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**External Investment Pool Portfolio Discussion (Continued)**

The Non-Core Real Estate portfolio generated a total return of 2.1% for the fiscal year, outperforming the benchmark's 1.1% return. The Core Real Estate portfolio generated a total return of 1.7%, outperforming the benchmark's -1.7% return. Real estate returns were impacted by the economic contraction to fundamentals as a result of COVID-19. Income returns for the portfolio's properties remained strong but were offset in 2Q20 with negative appreciation across all sectors except Industrial. The high quality and superior location of the assets in the portfolio's Core separate accounts have provided stability in a time of distress. In addition, the cycle-tested, high-conviction, managers in the portfolio are managing the COVID-19 crisis as well as can be expected leading to outperformance of our respective benchmarks.

The Opportunistic Fixed Income portfolio generated a total return of -6.91% for the fiscal year, underperforming the benchmark's -0.52% return. The portfolio's allocations to private debt and mortgage backed securities have not yet recovered from March lows at the same pace that high yield and liquid distressed strategies that comprise the portfolio's benchmark. Additionally, the portfolio's overweight exposure to bank loans and floating rate securities contributed to the underperformance as interest rates decreased during the period.

The Investment Grade Fixed Income portfolio generated a total return of 10.7%, outperforming the benchmark's return of 10.6%. The strong returns were driven by a material decline in interest rates to historical lows.

The Pension Cash portfolio generated a total return of 1.8% for the fiscal year, outperforming the benchmark's 1.4% return.

The Inflation Sensitive portfolio generated a total return of -7.8% for the fiscal year, underperforming the benchmark's -3.7% return. The Inflation portfolio has significant exposure to Commodities, Energy, and other Natural Resources which contributed to the portfolio's weak performance for the fiscal year. As a point of reference, WTI crude and natural gas prices fell 33% and 23% over the fiscal year period, respectively. Additionally, the benchmark is heavily weighted towards intermediate and long duration U.S. TIPS which benefit from a falling interest rate environment and a general "flight to quality" during a deflationary period for Diversified Real Assets like Infrastructure, Real Estate, Energy, and Mining Assets.

The Multi-Strategy portfolio generated a total return of -6.8% for the fiscal year, underperforming the benchmark's -2.7% return. This underperformance was largely driven by volatility and event-driven strategies employed within the portfolio that were negatively impacted by the extreme market volatility experienced due to COVID-19 in the first half of 2020.

At the beginning of the fiscal year, in July of 2019, a de-risking strategy was implemented within the Total Pension Plan. Due to concerns with the economic environment and with equity valuations at the start of the fiscal year, as well as a desire for additional downside protection, approximately \$7.5 billion was reallocated from the Public Equity portfolio and into the Pension Cash portfolio.

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**BIF Portfolio Discussion**

The BIF portfolio generated a total return of 8.7% for the fiscal year, in line with the benchmark return. This strong performance was mostly driven by price appreciation, as Treasury rates fell substantially over the year. The BIF portfolio is designed to passively replicate the return and risk profile of the Bloomberg Barclays U.S. Aggregate Bond Index.

**EIF Portfolio Discussion**

The EIF generated a total return of 2.4% for the fiscal year, outperforming the benchmark's 2.1% return. The EIF portfolio is designed to passively replicate the return and risk profile of the Morgan Stanley Capital International All Country World Index.

**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](http://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, 2020  
(IN THOUSANDS)**

	<u>External Investment Pool</u>	<u>Bond Index Investment Pool</u>	<u>Equity Index Investment Account</u>
<b>Assets</b>			
Cash and cash equivalents	\$ 268,857	\$ -	\$ -
Securities lending collateral	1,361,725	-	-
Investments, at fair value	125,430,249	1,639,536	690,231
Receivables:			
Accrued interest and dividends	435,409	9,071	-
Investments sold, but not settled	37,031	20,368	-
Other receivables	2,854	-	-
Total receivables	<u>475,294</u>	<u>29,439</u>	<u>-</u>
Total assets	<u>127,536,125</u>	<u>1,668,975</u>	<u>690,231</u>
<b>Liabilities</b>			
Accounts payable and accrued liabilities	12,394	-	-
Investments purchased, but not settled	66,731	32,244	-
Obligations under securities lending	1,361,725	-	-
Total liabilities	<u>1,440,850</u>	<u>32,244</u>	<u>-</u>
<b>Net Position</b>			
Fiduciary net position held in trust	<u>\$ 126,095,275</u>	<u>\$ 1,636,731</u>	<u>\$ 690,231</u>

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, 2020  
(IN THOUSANDS)**

	<u>External Investment Pool</u>	<u>Bond Index Investment Pool</u>	<u>Equity Index Investment Account</u>
<b>Additions</b>			
Investment income:			
Interest and dividend income	\$ 2,208,555	\$ 46,632	\$ 29
Net appreciation in fair value of investments	2,580,307	87,733	14,120
Other investment income	368,393	138	-
Securities lending income	34,524	-	-
Total investment income	<u>5,191,779</u>	<u>134,503</u>	<u>14,149</u>
<b>Deductions</b>			
Investment management expenses	409,726	387	80
Administrative and other expenses	56,946	-	-
Securities lending expense	21,397	-	-
Total deductions	<u>488,069</u>	<u>387</u>	<u>80</u>
Net increase in net position resulting from operations	4,703,710	134,116	14,069
<b>Distributions to participants</b>			
Distributions paid and payable	(4,703,710)	(134,116)	(14,069)
<b>Share transactions</b>			
Reinvestment of distributions	4,705,598	134,116	14,069
Net share purchases (redemptions)	<u>1,707,203</u>	<u>(108,167)</u>	<u>42,015</u>
Change in net position	6,412,801	25,949	56,084
Fiduciary net position held in trust:			
Beginning of year	119,682,474	1,610,782	634,147
End of year	<u>\$ 126,095,275</u>	<u>\$ 1,636,731</u>	<u>\$ 690,231</u>

See accompanying Notes to Financial Statements.

**NORTH CAROLINA DEPARTMENT OF  
STATE TREASURER INVESTMENT PROGRAMS  
NOTES TO FINANCIAL STATEMENTS  
JUNE 30, 2020**

## **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 North Carolina Department of State Treasurer (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, Inflation Sensitive Investment portfolio and the Cash Pool 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 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 (OPEBs) trusts, the Law Enforcement Officer Special Separation Allowance trusts (LEOSSAs), the North Carolina Teachers' and State Employees' Benefit Trust (Death Benefit Plans of N.C.), the Disability Income Plan of N.C., the Registers 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's primary participants are public hospitals, local government OPEBs, 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, 2020 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.

**NORTH CAROLINA DEPARTMENT OF  
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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, deposits in banks including demand deposits, and restricted cash held by counterparties, as cash and cash equivalents. Restricted cash represents the Pool's cash held by counterparties as collateral against the Pool's derivative instruments. 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 instrument counterparties or returned to the Pool when the collateral requirements are exceeded or at the maturity of the derivative instruments. 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 Derivative Instruments**

Investments and derivative instruments are reported at fair value with significant exceptions noted below. Repurchase agreements in the STIF are reported at amortized 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 INVESTMENT PROGRAMS  
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**Valuation of Investments and Derivative Instruments (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.

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.

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.

Forward foreign currency contracts and futures contracts are included in the Statements of Fiduciary 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. These charges are reported on the Statements of Changes in Net Fiduciary 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 Pool, partnership expenses, and other costs of administering the investment portfolios. These charges are reported on the Statements of Changes in Fiduciary 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, 2020, the balance of the Pool's deposits was \$268.9 million. Also at June 30, 2020, the amount of restricted cash held by the Pool was \$14.8 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.

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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, 2020:

<b>Statutory Asset Allocation</b>	
<i>(in Thousands)</i>	
Short-Term Investment Fund	\$ 31,426,748
Long-Term Investment Fund	31,751,561
Equity Investment	33,638,773
Real Estate Investment	8,536,006
Alternative Investment	7,381,609
Opportunistic Fixed Income Investment	5,949,128
Inflation Sensitive Investment	5,429,699
Cash Pool	2,678,450
<b>Total investments and securities lending collateral</b>	<b>\$ 126,791,974</b>

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 1.3 years as of June 30, 2020. 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, 2020:

STIF	Investment Maturities (in Years)				
	Carry Amount	Less Than 1	1 to 5	6 to 10	More Than 10
	<i>(In Thousands)</i>				
<b>As of June 30, 2020</b>					
U.S. treasuries	\$ 16,051,376	\$ 14,785,701	\$ 1,265,675	\$ -	\$ -
U.S. agencies	11,589,924	739,949	10,849,975	-	-
Foreign government bonds	50,000	-	50,000	-	-
Securities purchased with cash collateral under securities lending program:					
Repurchase agreements	624,830	624,830	-	-	-
Money market mutual funds	50,618	50,618	-	-	-
Repurchase agreements	3,060,000	3,060,000	-	-	-
Total short-term investment fund assets	<u>\$ 31,426,748</u>	<u>\$ 19,261,098</u>	<u>\$ 12,165,650</u>	<u>\$ -</u>	<u>\$ -</u>

**NORTH CAROLINA DEPARTMENT OF  
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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 18.3 years as of June 30, 2020.

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, 2020:

LTIF	Investment Maturities (in Years)				
	Carry Amount	Less Than 1	1 to 5	6 to 10	More Than 10
	<i>(In Thousands)</i>				
<b>As of June 30, 2020</b>					
U.S. treasuries	\$ 7,727,442	\$ -	\$ 545,564	\$ 3,166,297	\$ 4,015,581
U.S. agencies	821,949	-	-	300,511	521,438
Mortgage pass-through	10,801,578	15	3,144	22,605	10,775,814
Securities purchased with cash collateral under securities lending program:					
Repurchase agreements	301,617	301,617	-	-	-
Money market mutual funds	28,107	28,107	-	-	-
Domestic corporate bonds	12,070,868	52,462	911,825	5,273,286	5,833,295
Total long-term investment fund assets	<u>\$ 31,751,561</u>	<u>\$ 382,201</u>	<u>\$ 1,460,533</u>	<u>\$ 8,762,699</u>	<u>\$ 21,146,128</u>

**NORTH CAROLINA DEPARTMENT OF  
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**Interest Rate Risk (Continued)**

The Other Investment Portfolios of the Pool (Equity, Real Estate, Alternative, Opportunistic Fixed Income, Cash Pool, 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, 2020:

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>					
<b>As of June 30, 2020</b>					
U.S. treasuries	\$ 207,440	\$ 150,455	\$ 56,985	\$ -	\$ -
Asset-backed securities	24,151	21,201	-	-	2,950
Commercial mortgage-backed securities	18,938	-	-	-	18,938
Collateralized mortgage obligations	55,652	16,829	191	-	38,632
Collective investment funds	2,902,821	2,902,821	-	-	-
Domestic corporate bonds	619,435	259,728	102,147	109,763	147,797
Foreign government bonds	21,037	783	7,631	4,440	8,183
Securities purchased with cash collateral under securities lending program:					
Asset-backed securities	23,483	23,483	-	-	-
Money market mutual funds	26,467	26,467	-	-	-
Repurchase agreements	306,603	306,603	-	-	-
Total other investment portfolios assets	<u>\$ 4,206,027</u>	<u>\$ 3,708,370</u>	<u>\$ 166,954</u>	<u>\$ 114,203</u>	<u>\$ 216,500</u>

The major investment classifications had the following attributes as of June 30, 2020:

Investment Classification	Principal Amount	Range of Interest Rates
<i>(In Thousands)</i>		
<b>STIF</b>		
U.S. treasuries	\$ 16,000,972	0.00%-2.63%
U.S. agencies	11,590,000	0.00%-2.20%
Foreign government bonds	50,000	2.16%
Securities purchased with cash collateral under securities lending program:		
Repurchase agreements	624,830	0.09%-0.15%
Money market mutual funds	50,618	0.15%-0.17%
Repurchase agreements	3,060,000	0.01%-0.10%
<b>LTIF</b>		
U.S. treasuries	5,908,722	0.75%-7.63%
U.S. agencies	530,786	4.65%-7.13%
Mortgage pass-throughs	10,101,368	2.50%-9.00%
Securities purchased with cash collateral under securities lending program:		
Repurchase agreements	301,617	0.09%-0.15%
Money market mutual funds	28,107	0.15%-0.17%
Domestic corporate bonds	10,252,452	0.80%-10.50%

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**Interest Rate Risk (Continued)**

<b>Investment Classification (Continued)</b>	<b>Principal Amount</b>	<b>Range of Interest Rates</b>
<i>(In Thousands)</i>		
<b>Other investment portfolios</b>		
U.S. treasuries	\$ 288,956	0.00%-1.64%
Asset-backed securities	39,725	0.33%-5.79%
Commercial mortgage-backed securities	185,432	0.69%-5.34%
Collateralized mortgage obligations	117,732	0.40%-6.50%
Collective investment funds	2,902,821	0.00%-0.50%
Domestic corporate bonds	1,006,641	0.00%-13.00%
Foreign government bonds	19,800	1.21%-5.00%
Securities purchased with cash collateral under securities lending program:		
Asset-backed securities	25,348	0.32%-1.75%
Money market mutual funds	26,467	0.15%-0.17%
Repurchase agreements	306,603	0.09%-0.15%

**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, 2020:

<b>STIF</b>	<b>Aaa/AAA</b>	<b>Aa/AA</b>	<b>A</b>	<b>Baa/BBB</b>	<b>Less than Investment Grade</b>	<b>Unrated</b>
<i>(In Thousands)</i>						
<b>As of June 30, 2020</b>						
U.S. agencies	\$ -	\$ 11,589,924	\$ -	\$ -	\$ -	\$ -
Foreign government bonds	50,000	-	-	-	-	-
Securities purchased with cash collateral under securities lending program:						
Repurchase agreements	-	624,830	-	-	-	-
Money market mutual funds	50,618	-	-	-	-	-
Repurchase agreements	-	3,060,000	-	-	-	-
<b>Total short-term investment fund assets</b>	<b>\$ 100,618</b>	<b>\$ 15,274,754</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>	<b>\$ -</b>

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, 2020:

LTIF	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated
<i>(In Thousands)</i>						
<b>As of June 30, 2020</b>						
U.S. agencies	\$ -	\$ 821,949	\$ -	\$ -	\$ -	\$ -
Domestic corporate bonds	92,490	1,179,936	5,928,711	4,611,727	258,004	-
Securities purchased with cash collateral under securities lending program:						
Repurchase agreements	-	301,617	-	-	-	-
Money market mutual fund	28,107	-	-	-	-	-
<b>Total long-term investment fund assets</b>	<b>\$ 120,597</b>	<b>\$ 2,303,502</b>	<b>\$ 5,928,711</b>	<b>\$ 4,611,727</b>	<b>\$ 258,004</b>	<b>\$ -</b>

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, 2020:

Other Investment Portfolios	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated
<i>(In Thousands)</i>						
<b>As of June 30, 2020</b>						
Asset-backed securities	\$ -	\$ -	\$ 1,902	\$ 2,310	\$ 19,939	\$ -
Commercial mortgage-backed securities	2,753	8,918	4,283	-	88	2,896
Collateralized mortgage obligations	2,248	6,124	-	-	29,149	18,131
Collective investment funds	-	-	-	-	-	2,902,821
Domestic corporate bonds	11,693	55,524	19,781	158,118	226,191	148,128
Foreign government bonds	-	2,761	5,724	12,552	-	-
Securities purchased with cash collateral under securities lending program:						
Asset-backed securities	-	21,588	-	-	1,895	-
Money market mutual funds	26,467	-	-	-	-	-
Repurchase agreements	-	306,603	-	-	-	-
<b>Total other investment portfolios assets</b>	<b>\$ 43,161</b>	<b>\$ 401,518</b>	<b>\$ 31,690</b>	<b>\$ 172,980</b>	<b>\$ 277,262</b>	<b>\$ 3,071,976</b>

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, 2020, the Pool's deposits had no exposure to custodial credit risk.

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, 2020, the investments purchased with cash collateral under the securities lending programs of \$1.362 billion 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, Federal Home Loan Bank letters of credit, or state and local government obligations) or the highest-grade commercial paper, surety bonds 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 totaled \$8.9 billion and comprised 7.11% of the Pool's total investments. These investments are held primarily by the STIF and LTIF portfolios and are classified as U.S. Agencies. 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, 2020:

Currency	Carrying Value As of June 30, 2020					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	\$ 3,774,314	\$ 261,448	\$ 93,024	\$ 35,611	\$ 4,164,397	
Japanese Yen	2,765,266	-	73,403	-	2,838,669	
Pound Sterling	1,435,950	72,449	248,234	-	1,756,633	
Hong Kong Dollar	1,259,354	-	82,317	-	1,341,671	
Swiss Franc	915,956	-	8,426	-	924,382	
Australian Dollar	485,001	-	20,931	-	505,932	
Danish Krone	444,100	-	-	-	444,100	
Swedish Krona	322,130	-	12,651	-	334,781	
Canadian Dollar	174,806	-	17,404	-	192,210	
Singapore Dollar	151,042	-	22,987	-	174,029	
New Taiwan Dollar	144,658	-	-	-	144,658	
South Korean Won	118,947	-	-	-	118,947	
Indian Rupee	82,096	-	932	-	83,028	
Chinese Yuan Renminbi	66,604	-	1,340	-	67,944	
Brazil Cruzeiro Real	52,901	-	3,257	-	56,158	
Norwegian Krone	54,849	-	891	-	55,740	
Mexican Peso	18,167	-	2,573	-	20,740	
New Zealand Dollar	18,779	-	1,744	-	20,523	
Israeli Shekel	14,379	-	1,193	-	15,572	
Indonesian Rupiah	14,633	-	848	-	15,481	
Thai Baht	6,937	-	2,843	-	9,780	
Philippines Peso	3,129	-	5,307	-	8,436	
S. African Rand	5,746	-	2,303	-	8,049	
Hungarian Forint	5,745	-	-	-	5,745	
Polish Zloty	5,470	-	-	-	5,470	
UAE Dirham	4,965	-	440	-	5,405	
Other Currencies	2,551	-	2,479	-	5,030	
Total investments subject to foreign currency risk	<u>\$ 12,348,475</u>	<u>\$ 333,897</u>	<u>\$ 605,527</u>	<u>\$ 35,611</u>	<u>\$ 13,323,510</u>	

The Pool recognized an aggregate foreign currency transaction loss of \$107.7 million for the fiscal year ended June 30, 2020 as part of the Pool's net appreciation 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, 2020:

**Investments and Derivative Instruments at Fair Value**

	As of June 30, 2020	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>				
<b>Investments measured at fair value</b>				
<b>STIF</b>				
U.S. Treasuries	\$ 16,051,376	\$ -	\$ 16,051,376	\$ -
U.S. Agencies	11,589,924	-	11,589,924	-
Foreign government bonds	50,000	-	50,000	-
Subtotal	<u>27,691,300</u>	<u>-</u>	<u>27,691,300</u>	<u>-</u>
<b>LTIF</b>				
U.S. Treasuries	7,727,442	-	7,727,442	-
U.S. Agencies	821,949	-	821,949	-
Mortgage pass-through	10,801,578	-	10,801,578	-
Domestic corporate bonds	12,070,868	-	12,070,868	-
Subtotal	<u>31,421,837</u>	<u>-</u>	<u>31,421,837</u>	<u>-</u>
<b>Other investment portfolios</b>				
U.S. Treasuries-inflation	207,440	-	207,440	-
Asset-backed securities	24,151	-	24,151	-
Collateralized mortgage obligations	55,652	-	55,652	-
Commercial mortgage-backed securities	18,938	-	18,938	-
Securities purchased with cash collateral under equity securities lending program:				
Asset-backed securities	23,450	23,450	-	-
Equity securities - domestic	14,575,550	14,575,550	-	-
Equity securities - foreign	13,816,219	13,816,219	-	-
Equity securities - preferred domestic	4,537	1,242	-	3,295
Equity securities - preferred foreign	66,763	66,763	-	-
Domestic corporate bonds	619,435	-	577,781	41,654
Foreign government bonds	21,037	-	21,037	-
Subtotal	<u>29,433,172</u>	<u>28,483,224</u>	<u>904,999</u>	<u>44,949</u>
<b>Investment derivative instruments</b>				
Futures contracts	8,454	8,454	-	-
Futures contracts (liability)	(1,979)	(1,979)	-	-
Total investment derivative instruments	<u>6,475</u>	<u>6,475</u>	<u>-</u>	<u>-</u>
<b>Total investments by fair value level</b>	<b>\$ 88,552,784</b>	<b>\$ 28,489,699</b>	<b>\$ 60,018,136</b>	<b>\$ 44,949</b>

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**4. External Investment Pool Fair Value Measurement (Continued)**

**Investments measured at the Net Asset Value (NAV)**

		<b>Unfunded commitments</b>	<b>Redemption frequency (if currently eligible)</b>	<b>Redemption notice period (days)</b>
Commingled international equity funds <sup>(1)</sup>	\$ 3,988,624	\$ -	Daily	1
Commingled real estate funds <sup>(2)</sup>	276,586	-	Daily, quarterly	1 - 60
Core real estate funds <sup>(3)</sup>	4,499,628	387,748	Quarterly, illiquid	90-illiquid
Equity rebalancing <sup>(4)</sup>	1,605,695	-	Daily	1 - 5
Hedge funds				
Global public equity - hedged <sup>(5)</sup>	396,257	-	Daily, monthly, quarterly, illiquid	3 - 180
Inflation sensitive - real assets and other diversifiers <sup>(6)</sup>	82,407	-	Quarterly	60
Multi-strategy funds <sup>(7)</sup>	147,534	-	Weekly, quarterly, illiquid	5 - illiquid
Opportunistic fixed income - distressed credit <sup>(8)</sup>	102,036	-	Illiquid	Illiquid
Opportunistic fixed income - hedged fixed income <sup>(9)</sup>	2,805,449	-	Monthly, quarterly, annually	15 - 90
Inflation protected bonds <sup>(10)</sup>	407,400	-	Monthly	30
Long-only public equity <sup>(11)</sup>	961,022	-	Illiquid	Illiquid
Non-core real estate funds <sup>(12)</sup>	3,056,427	882,495	Illiquid	Illiquid
Private credit funds <sup>(13)</sup>	3,041,643	909,073	Daily, annually, illiquid	60 - illiquid
Private equity funds <sup>(14)</sup>	5,341,461	1,951,724	Illiquid	Illiquid
Private infrastructure funds <sup>(15)</sup>	650,863	19,327	Illiquid	Illiquid
Private multi-strategy funds <sup>(16)</sup>	286,236	3,328	Illiquid	Illiquid
Private natural resources funds <sup>(17)</sup>	2,186,495	523,048	Illiquid	Illiquid
Private real asset funds <sup>(18)</sup>	1,102,330	885,146	Illiquid	Illiquid
Collective investment funds <sup>(19)</sup>	2,902,821	-	Daily	2
Total investments at the NAV	<u>33,840,914</u>			
<b>Subtotal</b>	<u>122,393,698</u>			
Certificates of deposit (non-negotiable)	105,197			
Repurchase agreements	4,293,079			
Investments at amortized cost	<u>4,398,276</u>			
<b>Total investments and securities lending collateral</b>	<u>\$ 126,791,974</u>			

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**4. External Investment Pool Fair Value Measurement (Continued)**

- (1) *Commingled International Equity Funds*: 5 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*: 1 fund. 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*: 18 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*: 1 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*: 4 funds. These investments are valued at NAV per share. These investments may include various equity-based hedge fund strategies.
- (6) *Hedge Funds - Inflation Sensitive - Real Assets and Other Diversifiers*: 1 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.
- (7) *Hedge Funds - Multi-Strategy*: 2 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.
- (8) *Hedge Funds - Opportunistic Fixed Income - Distressed Credit*: 1 fund. This investment is valued at NAV per share. These investments may include strategies that trade distressed debt, but occasionally actively participate in restructurings and seek control post-reorganization of target issuers. These strategies may have equity exposure.
- (9) *Hedge Funds - Opportunistic Fixed Income - Hedged Fixed Income*: 8 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.
- (10) *Inflation Protected Bonds*: 1 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.

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**4. External Investment Pool Fair Value Measurement (Continued)**

- (11) *Long Only Public Equity*: 2 funds. These investments are 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 strategies represented in this category have a North American-focus, with an activist role in investing. As such, the portfolios will tend to be concentrated in its positioning. These strategies have multi-year initial lock ups. 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.
- (12) *Non Core Real Estate Funds*: 67 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.
- (13) *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.
- (14) *Private Equity Funds*: 110 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.
- (15) *Private Infrastructure Funds*: 3 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.
- (16) *Private Multi-Strategy Funds*: 2 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.

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**4. External Investment Pool Fair Value Measurement (Continued)**

- (17) *Private Natural Resources Funds*: 27 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.
- (18) *Private Real Asset Funds*: 13 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.
- (19) *Collective Investment Trusts*: 1 fund. This investment is the BNY Mellon EB Temporary Investment Fund. This fund primarily invests in instruments issued by the US Government and Federal agencies, short term corporate obligations, commercial paper, and certificates of deposit. The average weighted maturity of this fund does not exceed 60 days.

**Valuation Methodologies and Inputs**

Equity securities 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. For inflation securities which include Treasury Inflation Protection Securities tied to the Consumer Price Index, prices are evaluated continuously throughout the day using a variety of real-time sources from active market makers in Treasury securities and market makers.

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.

Level 2 mortgage pass-through securities are evaluated on interest rate movements and other market data to derive spread, yield and/or price data as appropriate allowing data points to be extrapolated for application across a range of related securities.

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.

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**Valuation Methodologies and Inputs (Continued)**

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/yield/price adjustment incorporating benchmark yields, collateral performance, and prevailing market conditions.

Level 3 bonds 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, the equity based trust and the Inflation Sensitive portfolio. 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 the fixed income and Inflation Sensitive portfolios as well as 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 do not match the weighted average maturities of the securities loans as current securities lending guidelines require collateral to be invested in overnight investments and loan maturities are extended beyond overnight in an effort to stabilize loan balances. At June 30, 2020, the weighted average maturity of all securities loans was two days.

As of June 30, 2020, 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.

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**5. External Investment Pool Securities Lending (Continued)**

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 organizations.

Under prior securities lending contractual guidelines, additional flexibility was given with regards to acceptable assets purchased with cash collateral. As of June 30, 2020, a total of \$23.5 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 two days.

As of June 30, 2020, the fair value of loaned securities was \$9.7 billion; the fair value of the associated collateral was \$10 billion of which \$1.4 billion was cash.

**6. External Investment Pool Derivative Instruments**

Derivative instruments are securities that derive value from another asset and are in the form of a contract between two or more parties. Common derivative instruments 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 derivative instruments; 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.

Forward currency contracts are agreements to exchange the currency of one country for the currency of another country at an agreed-upon price and settlement date. These forward commitments are not standardized and carry credit risk due to the possible non-performance of one of the counterparties. The maximum potential loss is the aggregate face value in U.S. dollars at the time the contract was opened; however, the likelihood of such a loss is remote. In addition to forward currency contracts, the Pool also utilizes spot currency contracts. Spot currency contracts are used primarily for trade settlement and currency repatriation.

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**6. External Investment Pool Derivative Instruments (Continued)**

As of June 30, 2020 the counterparties' credit ratings for forward currency contracts that are subject to credit risk had a rating of no less than BBB by one of the nationally recognized ratings agencies.

The following table is a summary of derivative instruments activity during the fiscal year and balances at year-end, classified by type with notional amount for the year ending June 30, 2020:

Investment Derivatives	Increase (Decrease) in in Fair Value		Fair Value		Notional (In U.S. \$)
	Classification	Amount (In U.S. \$)	Classification	Amount (In U.S. \$)	
<i>(In Thousands)</i>					
Foreign equity futures a)	Investment Income	\$ (177)	Investment	\$ (177)	\$ (21,765)
Commodity futures b)	Investment Income	6,652	Investment	6,652	172,003
Forward currency contracts	Investment Income	300	Investment	300	236,083
Spot currency contracts	Investment Income	(18)	Investment	(18)	30,356

a) 4.0 million Australian Dollar; 7.4 million Euro; 654.6 million Japanese Yen; 3.7 million British Pound Sterling.

b) 252,000 barrels of Brent crude oil; 277,000 barrels of West Texas Intermediate crude oil; 3,225,000 pounds high grade copper;  
5,270,000 million British Thermal Units natural gas; 16,400 fine troy ounces gold.

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**6. External Investment Pool Derivative Instruments (Continued)**

Schedule of all foreign derivative instruments outstanding at June 30, 2020 are presented below by currency:

**Fair value of foreign currency contracts, Assets (Liabilities)**

As of June 30, 2020

Currency	Forwards Currency Contracts	Spot Currency Contracts	Foreign Equity Futures	Total
(In Thousands)				
Australian Dollar	\$ 76	\$ 3	\$ 21	\$ 100
Brazilian Real	3	-	-	3
British Pound Sterling	28	(8)	(30)	(10)
Canadian Dollar	(3)	-	-	(3)
Chilean Peso	1	-	-	1
Chinese Yuan	1	-	-	1
Euro	(141)	4	64	(73)
Hong Kong Dollar	(12)	-	-	(12)
Indian Rupee	6	-	-	6
Indonesian Rupiah	(2)	-	-	(2)
Israeli Shekel	30	-	-	30
Japanese Yen	(20)	(15)	(232)	(267)
Malaysian Ringgit	3	-	-	3
Mexican Peso	6	-	-	6
New Zealand Dollar	158	-	-	158
Norwegian Krone	(95)	-	-	(95)
Philippine Peso	(3)	-	-	(3)
Singapore Dollar	93	(2)	-	91
South African Rand	5	-	-	5
Swedish Krona	27	-	-	27
Swiss Franc	135	-	-	135
Thai Baht	5	-	-	5
UAE Dirham	(1)	-	-	-
Total	<u>\$ 300</u>	<u>\$ (18)</u>	<u>\$ (177)</u>	<u>\$ 106</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.

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**7. Bond Index Investment Pool (Continued)**

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.

Participants in the BIF may include public hospitals, Law Enforcement Officer Special Separation Allowance trusts (LEOSSAs), local government Other Post Employment Benefit trusts (OPEBs), the North Carolina Teachers' and State Employees' Benefit Trust (Death Benefit Plans of N.C.), the Disability Income Plan of N.C., the Registers 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, 2020, there were twenty-two OPEBs, three LEOSSAs, and two 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 effective maturity of 7.97 years as of June 30, 2020.

The BIF maintained by the Treasurer had the following investments and maturities as of June 30, 2020:

<b>Bond Index</b>	<b>Investment Maturities (in Years)</b>				
	<b>Carry Amount</b>	<b>Less Than 1</b>	<b>1 to 5</b>	<b>6 to 10</b>	<b>More Than 10</b>
	<i>(In Thousands)</i>				
<b>As of June 30, 2020</b>					
U.S. treasuries	\$ 587,655	\$ -	\$ 323,331	\$ 131,433	\$ 132,891
U.S. agencies	28,127	4,619	17,698	1,880	3,930
Commercial mortgage-backed securities	31,843	-	-	908	30,935
Asset-backed securities	7,157	-	3,979	3,178	-
Mortgage pass-through	435,989	-	-	11,905	424,084
Collective investment funds	30,186	30,186	-	-	-
Municipal bonds	11,013	-	56	1,273	9,684
Domestic corporate bonds	441,115	-	121,720	149,810	169,585
Foreign government bonds	66,451	-	40,506	17,652	8,293
<b>Total investment fund assets</b>	<b>\$ 1,639,536</b>	<b>\$ 34,805</b>	<b>\$ 507,290</b>	<b>\$ 318,039</b>	<b>\$ 779,402</b>

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**Interest Rate Risk (Continued)**

The major investment classifications had the following attributes as of June 30, 2020:

<b>Investment Classification</b>	<b>Principal Amount</b>	<b>Range of Interest Rates</b>
	<i>(In Thousands)</i>	
<b>Bond Index</b>		
U.S. Treasuries	519,126	0.13%-6.88%
U.S agencies	24,635	0.50%-7.25%
Commercial mortgage-backed securities	29,673	3.04%-4.12%
Asset-backed securities	6,900	1.84%-3.01%
Mortgage Pass Throughs	407,717	2.50%-5.50%
Collective investment funds	30,186	0.94%
Municipal bonds	7,720	2.90%-7.55%
Domestic corporate bonds	388,602	0.75%-9.50%
Foreign government bonds	61,600	0.50%-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, 2020:

<b>Bond Index</b>	<b>Aaa/AAA</b>	<b>Aa/AA</b>	<b>A</b>	<b>Baa/BBB</b>	<b>Less than Investment Grade</b>	<b>Unrated</b>
<i>(In Thousands)</i>						
<b>As of June 30, 2020</b>						
U.S. Agencies	\$ -	\$ 28,127	\$ -	\$ -	\$ -	\$ -
Commercial mortgage-backed securities	30,935	908	-	-	-	-
Asset-backed securities	7,157	-	-	-	-	-
Mortgage pass-through	-	324,697	-	-	-	-
Collective investment funds	30,186	-	-	-	-	-
Municipal bonds	641	5,672	3,576	1,124	-	-
Domestic corporate bonds	4,018	25,895	160,068	239,362	11,772	-
Foreign government bonds	37,139	5,749	6,987	16,576	-	-
<b>Total investment fund assets</b>	<b>\$ 110,076</b>	<b>\$ 391,048</b>	<b>\$ 170,631</b>	<b>\$ 257,062</b>	<b>\$ 11,772</b>	<b>\$ -</b>

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, 2020, 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 totaled \$127 million and comprised 7.7% of BIF's total investments; FNMA investments totaled \$227 million and comprised 13.9% of BIF's total investments. Both FHLMC and FNMA investments are classified as U.S. Agencies with the majority of the investments classified as Mortgage pass-throughs. At June 30, 2020, 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, 2020:

**Investments and Derivative Instruments at Fair Value**

	As of June 30, 2020	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>				
<b>Investments measured at fair value</b>				
<b>Bond Index Fund</b>				
U.S. Treasuries	\$ 587,655	\$ -	\$ 587,655	\$ -
U.S. Agencies	28,127	-	28,127	-
Asset-backed securities	7,157	-	7,157	-
Commercial mortgage-backed securities	31,843	-	31,843	-
Mortgage pass-through	435,989	-	435,989	-
Municipal bonds	11,013	-	11,013	-
Domestic corporate bonds	441,115	-	441,115	-
Foreign government bonds	66,451	-	66,451	-
Total investments by fair value level	<u>\$ 1,609,350</u>	<u>\$ -</u>	<u>\$ 1,609,350</u>	<u>\$ -</u>

**Investments measured at the Net Asset Value (NAV)**

		Unfunded commitments	Redemption frequency	Redemption notice (days)
Collective investment fund <sup>(1)</sup>	30,186	-	Daily	1
<b>Total investments</b>	<u>\$ 1,639,536</u>			

<sup>(1)</sup> 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**

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 and yield-based and priced-based evaluations. For spread and yield-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 deposits from funds of the state of North Carolina reporting entity as well as public hospital trusts, LEOSAs, and local government other post-employment benefit trust (OPEB) funds. These funds and 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, 2020 there were 30 participants of which 24 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, 2020, 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. Two public hospitals are also participants 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, 2020, 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, 2020, the EIF had a recurring fair value measurement of \$690.2 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 unfunded balances of these capital commitments by fund type are presented as unfunded commitments in the Investments measured at the Net Asset Value (NAV) table in Note 4. The portfolios are part of the Treasurer's Pool as described in Note 3.

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.

**NORTH CAROLINA DEPARTMENT OF STATE TREASURER  
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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 82% of the total net position of the Pool. Following is a discussion of the Investment Policy Statement and management and incentive fees paid relative to NCRS.

*Investment Policy Statement*

The pension fund investments are allocated according to the NCRS Investment Policy Statement (IPS). The IPS is reviewed annually, although there have been no changes to the asset allocation targets and ranges since 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. 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, 2020. 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 (NCRS assets only)									
Public Equity <sup>1</sup>	Long Term <sup>2</sup>	Pension Cash <sup>2</sup>	Fixed Income <sup>2,8</sup>	Alternatives <sup>3</sup>	Real Estate <sup>4</sup>	Inflation Sensitive <sup>5</sup>	Opportunistic Fixed Income <sup>6</sup>	Public Equity Limited Liability <sup>7</sup>	Total NCRS assets

*(In Thousands)*

IPS Classification	Public Equity	\$ 32,059,546							\$ 1,358,299	\$ 33,417,845		
	Private Equity					\$ 5,342,116					5,342,116	
	Non-Core Real Estate						\$ 3,064,004				3,064,004	
	Opportunistic Fixed Income							\$ 5,949,128		5,949,128		
	Investment Grade Fixed Income and Cash		\$ 31,674,467		\$ 1,784,088						33,458,555	
	Pension Cash			\$ 9,717,031							9,717,031	
	Inflation Sensitive						\$ 5,436,692				5,436,692	
	Core Real Estate						5,485,358				5,485,358	
	Multi-Strategy					2,039,465					2,039,465	
	Total NCRS assets		\$ 32,059,546	\$ 31,674,467	\$ 9,717,031	\$ 1,784,088	\$ 7,381,581	\$ 8,549,362	\$ 5,436,692	\$ 5,949,128	\$ 1,358,299	\$ 103,910,194

<sup>1</sup> NCGS 147-69.2(b)(8)(a),(c)

<sup>2</sup> NCGS 147-69.1(c) and NCGS § 147-69.2(b)(1)-(6b)

<sup>3</sup> NCGS 147-69.2(b)(9)

<sup>4</sup> NCGS 147-69.2(b)(7)

<sup>5</sup> NCGS 147-69.2(b)(9a)

<sup>6</sup> NCGS 147-69.2(b)(6c)

<sup>7</sup> NCGS 147-69.2(b)(8)(b)

<sup>8</sup> Consists solely of investments in STIF

As of June 30, 2020

NCRS assets only

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**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.

**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, 2020.

**Total Investment Management Fees Incurred as of June 30, 2020**

Asset Classification	Management Fees	Incentive Fees	Total Fees	NCRS Portfolio Market Value (1)	Ratio of Fees to Market Value
	<i>(In Thousands)</i>				
Public Equity	\$ 52,523	\$ 285	\$ 52,808	\$ 33,417,845	0.16%
Private Equity	51,372	55,244	106,616	5,342,116	2.00%
Non-Core Real Estate	37,243	45,572	82,815	3,064,004	2.70%
Opportunistic Fixed Income	49,793	21,584	71,377	5,949,129	1.20%
Investment Grade Fixed Income and Cash	-	-	-	33,458,555	0.00%
Pension Cash	-	-	-	9,717,031	0.00%
Inflation Sensitive	44,835	12,235	57,070	5,436,692	1.05%
Core Real Estate	33,327	-	33,327	5,485,358	0.61%
Multi-Strategy	5,713	-	5,713	2,039,465	0.28%
<b>Total</b>	<b>\$274,806</b>	<b>\$134,920</b>	<b>\$409,726</b>	<b>\$103,910,195</b>	

(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.

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<b>Expenses Paid: Management and Incentive Fee (Asset Class Average Market Value)</b>								
	<b>0 bps</b>	<b>0 - 25bps</b>	<b>25 - 50bps</b>	<b>50 - 100bps</b>	<b>100 - 150bps</b>	<b>150+bps</b>	<b>Total</b>	
	<i>(In Thousands)</i>							
Public Equity	\$ 11,294,075	\$ 10,400,801	\$ 8,960,740	\$ 1,467,095	\$ 226,696	\$ 203,280	\$ 32,552,687	
Private Equity	840,275	193,518	258,265	1,945,845	393,563	1,849,022	5,480,488	
Non-Core Real Estate	65,858	41,761	424,102	730,221	782,698	1,181,722	3,226,362	
Opportunistic Fixed Income	122,902	-	1,618,543	1,640,438	1,014,265	1,382,267	5,778,415	
Investment Grade Fixed Income & Cash	31,822,181	-	-	-	-	-	31,822,181	
Pension Cash	10,363,008	-	-	-	-	-	10,363,008	
Inflation Sensitive	376,415	270,734	2,132,874	1,192,336	778,422	1,190,592	5,941,373	
Core Real Estate	273,766	209,767	1,490,927	3,627,297	114,967	-	5,716,724	
Multi-Strategy	76	1,635,684	-	338,939	136,221	-	2,110,920	
<b>Total Fund</b>	<b>\$ 55,158,556</b>	<b>\$ 12,752,265</b>	<b>\$ 14,885,451</b>	<b>\$ 10,942,171</b>	<b>\$ 3,446,832</b>	<b>\$ 5,806,883</b>	<b>\$ 102,992,158</b>	

<b>Expenses Paid: Management and Incentive Fee (% of Asset Class Average Market Value)</b>								
	<b>0 bps</b>	<b>0 - 25bps</b>	<b>25 - 50bps</b>	<b>50 - 100bps</b>	<b>100 - 150bps</b>	<b>150+bps</b>	<b>Total</b>	
Public Equity	34.69%	31.95%	27.53%	4.51%	0.70%	0.62%	100.00%	
Private Equity	15.33%	3.53%	4.71%	35.50%	7.18%	33.74%	100.00%	
Non-Core Real Estate	2.04%	1.29%	13.14%	22.63%	24.26%	36.63%	100.00%	
Opportunistic Fixed Income	2.13%	0.00%	28.01%	28.39%	17.55%	23.92%	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	6.34%	4.56%	35.90%	20.07%	13.10%	20.04%	100.00%	
Core Real Estate	4.79%	3.67%	26.08%	63.45%	2.01%	0.00%	100.00%	
Multi-Strategy	0.00%	77.49%	0.00%	16.06%	6.45%	0.00%	100.00%	
<b>Total Fund</b>	<b>53.56%</b>	<b>12.38%</b>	<b>14.45%</b>	<b>10.62%</b>	<b>3.35%</b>	<b>5.64%</b>	<b>100.00%</b>	

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<b>Fee Type by Contract (Asset Class Average Market Value)</b>					
	<b>No Fees</b>	<b>Management Only</b>	<b>Incentive Only</b>	<b>Management &amp; Incentive</b>	<b>Total</b>
<i>(In Thousands)</i>					
Public Equity	\$ 11,172,028	\$ 19,950,291	\$ 29,833	\$ 1,400,535	\$ 32,552,687
Private Equity	259,103	5,268	-	5,216,117	5,480,488
Non-Core Real Estate	-	-	-	3,226,362	3,226,362
Opportunistic Fixed Income	-	329,163	-	5,449,252	5,778,415
Investment Grade Fixed Income & Cash	31,822,181	-	-	-	31,822,181
Pension Cash	10,363,008	-	-	-	10,363,008
Inflation Sensitive	97,686	1,265,650	215,958	4,362,079	5,941,373
Core Real Estate	-	1,178,931	-	4,537,793	5,716,724
Multi-Strategy	-	1,635,684	-	475,236	2,110,920
<b>Total Fund</b>	<b>\$ 53,714,006</b>	<b>\$ 24,364,987</b>	<b>\$ 245,791</b>	<b>\$ 24,667,374</b>	<b>\$ 102,992,158</b>

<b>Fee Type by Contract (% of Asset Class Average Market Value)</b>					
	<b>No Fees</b>	<b>Management Only</b>	<b>Incentive Only</b>	<b>Management &amp; Incentive</b>	<b>Total</b>
Public Equity	34.32%	61.29%	0.09%	4.30%	100.00%
Private Equity	4.73%	0.10%	0.00%	95.18%	100.00%
Non-Core Real Estate	0.00%	0.00%	0.00%	100.00%	100.00%
Opportunistic Fixed Income	0.00%	5.70%	0.00%	94.30%	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	1.64%	21.30%	3.63%	73.42%	100.00%
Core Real Estate	0.00%	20.62%	0.00%	79.38%	100.00%
Multi-Strategy	0.00%	77.49%	0.00%	22.51%	100.00%
<b>Total Fund</b>	<b>52.15%</b>	<b>23.66%</b>	<b>0.24%</b>	<b>23.95%</b>	<b>100.00%</b>

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**Average Market Value**

The market value of investments held by investment managers are averaged monthly from July 1, 2019 to June 30, 2020. 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, 2020. 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). The incentive fees shown in the preceding tables represent paid incentive fees. They do not include accrued incentive fees.

**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.

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NCRS – NORTH CAROLINA RETIREMENT SYSTEM  
OTHER SUPPLEMENTARY INFORMATION  
FISCAL YEAR ENDED JUNE 30, 2020**

**Investment Returns and Peer Comparison Information**

The following other supplementary information includes a discussion of the retirement system’s risk and returns compared to benchmarks and comparisons to peer cost benchmarks. The tables below relate to NCRS as defined in the Introduction section of Supplementary Information.

As of June 30, 2020, the NCRS had the following investment returns over applicable one, three, five and ten-year periods:

**Investment Returns as of June 30, 2020 (% , Net of Fees)**

<b>Asset Classification</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>	<b>10 Year</b>
<b>Growth</b>	2.85	6.97	6.94	9.83
<b>Benchmark</b>	1.29	5.17	5.61	8.69
Public Equity	4.94	7.47	7.26	10.07
Benchmark	1.18	5.32	5.81	8.97
Private Equity	2.35	10.10	8.84	9.90
Benchmark	(0.75)	7.05	6.94	9.65
Non-Core Real Estate	2.09	8.52	9.80	12.19
Benchmark	1.09	5.43	5.60	8.68
Opportunistic Fixed Income	(6.91)	1.13	1.97	5.39
Benchmark	(0.52)	0.26	1.53	2.30
<b>Rates &amp; Liquidity</b>	8.54	5.42	4.54	4.65
<b>Benchmark</b>	10.26	6.15	5.11	4.88
Investment Grade Fixed Income and Cash	10.72	6.29	5.13	4.96
Benchmark	10.58	6.31	5.25	4.95
Pension Cash	1.82	1.83	1.46	-
Benchmark	1.41	1.64	1.12	-
<b>Inflation Sensitive &amp; Diversifiers</b>	(3.26)	2.93	3.89	3.03
<b>Benchmark</b>	(2.73)	2.13	2.90	3.99
Inflation Sensitive	(7.82)	0.72	1.55	(1.65)
Benchmark	(3.70)	0.95	0.45	(0.78)
Core Real Estate	1.74	5.40	6.74	9.27
Benchmark	(1.66)	3.50	5.83	9.52

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**Investment Returns as of June 30, 2020 (% , Net of Fees) (Continued)**

<b>Asset Classification (Continued)</b>	<b>1 Year</b>	<b>3 Year</b>	<b>5 Year</b>	<b>10 Year</b>
<b>Multi-Strategy Benchmark</b>	(6.84) (2.73)	0.76 1.78	2.68 2.75	6.42 5.66
<b>Total Pension Plan Implementation Benchmark</b>	4.35 3.61	6.08 5.25	5.92 5.27	7.67 7.04
<b>Long-Term Policy Benchmark</b>	6.16	6.29	5.67	7.08

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% FTSE-EPRA 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. These returns are presented gross of fees.

**National Peer Data on Gross of Fees Returns and Exposure to Risk as of June 30, 2020 (%)**

	1 Year	3 Year	5 Year	10 Year
<b>Returns</b>				
25 <sup>th</sup> Percentile	4.38	6.76	6.95	8.83
Median	2.34	6.14	6.32	8.24
75 <sup>th</sup> Percentile	1.82	5.67	6.01	7.90
<b>NC Pension Fund</b>	4.69	6.49	6.42	8.20
<b>Risk*</b>				
25 <sup>th</sup> Percentile	11.71	8.98	8.13	7.94
Median	10.12	8.20	7.34	7.19
75 <sup>th</sup> Percentile	9.52	7.12	6.44	6.07
<b>NC Pension Fund</b>	6.98	5.93	5.62	5.97

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

\* Volatility of Returns (Standard Deviation)

**Peer Cost Comparison**

For the years ended December 31, 2019 and 2018, 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**

<b>Total (bps)</b>	<b>2019</b>	<b>2018</b>
<b>Median Peer</b>	51.6	54.5
<b>North Carolina Retirement Systems</b>	32.1	35.0
<b>Percentile</b>	0%	8%

Source: CEM [Cost Effectiveness Measurement]. Note that 2019 data is based upon preliminary CEM data as of October 9, 2020. 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 2019 and 2018, the peer group consisted of 13 U.S. public pension funds managing \$55 billion to \$228 billion, and 14 U.S. public pension funds managing \$47 billion to \$155 billion, respectively. For the calendar year ended December 31, 2019, the median peer managed \$100 billion versus North Carolina's \$101 billion. For the calendar year ended December 31, 2018, the median peer managed \$79 billion versus North Carolina's \$98 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."