NORTH CAROLINA DEPARTMENT OF STATE TREASURER INVESTMENT PROGRAMS

FINANCIAL STATEMENTS WITH INDEPENDENT AUDITORS' REPORT

FISCAL YEAR ENDED JUNE 30, 2023

NORTH CAROLINA DEPARTMENT OF STATE TREASURER INVESTMENT PROGRAMS
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This audit required approximately 585 hours at a cost of $80,500.

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INDEPENDENT AUDITORS' REPORT

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

Report on the Audit of the Financial Statements

Opinions

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, 2023, and the related notes to the financial statements, which collectively comprise the Investment Programs' basic financial statements as listed in the table of contents.

In our opinion, the financial statements referred to above present fairly, in all material respects, the respective financial position of the Investment Programs as of June 30, 2023, 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.

Basis for Opinions

We conducted our audit in accordance with auditing standards generally accepted in the United States of America (GAAS) and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Our responsibilities under those standards are further described in the Auditors' Responsibilities for the Audit of the Financial Statements section of our report. We are required to be independent of the Investment Programs and to meet our other ethical responsibilities, in accordance with the relevant ethical requirements relating to our audit. We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinions.

Emphasis of Matter

As discussed in Note 1, the financial statements of the Investment Programs are intended to present the financial position and the changes in financial position of the North Carolina Department of State Treasurer that is attributable to the transactions of the Investment Programs. They do not purport to, and do not, present fairly the financial position of the North Carolina Department of State Treasurer as of June 30, 2023, or the changes in its financial position for the year then ended in accordance with accounting principles generally accepted in the United States of America. Our opinions are not modified with respect to this matter.

Responsibilities of Management for the Financial Statements

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

Auditors' Responsibilities for the Audit of the Financial Statements

Our objectives are to obtain reasonable assurance about whether the financial statements as a whole are free from material misstatement, whether due to fraud or error, and to issue an auditors' report that includes our opinions. Reasonable assurance is a high level of assurance but is not absolute assurance and therefore is

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not a guarantee that an audit conducted in accordance with GAAS and *Government Auditing Standards* will always detect a material misstatement when it exists. The risk of not detecting a material misstatement resulting from fraud is higher than for one resulting from error, as fraud may involve collusion, forgery, intentional omissions, misrepresentations, or the override of internal control. Misstatements are considered material if there is a substantial likelihood that, individually or in the aggregate, they would influence the judgment made by a reasonable user based on the financial statements.

In performing an audit in accordance with GAAS and *Government Auditing Standards*, we:

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

- Identify and assess the risks of material misstatement of the financial statements, whether due to fraud or error, and design and perform audit procedures responsive to those risks. Such procedures include examining, on a test basis, evidence regarding the amounts and disclosures in the financial statements.

- Obtain an understanding of internal control relevant to the audit in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the Investment Programs' internal control. Accordingly, no such opinion is expressed.

- Evaluate the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluate the overall presentation of the financial statements.

We are required to communicate with those charged with governance regarding, among other matters, the planned scope and timing of the audit, significant audit findings, and certain internal control related matters that we identified during the audit.

Required Supplementary Information

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

Supplementary 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 referred to in the table of contents, is presented for purposes of additional analysis and is not a required part of the basic financial statements. Such information is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the basic financial statements. The information has been subjected to the auditing procedures applied in the audit of the basic financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the basic financial statements or to the basic financial statements themselves, and other additional procedures in accordance with GAAS. In our opinion, the supplementary information is fairly stated, in all material respects, in relation to the basic financial statements as a whole.

Other Information

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

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

Other Reporting Required by *Government Auditing Standards*

In accordance with *Government Auditing Standards*, we have also issued our report dated October 13, 2023 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

CliftonLarsonAllen LLP

Raleigh, North Carolina
October 13, 2023

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, 2023 and 2022. 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, Cash Pool portfolio, and the Fixed Income Investment portfolio. Amounts associated with these portfolios are presented in the tables in Note 3. The classifications defined in the Investment Policy Statement of the Department of State Treasurer Investments are used for the purposes of Management's Discussion and Analysis of the economic and financial environment, investment performance, and risk management of the Pool. The Supplementary Information contains a mapping of the Investment Policy Statement's classifications to the statutory classifications which are used to prepare the basic financial statements of the Pool as of June 30, 2023.

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, 2023. The statement of changes in fiduciary net position presents the results of the investing activities during the fiscal year ended June 30, 2023. 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.

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 Investment Pool)

	As of June 30	
	2023	2022
	(In Thousands)	
Assets		
Cash and cash equivalents	$ 327,184	$ 416,052
Securities lending collateral	1,805,409	2,465,317
Investments, at fair value	157,207,752	150,334,455
Receivables	615,131	411,524
Total assets	159,955,476	153,627,348
Liabilities		
Other payables	112,521	180,155
Obligations under securities lending	1,805,409	2,465,317
Total liabilities	1,917,930	2,645,472
Net Position		
Net position held in trust	$ 158,037,546	$ 150,981,876

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)

	As of June 30	
	2023	2022
	(In Thousands)	
Assets		
Investments, at fair value	$ 1,385,559	$ 1,443,688
Receivables	41,744	29,360
Total assets	1,427,303	1,473,048
Liabilities		
Other payables	22,644	23,121
Net Position		
Net position held in trust	$ 1,404,659	$ 1,449,927

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)

	As of June 30	
	2023	**2022**
	(In Thousands)	
Assets		
Investments, at fair value	$ 815,392	$ 564,933
Total assets	815,392	564,933
Net Position		
Net position held in trust	$ 815,392	$ 564,933

Analysis of Statements of Fiduciary Net Position

Cash and cash equivalents decreased 21.4%, approximately $88.9 million, driven by market factors and participant decisions.

Investments, at fair value, in the External Investment Pool increased 4.6% to approximately $157 billion from approximately $150 billion during the fiscal year ended June 30, 2023. This was primarily due to investment income that was accompanied by Net Share Purchases. Other Payables decreased due to approximately $54 million of securities purchased not yet settled as of the fiscal year ended 2023 compared to approximately $112 million as of the fiscal year ended 2022.

Securities lending cash collateral decreased approximately $660 million, or 27%, as less securities were on loan that had cash posted as collateral.

Investments, at fair value, in the BIF decreased 4.0% to approximately $1.39 billion from $1.44 billion during the fiscal year ended June 30, 2023. This was primarily due to net share redemptions that were accompanied by investment losses.

Investments, at fair value, in the EIF increased 44.3% to approximately $815 million from $565 million during the fiscal year ended June 30, 2023. This was primarily due to net share purchases that were accompanied by investment income.

Statements of Changes in Fiduciary Net Position

The following statements of changes in net position present the total net investment income (loss) earned by the Pool as well as expenses and net pool share transactions.

Statements of Changes in Fiduciary Net Position (External Investment Pool)

	Fiscal Years Ended June 30	
	2023	2022
	(In Thousands)	
Additions		
Investment income		
Interest and dividend income	$ 3,315,166	$ 1,802,776
Net appreciation (depreciation) in fair value of investments	3,319,897	(10,413,359)
Other investment income	660,106	661,130
Less: Investment management expenses	(448,354)	(557,904)
Total net investment income (loss)	6,846,815	(8,507,357)
Securities lending activity		
Securities lending income	107,157	10,618
Less: Securities lending expenses	85,244	694
Net securities lending income	21,913	9,924
Reinvestment of distributions	6,787,686	(8,577,759)
Net share purchases	267,984	6,335,483
Net pool share transactions	7,055,670	(2,242,276)
Total additions	13,924,398	(10,739,709)
Deductions		
Distributions paid and payable	6,811,474	(8,553,889)
Administrative and other expenses	57,254	56,456
Total deductions	6,868,728	(8,497,433)
Change in net position	7,055,670	(2,242,276)
Net position held in trust:		
Beginning of year	150,981,876	153,224,152
End of year	$ 158,037,546	$ 150,981,876

Statements of Changes in Fiduciary Net Position (Continued)

The following statements of changes in net position present the total net investment loss earned by the BIF as well as expenses and net pool share transactions.

Statements of Changes in Fiduciary Net Position (BIF)

	Fiscal Years Ended June 30	
	2023	**2022**
	(In Thousands)	
Additions		
Investment income		
Interest and dividend income	$ 43,299	$ 39,973
Net depreciation in fair value of investments	(60,347)	(202,182)
Other investment income	85	398
Less: Investment management expenses	(326)	(352)
Total net investment loss	(17,289)	(162,163)
Reinvestment of distributions	(17,289)	(162,163)
Net share purchases (redemptions)	(27,979)	5,657
Net pool share transactions	(45,268)	(156,506)
Total additions	(62,557)	(318,669)
Deductions		
Distributions paid and payable	(17,289)	(162,163)
Total deductions	(17,289)	(162,163)
Change in net position	(45,268)	(156,506)
Net position held in trust:		
Beginning of year	1,449,927	1,606,433
End of year	$ 1,404,659	$ 1,449,927

Statements of Changes in Fiduciary Net Position (Continued)

The following statements of changes in net position present the total net investment income (loss) earned by the EIF as well as expenses and net share transactions.

Statements of Changes in Fiduciary Net Position (EIF)

	Fiscal Years Ended June 30	
	2023	2022
	(In Thousands)	
Additions		
Investment income		
Interest and dividend income	$ 85	$ 146
Net appreciation (depreciation) in fair value of investments	105,521	(97,282)
Less: Investment management expenses	(114)	(115)
Total net investment income (loss)	105,492	(97,251)
Reinvestment of distributions	105,492	(97,251)
Net share purchases	144,967	170,143
Net share transactions	250,459	72,892
Total additions	355,951	(24,359)
Deductions		
Distributions paid and payable	105,492	(97,251)
Total deductions	105,492	(97,251)
Change in net position	250,459	72,892
Net position held in trust:		
Beginning of year	564,933	492,041
End of year	$ 815,392	$ 564,933

Analysis of Changes in Fiduciary Net Position

The External Investment Pool had total net investment income of $6.8 billion in fiscal year 2023, an increase of $15.4 billion from fiscal year 2022, which had total net investment loss of $8.5 billion. The year over year increase was primarily attributable to an increase in net appreciation. Net appreciation reflects realized and unrealized gains or losses. The net appreciation was higher due to earning higher returns in the public equity and fixed income asset classes, as moderating inflation and rate increases provided support to valuations. Investment expenses decreased by $110 million, which was largely attributable to decreases in performance fees paid as private market investments generated lower gains. For fiscal year 2023, net share purchases into the Pool were $268 million, compared to net pool share purchases of $6.3 billion in the prior year, largely driven by lower Short Term Investment Fund deposits.

Analysis of Changes in Fiduciary Net Position (Continued)

The BIF had a total net investment loss of $17.3 million in fiscal year 2023, relative to a loss of $162 million in the prior fiscal year 2022. The year over year decrease in investment loss was driven by lower net depreciation in the fair value of the investments. This lower net depreciation was driven largely by interest rate increases moderating. The fair value of bonds typically reflects an inverse relationship to yields, as a rise in yields results in a fall in fair value. Net pool share redemptions for the year were $27.9 million, compared to net shares purchases of $5.7 million in the prior year.

The EIF had a total net investment income of $105.5 million for the fiscal year 2023, an increase of $202.7 million from the prior fiscal year 2022. The year over year increase was attributable to higher total returns earned on broad equity markets for the current fiscal year. Net share purchases for the year were $144.9 million, lower than the prior year by approximately $25.2 million.

Legislative Restrictions

The Iran Divestment Act, General Statutes 147-86.55 through 147-86.63 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 the Act 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 Iran Divestment Act. 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.

In addition, the State Treasurer is required to comply with the November 12, 2020 Presidential Executive Order prohibiting U.S. persons from purchasing or investing in publicly traded securities of companies identified by the U.S. Department of Defense as identified pursuant to Section 1237 of the National Defense Authorization Act for FY 1999. In addition, the State Treasurer is required to comply with certain restrictions issued by the United States government, including Executive Order 14032, which restricts investment activity in certain Chinese entities as identified by the Secretary of Treasury (generally military-related companies), as well as restrictions issued by the Office of Foreign Assets Control.

Economic Discussion

Over the fiscal year, investment markets experienced elevated levels of volatility as the Federal Reserve continued hiking rates to mitigate inflation risks. For the fiscal year ended June 30, 2023, Gross Domestic Product (GDP) adjusted for inflation and seasonality experienced a year over year change of 2.5%, the unemployment rate was 3.6%, consumer price inflation was 3.0% year over year and core consumer price inflation (i.e., removing the volatile food and energy sectors) was 4.8% year over year. To combat persistently high levels of inflation, the Federal Reserve implemented multiple rate increases, taking the Federal Funds Target Rate up 350 basis points. For the fiscal year, domestic equity markets, as measured by the S&P 500 Index, rose by 19.6%. Corporate bonds, both investment grade and non-investment grade earned positive returns over the year as the rise in long term rates were either partially or completely offset by a decrease in credit spreads. The ten year U.S. Treasury yield rose nearly 80 basis points, while credit spreads fell 34 basis points on investment grade corporate bonds, and 182 basis points on non-investment grade corporate bonds. As global economic activity, inflation and geopolitical risks moderated, West Texas Intermediate (WTI) crude oil ended the fiscal year at nearly $70 a barrel, down nearly $35 a barrel from the start of the fiscal year.

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. Effective for July 1, 2022, the division adopted a new investment policy statement and a long-term target asset allocation. The most notable change in the asset allocation policy was a 4% increase to Pension Cash with a corresponding decrease of 4% to Public Equity. 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.

External Investment Pool Portfolio Discussion (Continued)

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 5.3% for the fiscal year, underperforming the benchmark's 6.5% return.

The Public Equity portfolio generated a total return of 16.8% for the fiscal year, outperforming the benchmark's 16.1% return. The Domestic Equity portfolio returned 19.5% for the year, while the International Equity portfolio returned 13.5%. As of June 30, 2023, nearly $19.1 billion of domestic equity securities were managed by the internal public equity team.

The Private Equity portfolio generated a total return of -6.7% for the fiscal year, underperforming the benchmark's -2.6% return. All four of the segments of the portfolio experienced losses for the year.

The Non-Core Real Estate portfolio generated a total return of -11.4% for the fiscal year, underperforming the benchmark's -2.4% return. Within the Non-Core portfolio, the value-added strategies returned -14.6% for the year, while the opportunistic strategies earned -10.9%. The Core Real Estate portfolio generated a total return of -5.14%, outperforming the benchmark's -6.9% return. Within the Core Real Estate portfolio, the public equity REIT strategies had a return of -4.8% for the year. The private equity core strategies returned -5.4%.

The Opportunistic Fixed Income portfolio generated a total return of 1.9% for the fiscal year, underperforming the benchmark's 12.6% return. All strategies within the portfolio underperformed the benchmark.

The Investment Grade Fixed Income portfolio generated a total return of -0.6%, outperforming the benchmark's return of -1.1%. The negative returns were driven by a rise in interest rates over the year.

The Pension Cash portfolio generated a total return of 3.0% for the fiscal year, underperforming the benchmark's 3.8% return.

The Inflation Sensitive portfolio generated a total return of 6.9% for the fiscal year, outperforming the benchmark's 2.5% return. The Inflation portfolio has significant exposure to Energy and other Natural Resources which contributed to the portfolio's strong performance for the fiscal year.

The Multi-Strategy portfolio generated a total return of 7.9% for the fiscal year, outperforming the benchmark's 4.3% return.

Over the fiscal year ended June 30, 2023, the Investment Management Division engaged with an external consultant to conduct a new asset and liability management study. The ultimate objective of the study was to identify a long-term asset allocation mix that most efficiently meets the goals and objectives of the pension plan investments.

BIF Portfolio Discussion

The BIF portfolio generated a total return of -1.1% for the fiscal year, underperforming the benchmark return of -0.9%. The negative performance was largely driven by an increase in Treasury rates over the year. The BIF portfolio is designed to passively replicate the return and risk profile of the Bloomberg U.S. Aggregate Bond Index.

EIF Portfolio Discussion

The EIF generated a total return of 16.8% for the fiscal year, outperforming the benchmark's 16.5% 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 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, 2023
(IN THOUSANDS)

	External Investment Pool	Bond Index Investment Pool	Equity Index Investment Account
Assets			
Cash and cash equivalents	$ 327,184	$ -	$ -
Securities lending collateral	1,805,409	-	-
Investments, at fair value	157,207,752	1,385,559	815,392
Receivables:			
Accrued interest and dividends	580,061	8,836	-
Investments sold, but not settled	9,918	32,908	-
Other receivables	25,152	-	-
Total receivables	615,131	41,744	-
Total assets	159,955,476	1,427,303	815,392
Liabilities			
Accounts payable and accrued liabilities	58,807	-	-
Investments purchased, but not settled	53,714	22,644	-
Obligations under securities lending	1,805,409	-	-
Total liabilities	1,917,930	22,644	-
Net Position			
Net position held in trust	$ 158,037,546	$ 1,404,659	$ 815,392

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, 2023
(IN THOUSANDS)

	External Investment Pool	Bond Index Investment Pool	Equity Index Investment Account
Additions			
Investment income:			
Interest and dividend income	$ 3,315,166	$ 43,299	$ 85
Net appreciation (depreciation) in fair value of investments	3,319,897	(60,347)	105,521
Other investment income	660,106	85	-
Less: Investment management expenses	(448,354)	(326)	(114)
Total net investment income (loss)	6,846,815	(17,289)	105,492
Securities lending activity			
Securities lending income	107,157	-	-
Less: Securities lending expenses	85,244	-	-
Net securities lending income	21,913	-	-
Reinvestment of distributions	6,787,686	(17,289)	105,492
Net share purchases (redemptions)	267,984	(27,979)	144,967
Net pool share transactions	7,055,670	(45,268)	250,459
Total additions	13,924,398	(62,557)	355,951
Deductions			
Distributions paid and payable	6,811,474	(17,289)	105,492
Administrative and other expenses	57,254	-	-
Total deductions	6,868,728	(17,289)	105,492
Change in net position	7,055,670	(45,268)	250,459
Net position held in trust:			
Beginning of year	150,981,876	1,449,927	564,933
Ending of year	$ 158,037,546	$ 1,404,659	$ 815,392

See accompanying Notes to Financial Statements.

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, Cash Pool portfolio, and the Fixed Income Investment portfolio. The Pool operates under General Statutes 147-69.1 to 147-69.3. The statutes address credit and other risks to which the Treasurer adheres in the management of the Pool. The deposits are commingled; therefore, the 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.

The BIF invests in high quality debt securities eligible under General Statutes 147-69.2 (b) (1)-(6). The BIF maintains a low-cost approach to investing in investment grade fixed income assets through a passive index strategy. See Note 7 for additional information.

The EIF invests primarily in U.S. and non-U.S. equity securities eligible under General Statute 147-69.2 (b) (8) with the objective of closely approximating the capitalization weighted total return of the markets for global publicly traded equity securities while maintaining a low cost approach. 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, 2023 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.

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, Fixed Income 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.

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.

Valuation of Investments and Derivative Instruments (Continued)

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. Total 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.

Accrued Interest and Dividends

Accrued interest and dividends include interest amounts earned on short-term and long-term investment securities not yet received and amounts for dividends on common and preferred equities that have been declared but not yet paid to the stockholder.

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.

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. Investment management fees and custodial fees are reported on the Statements of Changes in Fiduciary Net Position as a component of total net investment income. Investment management fees and custody fees are charged against the various portfolio's assets on a pro rata basis throughout the year and reflected in the net asset values of the portfolio's investments.

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 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, 2023, the balance of the Pool's deposits was $327.2 million. Also at June 30, 2023, the amount of restricted cash held by the Pool was $20.3 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.

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, 2023:

Statutory Asset Allocation *(in Thousands)*	
Short-Term Investment Fund	$ 51,189,491
Long-Term Investment Fund	27,509,684
Equity Investment	41,958,956
Real Estate Investment	8,667,799
Alternative Investment	8,580,996
Opportunistic Fixed Income Investment	7,110,207
Inflation Sensitive Investment	5,407,757
Cash Pool	6,441,181
Fixed Income Investment	2,147,090
Total investments and securities lending collateral	$ 159,013,161

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.

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.

Fixed Income Investment – This portfolio holds fixed income investments that generally have a short to intermediate term. The sole participants of the portfolio 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 0.7 years as of June 30, 2023. 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, 2023:

		Investment Maturities (in Years)			
STIF	**Carry Amount**	**Less Than 1**	**1 to 5**	**6 to 10**	**More Than 10**
			(In Thousands)		
As of June 30, 2023					
U.S. treasuries	$ 27,474,597	$ 25,061,989	$ 2,412,608	$ -	$ -
U.S. agencies	21,550,000	11,250,000	10,300,000	-	-
Securities purchased with cash collateral under securities lending program:					
Repurchase agreements	964,894	964,894	-	-	-
Repurchase agreements	1,200,000	1,200,000	-	-	-
Total short-term investment fund assets	$ 51,189,491	$ 38,476,883	$ 12,712,608	$ -	$ -

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 18.4 years as of June 30, 2023.

The LTIF holds investments in GNMA mortgage pass-throughs. 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 domestic 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 domestic corporate bonds with call options, there are domestic 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, 2023:

		Investment Maturities (in Years)			
LTIF	**Carry Amount**	**Less Than 1**	**1 to 5**	**6 to 10**	**More Than 10**
			(In Thousands)		
As of June 30, 2023					
U.S. treasuries	$ 6,881,344	$ -	$ 385,812	$ 2,293,163	$ 4,202,369
U.S. agencies	610,199	-	-	425,697	184,502
Mortgage pass-through	9,296,793	71	2,109	44,681	9,249,932
Domestic corporate bonds	8,553,159	9,028	985,397	3,259,535	4,299,199
Foreign corporate bonds	1,510,340	-	220,717	659,688	629,935
Foreign government bonds	6,330	-	2,801	3,529	-
Securities purchased with cash collateral under securities lending program:					
Repurchase agreements	651,519	651,519	-	-	-
Total long-term investment fund assets	$ 27,509,684	$ 660,618	$ 1,596,836	$ 6,686,293	$ 18,565,937

Interest Rate Risk (Continued)

The Other Investment Portfolios of the Pool (Equity, Real Estate, Alternative, Opportunistic Fixed Income, Inflation Sensitive, Cash Pool, and Fixed Income) 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, 2023:

		Investment Maturities (in Years)			
Other Investment Portfolios	**Carry Amount**	**Less Than 1**	**1 to 5**	**6 to 10**	**More Than 10**
		(In Thousands)			
As of June 30, 2023					
U.S. treasuries	$ 414,305	$ 302,166	$ 112,139	$ -	$ -
Asset-backed securities	31,139	29,397	-	-	1,742
Commercial mortgage-backed securities	24,144	-	1,154	-	22,990
Collateralized mortgage obligations	100,233	56,061	-	9,336	34,836
Collective investment funds	7,058,609	7,058,609	-	-	-
Domestic corporate bonds	1,753,512	199,629	1,419,256	51,022	83,605
Foreign corporate bonds	556,936	190,750	313,192	28,345	24,649
Foreign government bonds	12,572	-	968	1,732	9,872
Securities purchased with cash collateral under securities lending program:					
Asset-backed securities	17,356	17,356	-	-	-
Repurchase agreements	171,640	171,640	-	-	-
Total other investment portfolios assets	$ 10,140,446	$ 8,025,608	$ 1,846,709	$ 90,435	$ 177,694

The major investment classifications had the following attributes as of June 30, 2023:

Investment Classification	Principal Amount	Range of Interest Rates
	(In Thousands)	
STIF		
U.S. treasuries	$ 28,000,000	0.00%-2.50%
U.S. agencies	21,550,000	0.17%-5.70%
Securities purchased with cash collateral under securities lending program:		
Repurchase agreements	964,879	5.05%-5.12%
Repurchase agreements	1,200,000	5.12%-5.15%
LTIF		
U.S. treasuries	$ 7,643,452	0.75%-6.38%
U.S. agencies	530,786	4.65%-7.13%
Mortgage pass-throughs	10,283,976	2.00%-9.00%
Domestic corporate bonds	9,443,940	0.80%-9.25%
Foreign corporate bonds	1,635,853	1.38%-9.63%
Foreign government bonds	7,000	2.75%-3.25%
Securities purchased with cash collateral under securities lending program:		
Repurchase agreements	651,493	5.05%-5.12%

Interest Rate Risk (Continued)

Investment Classification (Continued)	Principal Amount	Range of Interest Rates
	(In Thousands)	
Other investment portfolios		
U.S. treasuries	427,955	0.00%-3.27%
Asset-backed securities	86,959	5.29%-6.32%
Commercial mortgage-backed securities	227,794	0.65%-5.09%
Collateralized mortgage obligations	440,056	0.00%-7.14%
Collective investment funds	7,058,609	0.00%-5.17%
Domestic corporate bonds	2,024,589	0.00%-12.75%
Foreign corporate bonds	595,525	0.00%-14.00%
Foreign government bonds	16,135	1.13%-8.63%
Securities purchased with cash collateral under securities lending program:		
Asset-backed securities	18,100	6.01%
Repurchase agreements	171,640	5.06%-5.12%

Credit Risk

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

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

Credit Risk (Continued)

The STIF had the following credit quality distribution for securities with credit exposure as of June 30, 2023:

STIF	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated	Exempt from credit quality [1]
			(In Thousands)				
As of June 30, 2023							
U.S. treasuries	$ -	$ -	$ -	$ -	$ -	$ -	$27,474,597
U.S. agencies	-	21,550,000	-	-	-	-	-
Securities purchased with cash collateral under securities lending program:							
Repurchase agreements	-	964,894	-	-	-	-	-
Repurchase agreements	-	1,200,000	-	-	-	-	-
Total short-term investment fund assets	$ -	$ 23,714,894	$ -	$ -	$ -	$ -	$ 27,474,597

[1] Obligations of the United States Government or obligations explicitly guaranteed by the United States Government are not considered to have credit risk and do not require disclosure of credit quality.

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, 2023:

LTIF	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Exempt from credit quality [1]
			(In Thousands)			
As of June 30, 2023						
U.S. treasuries	$ -	$ -	$ -	$ -	$ -	$ 6,881,344
U.S. agencies	-	610,199	-	-	-	-
Mortgage pass-throughs	-	-	-	-	-	9,296,793
Domestic corporate bonds	192,710	704,463	4,425,280	3,102,522	128,184	-
Foreign corporate bonds	-	53,970	850,497	596,759	9,114	-
Foreign government bonds	-	-	6,330	-	-	-
Securities purchased with cash collateral under securities lending program:						
Repurchase agreements	-	651,519	-	-	-	-
Total long-term investment fund assets	$ 192,710	$ 2,020,151	$5,282,107	$3,699,281	$ 137,298	$ 16,178,137

[1] Obligations of the United States Government or obligations explicitly guaranteed by the United States Government are not considered to have credit risk and do not require disclosure of credit quality.

Credit Risk (Continued)

The Other Investment Portfolios of the Pool had the following credit quality distribution for securities with credit exposure as of June 30, 2023:

Other Investment Portfolios	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated	Exempt from credit quality [1]
			(In Thousands)				
As of June 30, 2023							
U.S. treasuries	$ -	$ -	$ -	$ -	$ -	$ -	$ 414,305
Asset-backed securities	-	-	-	-	31,139	-	-
Commercial mortgage-backed securities	3,229	6,515	5,415	5,160	1,264	2,561	-
Collateralized mortgage obligations	1,224	63,228	-	-	16,648	19,133	-
Collective investment funds	-	-	-	-	-	7,058,609	-
Domestic corporate bonds	22,189	97,384	807,845	629,263	104,037	92,794	-
Foreign corporate bonds	12,429	67,453	226,260	179,601	63,987	7,206	-
Foreign government bonds	-	460	2,603	6,286	3,223	-	-
Securities purchased with cash collateral under securities lending program:							
Asset-backed securities	-	17,356	-	-	-	-	-
Repurchase agreements	-	171,640	-	-	-	-	-
Total other investment portfolios assets	$ 39,071	$ 424,036	$1,042,123	$ 820,310	$ 220,298	$ 7,180,303	$ 414,305

[1] Obligations of the United States Government or obligations explicitly guaranteed by the United States Government are not considered to have credit risk and do not require disclosure of credit quality.

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, 2023, 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, 2023, the investments purchased with cash collateral under the securities lending programs of $1.8 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 $12.3 billion and comprised 7.8% of the Pool's total investments. These investments are held primarily by the STIF and LTIF portfolios and are classified as U.S. Agencies. There is no formal policy regarding concentration of credit risk.

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, 2023:

	Carrying Value As of June 30, 2023				
	Investment Type				
Currency	Equity Based Trust - International	Alternative Investment - Private Equity Investment Partnerships	Real Estate Trust Funds	Opportunistic Fixed Income Investment Partnership	Total
		(In Thousands)			
Euro	$ 4,463,853	$ 199,516	$ 57,615	$ 32,012	$ 4,752,996
Japanese Yen	2,428,166	-	103,213	-	2,531,379
British Pound Sterling	1,653,591	30,021	220,692	-	1,904,304
Swiss Franc	905,046	-	11,706	-	916,752
Hong Kong Dollar	886,255	-	44,139	-	930,394
Australian Dollar	511,993	-	38,902	-	550,895
Danish Krone	471,806	-	-	-	471,806
Canadian Dollar	332,842	-	28,377	-	361,219
Swedish Krona	323,209	-	15,525	-	338,734
New Taiwan Dollar	314,363	-	-	-	314,363
South Korean Won	186,980	-	1,225	-	188,205
Singapore Dollar	137,323	-	37,335	-	174,658
Indian Rupee	173,544	-	-	-	173,544
Chinese Yuan Renminbi	124,714	-	-	-	124,714
Brazil Real	90,687	-	6	-	90,693
Norwegian Krone	67,931	-	328	-	68,259
New Zealand Dollar	30,693	-	3,048	-	33,741
Indonesian Rupiah	31,879	-	-	-	31,879
Saudi Arabia Riyal	31,150	-	-	-	31,150
Thai Baht	26,375	-	-	-	26,375
Israeli Shekel	23,129	-	1,881	-	25,010
Mexican Peso	16,251	-	-	-	16,251
South African Rand	15,421	-	6	-	15,427
Malaysian Ringgit	6,712	-	-	-	6,712
Philippines Peso	6,428	-	-	-	6,428
UAE Dirham	5,407	-	-	-	5,407
Other Currencies	11,600	-	-	-	11,600
Total investments subject to foreign currency risk	$ 13,277,348	$ 229,537	$ 563,998	$ 32,012	$14,102,895

Foreign Currency Risk (Continued)

The Pool recognized an aggregate foreign currency transaction loss of $206.3 million for the fiscal year ended June 30, 2023 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.

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.

4. External Investment Pool Fair Value Measurement (Continued)

The Pool had the following recurring fair value measurements as of June 30, 2023:

Investments and Derivative Instruments at Fair Value

		Fair Value Measurements Using		
	As of June 30, 2023	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Investments measured at fair value		(In Thousands)		
STIF				
U.S. treasuries	$ 27,474,597	$ -	$ 27,474,597	$ -
U.S. agencies	21,550,000	-	21,550,000	-
Subtotal	49,024,597	-	49,024,597	-
LTIF				
U.S. treasuries	6,881,344	-	6,881,344	-
U.S. agencies	610,199	-	610,199	-
Mortgage pass-through	9,296,793	-	9,296,793	-
Domestic corporate bonds	8,553,159	-	8,553,159	-
Foreign government bonds	6,330	-	6,330	-
Foreign corporate bonds	1,510,340	-	1,510,340	-
Subtotal	26,858,165	-	26,858,165	-
Other investment portfolios				
U.S. treasuries	414,305	-	414,305	-
Asset-backed securities	31,139	-	31,139	-
Collateralized mortgage obligations	100,233	-	100,233	-
Commercial mortgage-backed securities	24,144	-	24,144	-
Securities purchased with cash collateral under equity securities lending program:				
Asset-backed securities	17,356	-	17,356	-
Equity securities - domestic	22,298,263	22,298,263	-	-
Equity securities - foreign	15,013,200	15,013,200	-	-
Equity securities - preferred domestic	346	239	-	107
Equity securities - preferred foreign	111,593	111,593	-	-
Domestic corporate bonds	1,753,512	-	1,701,743	51,769
Foreign corporate bonds	556,936	-	550,596	6,340
Foreign government bonds	12,572	-	12,572	-
Subtotal	40,333,599	37,423,295	2,852,088	58,216
Investment derivative instruments				
Futures contracts	4,358	4,358	-	-
Futures contracts (liability)	(7,319)	(7,319)	-	-
Total investment derivative instruments	(2,961)	(2,961)	-	-
Total investments by fair value level	$ 116,213,400	$ 37,420,334	$ 78,734,850	$ 58,216

4. External Investment Pool Fair Value Measurement (Continued)

Investments measured at the Net Asset Value (NAV)

		Unfunded commitments	Redemption frequency (if currently eligible)	Redemption notice period (days)
Commingled international equity funds [1]	$ 3,623,565	$ -	Daily	2
Core real estate funds [2]	5,347,283	565,531	Quarterly, Illiquid	90-Illiquid
Equity rebalancing [3]	1,888,952	-	Daily	1 - 5
Hedge funds				
Global public equity - hedged [4]	2,195	-	Daily, Monthly, Quarterly, Illiquid	3 - 180
Multi-strategy funds [5]	139,794	-	Weekly, Quarterly, Illiquid	5 - Illiquid
Opportunistic fixed income - distressed credit [6]	149,322	-	Illiquid	Illiquid
Opportunistic fixed income - hedged fixed income [7]	2,822,621	-	Monthly, Quarterly, Annually	15 - 90
Inflation protected bonds [8]	462,136	-	Monthly	30
Long-only public equity [9]	1,506,997	-	Illiquid	Illiquid
Non-core real estate funds [10]	2,263,357	1,507,649	Illiquid	Illiquid
Private credit funds [11]	4,138,263	1,148,275	Daily, Annually, Illiquid	60 - Illiquid
Private equity funds [12]	6,226,392	1,851,959	Illiquid	Illiquid
Private infrastructure funds [13]	749,521	11,742	Illiquid	Illiquid
Private multi-strategy funds [14]	324,674	-	Illiquid	Illiquid
Private natural resources funds [15]	2,022,773	338,907	Illiquid	Illiquid
Private real asset funds [16]	1,085,254	1,452,788	Illiquid	Illiquid
Collective investment trusts [17]	7,058,609	-	Daily	--
Total investments at the NAV	39,811,708			
Subtotal	156,025,108			
Repurchase agreements	2,988,053			
Investments at amortized cost	2,988,053			
Total investments and securities lending collateral	$ 159,013,161			

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) *Core Real Estate Funds:* 17 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.

(3) *Equity Rebalancing:* 4 funds. Each are valued at NAV per share. These investments are options-based equity rebalancing programs used as a tool to maintain asset exposures within plan policy portfolio tolerances.

(4) *Hedge Funds - Global Public Equity – Hedged:* 1 fund. This investment is valued at NAV per share. These investments may include various equity-based hedge fund strategies.

(5) *Hedge Funds - Multi-Strategy:* 1 fund. This investment is 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.

(6) *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.

(7) *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.

(8) *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.

(9) *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 long lock up periods with limited options for redemptions and may result in a penalty for redemptions during the lock up periods.

(10) *Non-Core Real Estate Funds:* 63 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 35%), Opportunistic (with a target allocation of 65%) 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.

4. External Investment Pool Fair Value Measurement (Continued)

(11) *Private Credit Funds:* 29 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.

(12) *Private Equity Funds:* 96 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 25%), Buyout (with a target allocation of 45%) 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.

(13) *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.

(14) *Private Multi-Strategy Funds:* 1 fund. This investment is 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.

(15) *Private Natural Resources Funds:* 21 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.

(16) *Private Real Asset Funds:* 20 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.

(17) *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 and derivative instrument 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-throughs, 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-throughs 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 non-U.S./foreign government and corporate bonds that are classified as Level 2.

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

Level 2 collateralized mortgage obligations and commercial mortgage-backed securities are evaluated using predicted cash flows, adjusted by an applicable spread/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.

5. External Investment Pool Securities Lending (Continued)

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 may not match the weighted average maturities of the securities loans as current securities lending guidelines allow collateral to be invested with a maturity up to five business days and loan maturities are extended beyond overnight in an effort to stabilize loan balances. At June 30, 2023, the weighted average maturity of all securities loans was two days.

As of June 30, 2023, the Treasurer had no credit risk exposure to borrowers because the amounts the Treasurer owed the borrowers exceeded the amounts the borrowers owed the Treasurer. The lending provider is contractually obligated to indemnify the Treasurer for certain conditions, the most important is default on the part of the borrowers.

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

Under prior securities lending contractual guidelines, additional flexibility was given with regards to acceptable assets purchased with cash collateral. As of June 30, 2023, a total of $17.7 million remained in securities approved under prior guidelines, consisting of asset-backed securities. These securities will remain in the account until maturity or until sold. The weighted average maturity of investments, including the securities purchased under prior guidelines, was three days.

As of June 30, 2023, the fair value of loaned securities was $14 billion; the fair value of the associated collateral was $14.3 billion of which $1.8 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.

As of June 30, 2023, 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 fiscal year ending June 30, 2023:

	Increase (Decrease) in in Fair Value		Fair Value		
Investment Derivatives	**Classification**	**Amount (In U.S. $)**	**Classification**	**Amount (In U.S. $)**	**Notional (In U.S. $)**
		(In Thousands)			
Foreign equity futures a)	Investment Income	$ 208	Investment	$ 208	$ 16,392
Commodity futures b)	Investment Income	(3,169)	Investment	(3,169)	198,049
Forward currency contracts	Investment Income	(1,231)	Investment	(1,231)	226,270
Spot currency contracts	Investment Income	16	Investment	16	24,187

a) 2.9 million Australian Dollar; 5.9 million Euro; 617.8 million Japanese Yen; 2.9 million British Pound Sterling.

b) 379 thousand barrels of Brent crude oil; 4.44 million British thermal units natural gas; 2.26 million bushels of Corn; 320 thousand troy ounces of Silver; 12.7 thousand troy ounces of Gold; 1.18 million bushels of Soybean Oil; 26.32 million punds of Sugar.

6. External Investment Pool Derivative Instruments (Continued)

Schedule of all foreign derivative instruments outstanding at June 30, 2023 are presented below by currency:

Fair value of foreign currency contracts, Assets (Liabilities)

As of June 30, 2023

Currency (In Thousands)	Forward Currency Contracts	Spot Currency Contracts	Foreign Equity Futures	Total
Australian Dollar	$ 174	$ 1	$ 14	$ 189
British Pound Sterling	(109)	9	(22)	(122)
Canadian Dollar	160	4	-	164
Euro	47	11	108	166
Hong Kong Dollar	17	-	-	17
Israeli Shekel	(38)	-	-	(38)
Japanese Yen	(442)	1	107	(334)
New Zealand Dollar	(81)	-	-	(81)
Norwegian Krone	(12)	-	-	(12)
Singapore Dollar	(775)	-	-	(775)
South Korean Won	(8)	-	-	(8)
Swedish Krona	(118)	(1)	-	(119)
Swiss Franc	(46)	-	-	(46)
Thai Baht	-	(9)	-	(9)
Total	$ (1,231)	$ 16	$ 207	$ (1,008)

7. Bond Index Investment Pool

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

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

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 Plan of N.C.), the Disability Income Plan of N.C., the Register of Deeds' Supplemental Pension Fund, and other funds and component units of the state of North Carolina with investment authority under General Statue 147-69.2.

7. Bond Index Investment Pool (Continued)

At June 30, 2023, there were twenty-six OPEBs, four LEOSSAs, and two public hospitals 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 8.70 years as of June 30, 2023.

The BIF maintained by the Treasurer had the following investments and maturities as of June 30, 2023:

		Investment Maturities (in Years)			
Bond Index	**Carry Amount**	**Less Than 1**	**1 to 5**	**6 to 10**	**More Than 10**
			(In Thousands)		
As of June 30, 2023					
U.S. treasuries	$ 566,112	$ -	$ 317,832	$ 133,944	$ 114,336
U.S. agencies	21,953	1,208	13,590	7,155	-
Commercial mortgage-backed securities	16,459	-	754	-	15,705
Asset-backed securities	507	-	240	60	207
Mortgage pass-throughs	375,868	-	1,689	11,617	362,562
Collective investment funds	9,591	9,591	-	-	-
Municipal bonds	9,173	-	119	1,984	7,070
Domestic corporate bonds	297,028	-	99,644	82,636	114,748
Foreign corporate bonds	50,948	-	22,770	14,591	13,587
Foreign government bonds	37,920	-	22,721	8,306	6,893
Total investment fund assets	$ 1,385,559	$ 10,799	$ 479,359	$ 260,293	$ 635,108

The major investment classifications had the following attributes as of June 30, 2023:

Investment Classification	**Principal Amount**	**Range of Interest Rates**
	(In Thousands)	
Bond Index		
U.S. treasuries	$ 627,404	0.25%-6.88%
U.S agencies	22,810	0.25%-7.25%
Commercial mortgage-backed securities	18,479	2.57%-4.12%
Asset-backed securities	523	0.44%-5.20%
Mortgage pass-throughs	425,076	1.50%-5.50%
Collective investment funds	9,591	0.94%
Municipal bonds	8,660	2.15%-7.55%
Domestic corporate bonds	330,018	0.45%-9.25%
Foreign corporate bonds	55,204	0.40%-9.25%
Foreign government bonds	41,700	0.38%-6.35%

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.

The BIF had the following credit quality distribution for securities with credit exposure as of June 30, 2023:

Bond Index	Aaa/AAA	Aa/AA	A	Baa/BBB	Less than Investment Grade	Unrated	Exempt from credit quality (1)
			(In Thousands)				
As of June 30, 2023							
U.S. treasuries	$ -	$ -	$ -	$ -	$ -	$ -	$ 566,112
U.S. agencies	235	21,718	-	-	-	-	-
Commercial mortgage-backed securities	15,705	754	-	-	-	-	-
Asset-backed securities	507	-	-	-	-	-	-
Mortgage pass-throughs	-	288,558	-	-	-	-	87,310
Collective investment funds	9,591	-	-	-	-	-	-
Municipal bonds	796	5,561	1,702	1,114	-	-	-
Domestic corporate bonds	3,920	12,409	113,058	160,977	6,664	-	-
Foreign corporate bonds	2,809	1,563	22,537	23,854	185	-	-
Foreign government bonds	16,147	3,263	5,913	12,597	-	-	-
Total investment fund assets	$ 49,710	$ 333,826	$ 143,210	$ 198,542	$ 6,849	$ -	$ 653,422

(1) Obligations of the United States Government or obligations explicitly guaranteed by the United States Government are not considered to have credit risk and do not require disclosure of credit quality.

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, 2023, 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 $122 million and comprised 8.8% of BIF's total investments; FNMA investments totaled $190 million and comprised 13.7% 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, 2023, there is no formal policy regarding concentration of credit risk.

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, 2023:

Investments and Derivative Instruments at Fair Value

		Fair Value Measurements Using		
	As of June 30, 2023	Quoted prices in active markets for identical assets (Level 1)	Significant other observable inputs (Level 2)	Significant unobservable inputs (Level 3)
Investments measured at fair value		*(In Thousands)*		
Bond Index Fund				
U.S. treasuries	$ 566,112	$ -	$ 566,112	$ -
U.S. agencies	21,953	-	21,953	-
Asset-backed securities	507	-	507	-
Commercial mortgage-backed securities	16,459	-	16,459	-
Mortgage pass-throughs	375,868	-	375,868	-
Municipal bonds	9,173	-	9,173	-
Domestic corporate bonds	297,028	-	297,028	-
Foreign corporate bonds	50,948	-	50,948	-
Foreign government bonds	37,920	-	37,920	-
Total investments by fair value level	$1,375,968	$ -	$ 1,375,968	$ -

Investments measured at the Net Asset Value (NAV)		Unfunded commitments	Redemption frequency	Redemption notice (days)
Collective investment fund [1]	9,591	-	Daily	1
Total investments	$1,385,559			

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

Valuation Methodologies and Inputs

Level 2 U.S. Treasuries and U.S. Agencies 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 Foreign corporate bonds are priced using available direct market color (trades, covers, bids, offers and price talk). Market data is enriched to derive spread, yield and/or price data. Enriched data is tested against current evaluations and tolerances and parameters. System parameters are regularly adjusted to reflect prevailing market conditions.

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 non-U.S./foreign government bonds. For non-U.S./foreign government and corporate 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, LEOSSAs, 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, 2023, there were 35 participants of which 27 participate in the EIF. Each participant is responsible for making its own investment decision with respect to the allocation of assets between investment options.

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, 2023, 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. The Fund invests in U.S. and Non-U.S. equity securities with a goal of replicating the return of a market capitalization weighted global equity index. As of June 30, 2023, the EIF had a recurring fair value measurement of $815 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 agreed 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.

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 73% 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, and was last updated July 1, 2022. 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, 2023. 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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NCRS – NORTH CAROLINA RETIREMENT SYSTEM
SUPPLEMENTARY INFORMATION
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	Statutory Classification (NCRS assets only)									
IPS Classification	Public Equity [1]	Long Term [2]	Pension Cash [2]	Fixed Income [2,8]	Alternatives [3]	Real Estate [4]	Inflation Sensitive [5]	Opportunistic Fixed Income [6]	Public Equity Limited Liability [7]	Total NCRS assets
					(In Thousands)					
Public Equity	$ 40,391,952	$ -	$ -	$ -	$ -	$ -	$ -	$ -	$ 1,509,192	41,901,144
Private Equity	-	-	-	-	6,227,382	-	-	-	-	6,227,382
Non-Core Real Estate	-	-	-	-	-	2,263,357	-	-	-	2,263,357
Opportunistic Fixed Income	-	-	-	-	-	-	-	7,110,207	-	7,110,207
Investment Grade Fixed Income and Cash	-	27,121,191	-	3,870,470	-	-	-	-	-	30,991,661
Pension Cash	-	-	12,413,574	-	-	-	-	-	-	12,413,574
Inflation Sensitive	-	-	-	-	-	-	5,424,146	-	-	5,424,146
Core Real Estate	-	-	-	-	-	6,404,367	-	-	-	6,404,367
Multi-Strategy	-	-	-	-	2,353,420	-	-	-	-	2,353,420
Total NCRS assets	$ 40,391,952	$ 27,121,191	$ 12,413,574	$ 3,870,470	$ 8,580,802	$ 8,667,724	$ 5,424,146	$ 7,110,207	$ 1,509,192	$ 115,089,258

[1] NCGS 147-69.2(b)(8)(a),(c)
[2] NCGS 147-69.1(c) and NCGS $ 147-69.2(b)(1)-(6b)
[3] NCGS 147-69.2(b)(9)
[4] NCGS 147-69.2(b)(7)
[5] NCGS 147-69.2(b)(9a)
[6] NCGS 147-69.2(b)(6c)
[7] NCGS 147-69.2(b)(8)(b)
[8] Consists solely of investments in STIF

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 fiscal year ended June 30, 2023.

Total Investment Management Fees Incurred as of June 30, 2023

Asset Classification	Management Fees	Incentive Fees	Total Fees	NCRS Portfolio Market Value (1)	Ratio of Fees to Market Value
		(In Thousands)			
Public Equity	$ 52,054	$ -	$ 52,054	$ 41,901,144	0.12%
Private Equity	46,349	49,275	95,624	6,227,382	1.54%
Non-Core Real Estate	28,854	54,718	83,572	2,263,357	3.69%
Opportunistic Fixed Income	53,959	31,519	85,478	7,110,207	1.20%
Investment Grade Fixed Income and Cash	-	-	-	30,991,661	0.00%
Pension Cash	-	-	-	12,413,574	0.00%
Inflation Sensitive	32,156	47,826	79,982	5,424,146	1.47%
Core Real Estate	35,241	9,846	45,087	6,404,367	0.70%
Multi-Strategy	5,008	-	5,008	2,353,420	0.21%
Total	$253,621	$193,184	$446,805	$115,089,258	

(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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Expenses Paid: Management and Incentive Fee (Asset Class Average Market Value)							
	0 bps	0 - 25bps	25 - 50bps	50 - 100bps	100 - 150bps	150+bps	Total
				(In Thousands)			
Public Equity	16,727,253	8,016,186	12,772,383	638,574	-	-	$38,154,396
Private Equity	1,440,550	586,298	247,750	1,784,782	628,970	1,638,648	6,326,998
Non-Core Real Estate	79,360	-	128,972	943,070	213,254	1,047,462	2,412,118
Opportunistic Fixed Income	12,916	281,389	1,332,822	3,139,464	1,435,689	765,181	6,967,461
Investment Grade Fixed Income & Cash	29,773,497	-	-	-	-	-	29,773,497
Pension Cash	13,686,270	-	-	-	-	-	13,686,270
Inflation Sensitive	383,492	63,509	2,131,697	1,296,941	552,692	917,210	5,345,541
Core Real Estate	225,212	-	3,777,744	1,712,815	199,993	608,528	6,524,292
Multi-Strategy	-	1,793,947	316,704	-	138,995	-	2,249,646
Total Fund	$ 62,328,550	$ 10,741,329	$ 20,708,072	$ 9,515,646	$ 3,169,593	$ 4,977,029	$111,440,219

Expenses Paid: Management and Incentive Fee (% of Asset Class Average Market Value)							
	0 bps	0 - 25bps	25 - 50bps	50 - 100bps	100 - 150bps	150+bps	Total
Public Equity	43.84%	21.01%	33.48%	1.67%	0.00%	0.00%	100.00%
Private Equity	22.76%	9.27%	3.92%	28.21%	9.94%	25.90%	100.00%
Non-Core Real Estate	3.29%	0.00%	5.35%	39.10%	8.84%	43.42%	100.00%
Opportunistic Fixed Income	0.19%	4.04%	19.13%	45.05%	20.61%	10.98%	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	7.17%	1.19%	39.88%	24.26%	10.34%	17.16%	100.00%
Core Real Estate	3.45%	0.00%	57.90%	26.25%	3.07%	9.33%	100.00%
Multi-Strategy	0.00%	79.74%	14.08%	0.00%	6.18%	0.00%	100.00%
Total Fund	55.93%	9.64%	18.58%	8.54%	2.84%	4.47%	100.00%

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Fee Type by Contract (Asset Class Average Market Value)

	No Fees	Management Only	Incentive Only	Management & Incentive	Total
			(In Thousands)		
Public Equity	$ 16,718,814	$ 20,088,638	$ -	$ 1,346,944	$ 38,154,396
Private Equity	822,171	9,399	-	5,495,428	6,326,998
Non-Core Real Estate	-	-	-	2,412,118	2,412,118
Opportunistic Fixed Income	-	685,789	8,747	6,272,926	6,967,462
Investment Grade Fixed Income & Cash	29,773,497	-	-	-	29,773,497
Pension Cash	13,686,270	-	-	-	13,686,270
Inflation Sensitive	108,918	1,352,512	2,320	3,881,790	5,345,540
Core Real Estate	-	942,965	-	5,581,327	6,524,292
Multi-Strategy	-	1,793,947	-	455,699	2,249,646
Total Fund	$ 61,109,670	$ 24,873,250	$ 11,067	$ 25,446,232	$ 111,440,219

Fee Type by Contract (% of Asset Class Average Market Value)

	No Fees	Management Only	Incentive Only	Management & Incentive	Total
Public Equity	43.82%	52.65%	0.00%	3.53%	100.00%
Private Equity	12.99%	0.15%	0.00%	86.86%	100.00%
Non-Core Real Estate	0.00%	0.00%	0.00%	100.00%	100.00%
Opportunistic Fixed Income	0.00%	9.84%	0.13%	90.03%	100.00%
Investment Grade Fixed Income & Cash	100.00%	0.00%	0.00%	0.00%	100.00%
Pension Cash	100.00%	0.00%	0.00%	0.00%	100.00%
Inflation Sensitive	2.04%	25.30%	0.04%	72.62%	100.00%
Core Real Estate	0.00%	14.45%	0.00%	85.55%	100.00%
Multi-Strategy	0.00%	79.74%	0.00%	20.26%	100.00%
Total Fund	54.84%	22.32%	0.01%	22.83%	100.00%

Average Market Value

The market value of investments held by investment managers are averaged monthly from July 1, 2022 to June 30, 2023. 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, 2023. 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.

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, 2023, the NCRS had the following investment returns over applicable one, three, five and ten-year periods:

Investment Returns as of June 30, 2023 (%, Net of Fees)

Asset Classification	1 Year	3 Year	5 Year	10 Year
Growth	10.31	10.77	8.17	9.14
Benchmark	12.43	11.27	7.91	8.29
Public Equity	16.77	9.75	7.84	9.00
Benchmark	16.14	10.89	7.58	8.44
Private Equity	(6.72)	19.42	14.34	12.92
Benchmark	(2.57)	18.21	12.25	11.31
Non-Core Real Estate	(11.43)	5.71	5.42	10.02
Benchmark	(2.37)	8.61	6.22	7.62
Opportunistic Fixed Income	1.86	10.02	5.23	5.13
Benchmark	12.57	7.98	5.08	3.62
Rates & Liquidity	0.52	(2.24)	1.87	2.35
Benchmark	(0.33)	(4.49)	0.92	1.96
Investment Grade Fixed Income and Cash	(0.63)	(3.79)	1.43	2.16
Benchmark	(1.13)	(4.90)	0.76	1.90
Pension Cash	3.01	1.19	1.54	1.18
Benchmark	3.77	1.30	1.50	0.95
Inflation Sensitive & Diversifiers	0.08	8.27	5.32	4.98
Benchmark	(1.88)	7.07	4.42	4.47
Inflation Sensitive	6.86	10.96	5.62	3.74
Benchmark	2.47	6.76	3.82	2.01
Core Real Estate	(5.14)	6.11	5.38	6.94
Benchmark	(6.94)	7.35	5.05	7.43

Investment Returns as of June 30, 2023 (%, Net of Fees) (Continued)

Asset Classification (Continued)	1 Year	3 Year	5 Year	10 Year
Multi-Strategy	7.90	5.71	2.61	4.98
Benchmark	4.28	2.80	1.62	3.99
Total Pension Plan	5.28	5.17	5.29	6.27
Implementation Benchmark	6.49	5.85	5.45	5.95
Long-Term Policy Benchmark	7.08	4.67	5.27	5.71

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: 45% Buyout, 25% 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: 55% Growth, 33% Rates and Liquidity, 11% Inflation Sensitive & Diversifiers, and 1% Multi-Strategy. Lastly, the Long-Term Policy Benchmark is comprised of 56% MSCI ACWI IMI Net, 28% BOAML 5+ Years U.S. Treasury Index, 6.5% Bloomberg Commodity Index, and 4.5% BOAML 1-3 Years U.S. Inflation-Linked Treasury Index.

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, 2023 (%)

	1 Year	3 Year	5 Year	10 Year
Returns				
25th Percentile	7.64	10.56	8.05	8.44
Median	6.87	9.67	7.70	8.13
75th Percentile	5.51	7.83	6.46	7.39
NC Pension Fund	5.58	5.49	5.64	6.75
Risk*				
25th Percentile	12.03	10.22	10.22	8.16
Median	10.14	8.76	8.87	7.21
75th Percentile	8.51	7.62	7.99	6.77
NC Pension Fund	8.85	7.74	7.42	6.19

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, 2022 and 2021, the Treasurer's cost of investment can be compared to the median peer amount utilizing the following table.

Cost of Investment Compared to Peers as of December 31

Total (bps)

	2022	2021
Median Peer	54.8	53.0
North Carolina Retirement Systems	26.4	28.3
Percentile	0%	0%

Source: CEM [Cost Effectiveness Measurement]. Note that 2022 data is based upon preliminary CEM data as of September 20, 2023. 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 2022 and 2021, the peer group consisted of 14 U.S. public pension funds managing $61.6 billion to $294.4 billion, and 14 U.S. public pension funds managing $71 billion to $336 billion, respectively. For the calendar year ended December 31, 2022, the median peer managed $111.9 billion versus North Carolina's $113.9 billion. For the calendar year ended December 31, 2021, the median peer managed $119 billion versus North Carolina's $120 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."