NOTE 7: DERIVATIVE INSTRUMENTS

A. Summary Information

Component Unit – University of North Carolina System

The following table summarizes the University of North Carolina (UNC) System's significant derivative instruments. It includes the fair value balances and notional amounts of derivative instruments outstanding at June 30, 2024, classified by type, and the changes in fair value of such derivative instruments for the fiscal year then ended (dollars in thousands).

Type	(a) Changes in Fair Value	(b) Fair Value at June 30, 2024	Fair Value Measurements Using: Quoted Prices in Active Markets for Identical Assets (Level 1)	Fair Value Measurements Using: Significant Other Observable Inputs (Level 2)	Notional
UNC at Chapel Hill:					
Cash flow hedges:					
Pay-fixed interest rate swaps	$ 11,525	$ (39,748)	$ -	$ (39,748)	$ 250,000
Investment derivatives:					
Pay-fixed interest rate swaps	$ 90	$ (71)	$ -	$ (71)	$ 4,075
U.S. dollar equity futures	107,191	8,032	8,032	-	747,335
Foreign currency forwards	3,892	3,388	-	3,388	100,000
Total	$ 111,173	$ 11,349	$ 8,032	$ 3,317	

(a) For the fiscal year ended June 30, 2024, the changes in fair value of cash flow hedges are classified as both *deferred outflows of resources* and *deferred inflows of resources*, and the changes in fair value of investment derivatives are classified as *operating grants and contributions*.

(b) At June 30, 2024, the fair value balances of cash flow hedges outstanding are classified as *hedging derivative asset and hedging derivative liability*. The fair value balances of investment derivatives outstanding are classified as *investments*, except that investment derivatives with a negative fair value are classified as *accounts payable and accrued liabilities*.

For the UNC System, the total fair value of cash flow hedges that are classified as both hedging derivative asset and hedging derivative liability at June 30, 2024, was negative $39.49 million.

The fair value measurements are categorized within the fair value hierarchy established by generally accepted accounting principles. The U.S. dollar futures classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. The pay-fixed interest rate swaps (cash flow hedges and investment derivatives) classified in Level 2 of the fair value hierarchy are valued using discounted cash flow techniques. The foreign currency forwards classified in Level 2 of the fair value hierarchy are transacted over-the-counter and valued directly from underlying exchange listed exchange rates.

B. Hedging Derivative Instruments

Component Unit – University of North Carolina System

The following table displays the objectives and terms of the UNC System's significant hedging derivative instruments outstanding at June 30, 2024 (dollars in thousands):

Type	Objective	Notional Amount	Effective Date	Maturity Date	Terms
UNC at Chapel Hill:					
Pay-fixed interest rate swap	Hedge changes in cash flows on variable rate debt	$ 100,000	12/1/07	12/1/36	Pay 3.314%; receive 67% of SOFR + 7.4 basis point
Pay-fixed interest rate swap	Hedge changes in cash flows on variable rate debt	$ 150,000	12/1/11	12/1/41	Pay 4.375%; receive 67% of SOFR + 7.4 basis point

The UNC System's significant hedging derivative instruments are exposed to the following risks that could give rise to financial loss:

UNC at Chapel Hill

Interest rate risk. UNC at Chapel Hill (University) is exposed to interest rate risk on its interest rate swaps which is largely offset (or expected to be offset) by rates paid on variable-rate debt. In addition, the fair values of these instruments are highly sensitive to changes in interest rates. Because rates have declined significantly since the effective dates of the swaps, the swaps have a negative fair value as of June 30, 2024. The fair values are calculated as of June 30, 2024, and based on the implied forward rate for 67% of SOFR plus 7.4 basis points, which trended up during fiscal year 2024. As a result, the fair values have increased on a year over year basis, which decreases the liability.

Basis risk. The University is exposed to basis risk on the swaps to the extent there is a mismatch between variable bond rates paid and swap index rates received.

Termination risk. The swap agreements use the International Swaps and Derivatives Association (ISDA) Master Agreement, which includes standard termination events, such as failure to pay and bankruptcy. Termination could result in the University being required to make an unanticipated termination payment. The swaps may mandatorily terminate if the University fails to perform under terms of the contract.

Information on debt service requirements on long-term debt of the primary government and component units and net cash flows on associated hedging derivative instruments is presented in Note 8E.

C. Investment Derivative Instruments

Primary Government

The North Carolina Department of State Treasurer External Investment Pool (External Investment Pool) has investments in equity and commodity futures, foreign currency forward and spot currency contracts. More detailed information about the External Investment Pool is available in a separate report (see Note 3A).

Component Unit – University of North Carolina System

The University of North Carolina System's investment derivative instruments are exposed to the following risks that could give rise to financial loss:

UNC at Chapel Hill

Interest rate risk. The University is exposed to interest rate risk on its interest rate swap. The fair value of this instrument is highly sensitive to interest rate changes. Because rates have changed since the effective date of the swap, the swap has a negative fair value as of June 30, 2024. The negative fair value may be countered by a reduction in total interest paid under the variable-rate bonds, creating lower synthetic interest rates. As forward rates rise, the fair value of the swap will increase and as rates fall, the fair value of the swap decreases. The University pays 5.24% and receives the Securities Industry and Financial Markets Association (SIFMA) Swaps Index rate. On June 30, 2024, SIFMA was 3.88%. The interest rate swap has a notional amount of $4.08 million and matures November 1, 2025.

Foreign Currency Risk: Foreign currency forward contracts are utilized from time to time to minimize the risk and exposure to fluctuations in the exchange rates of foreign currencies. Forward contracts based in foreign currency obligate the buyer to purchase an asset (or seller to sell an asset), such as a physical commodity or a financial instrument, at a predetermined future date and price. The University's foreign currency investment derivatives are presented in U.S. dollars.

Credit Risk: The University does not have a formal policy that requires collateral or other security to support investment derivative instruments subject to credit risk, or a formal policy regarding entering into master netting arrangements. The University uses a third-party consulting firm to execute on derivative positions. The team evaluates the available counter parties to the trade, including their creditworthiness, and enter into contracts with highly stable and investment-quality credit ratings financial institutions. In the fiscal year 2024, the University entered into $100 thousand of Japanese Yen short forward contract with no collateral required.

D. Synthetic Guaranteed Investment Contracts

Primary Government

In the Supplemental Retirement Income Plan of North Carolina, NC 401(k) Plan, there are synthetic guaranteed investment contracts (SGICs) within the North Carolina Stable Value Fund. SGICs are unallocated insurance contracts. There is one SGIC with The Prudential Insurance Company of America (Prudential), one SGIC with Nationwide Life Insurance Company (Nationwide Life), one SGIC with American General Life Insurance Company (American General), one SGIC with Transamerica Life Insurance Company (Transamerica Life), and one SGIC with Metropolitan Tower Life Insurance Company (Met Tower) which are all fully benefit responsive. The SGICs provided an average credit rating yield of 2.97%, 2.67%, 2.78%, 2.82%, and 2.79%, respectively. The fair value of the securities covered by the contracts as of December 31, 2023, is $1.91 billion and the contract value is $2.01 billion. The contracts are unrated and have a maturity of less than one year.

In the North Carolina Public Employee Deferred Compensation Plan, NC 457 Plan, there are SGICs within the North Carolina Stable Value Fund. SGICs are unallocated insurance contracts. There is one SGIC with Prudential, one SGIC with Nationwide Life, one SGIC with American General, one SGIC with Transamerica Life, and one SGIC with Met Tower which are all fully benefit responsive. The SGICs provided an average credit rating yield of 2.97%, 2.67%, 2.78%, 2.82%, and 2.79%, respectively. The fair value of the securities covered by the contracts as of December 31, 2023, is $344.83 million and the contract value is $363.56 million. The contracts are unrated and have a maturity of less than one year.

Both the Supplemental Retirement Income Plan of North Carolina and the North Carolina Public Employee Deferred Compensation Plan have wrap contracts with Prudential, Nationwide Life, American General, Transamerica Life, and Met Tower to assure that the crediting rate on participant investments will not be less than zero. The wrap contracts with Prudential, Nationwide Life, American General, Transamerica Life, and Met Tower were determined to have no value.