NOTE 7: DERIVATIVE INSTRUMENTS

A. Summary Information

A summary of derivative instrument activity during the fiscal year and balances at year-end, classified by type, are as follows (dollars in thousands):

	Changes in Fair Value		Fair Value at June 30, 2015		
Type	Classification	Increase (Decrease)	Classification	Debit (Credit)	Notional
Primary Government					
Fiduciary Funds					
Investment derivatives:					
U.S. dollar equity futures	Investment earnings	$ (16,254)	State Treasurer Investment Pool	$ (16,254)	$1,263,527
Foreign equity futures	Investment earnings	(14,567)	State Treasurer Investment Pool	(14,567)	(a)
Total		$ (30,821)		$ (30,821)	
Component Units					
University of North Carolina System					
Cash flow hedges:					
Pay-fixed interest rate swaps:					
UNC at Chapel Hill	Deferred outflow of resources	$ (13,616)	Hedging derivatives liability	$ (96,806)	$ 250,000
N.C. State University	Deferred outflow of resources	164	Hedging derivatives liability	(11,808)	$ 74,655
UNC at Pembroke	Deferred outflow of resources	(215)	Hedging derivatives liability	(1,887)	$ 9,190
Fayetteville State University	Deferred outflow of resources	(135)	Hedging derivatives liability	(2,084)	$ 10,890
N.C. Central University	Deferred outflow of resources	10	Hedging derivatives liability	(1,063)	$ 7,114
UNC Hospitals	Deferred outflow of resources	843	Hedging derivatives liability	(16,730)	$ 121,170
Total		$ (12,949)		$(130,378)	
Investment derivatives:					
UNC at Chapel Hill:					
Pay-fixed interest rate swap	Operating grants and contributions	$ 209	Accounts payable	$ (3,620)	$ 16,895
U.S. dollar equity futures	Operating grants and contributions	8,340	Investments	49,157	$ 48,073
Foreign equity futures	Operating grants and contributions	3,445	Investments	11,019	(b)
Foreign exchange futures	Operating grants and contributions	(760)	Investments	19,240	(c)
Foreign currency futures	Operating grants and contributions	16,500	Investments	21,875	$ (157,718)
Total		$ 27,734		$ 97,671	

(a) 94 million australian dollars; 60 million canadian dollars; 331 million euro; 126 million hong kong dollars; 28 billion yen; and 130 million british pounds.
(b) 1 billion yen.
(c) 17 million euro.

For component units, the fair values of interest rate swaps were measured using market prices except as follows:

The fair values of interest rate swaps at University of North Carolina (UNC) at Chapel Hill, UNC at Pembroke, and Fayetteville State University were estimated using the zero coupon method. This method calculated the future net settlement payments required by the swap, assuming that the current forward rates implied by the yield curve correctly anticipate future spot interest rates. These payments were then discounted using the spot rates implied by the current yield curve for hypothetical zero-coupon bonds due on the date of each future net settlement on the swap.

The fair value of the interest rate swap at N.C. Central University was determined by the counterparty using mathematical approximations of market values based on a function of long-term swap rates. The swap was discounted due to the expectation for lower London Interbank Offered Rate (LIBOR) rates in the future.

B. Hedging Derivative Instruments

Component Units

University of North Carolina System

The following table displays the objectives and terms of the University of North Carolina System's hedging derivative instruments outstanding at June 30, 2015 (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 General Revenue 2001B&C and 2012A&B Series bonds	$100,000	12/1/07	12/1/36	Pay 3.314%; receive 67% of one-month LIBOR
Pay-fixed interest rate swap	Hedge changes in cash flows on General Revenue 2001B&C and 2012A&B Series bonds	$150,000	12/1/11	12/1/41	Pay 4.375%; receive 67% of one-month LIBOR
N.C. State University					
Pay-fixed interest rate swap	Hedge changes in cash flows on General Revenue 2003B Series bonds	$ 24,655	6/20/03	10/1/27	Pay 3.54%; receive 75% of one-month LIBOR
Pay-fixed interest rate swap	Hedge changes in cash flows on General Revenue 2008A Series bonds	$ 50,000	9/1/08	10/1/26	Pay 3.862%; receive SIFMA Swap index
UNC at Pembroke					
Pay-fixed interest rate swap	Hedge changes in cash flows on Student Housing Revenue 2001A Series bonds	$ 9,190	11/1/01	7/1/31	Pay 3.955%; receive 67% of one-month LIBOR
Fayetteville State University					
Pay-fixed interest rate swap	Hedge changes in cash flows on Housing Facilities Revenue 2001 Series bonds	$ 10,890	10/1/01	11/1/33	Pay 3.45%; receive 67% of one-month LIBOR
N.C. Central University					
Pay-fixed interest rate swap	Hedge changes in cash flows on Housing Facilities Revenue 2003A Series bonds	$ 7,114	4/1/04	10/1/24	Pay 3.515%; receive 70% of one-month LIBOR
UNC Hospitals					
Pay-fixed interest rate swap	Hedge changes in cash flows on Revenue 2003A&B Series bonds	$ 91,665	2/13/03	2/1/29	Pay 3.48%; receive 67% of one-month LIBOR
Pay-fixed interest rate swap	Hedge changes in cash flows on Revenue 2009A Series bonds	$ 29,505	2/12/09	2/1/24	Pay 3.606%; receive 67% of one-month LIBOR

The University of North Carolina System's 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, both of the swaps have a negative fair value as of June 30, 2015. The fair values are calculated as of June 30, 2015. As rates rise, the value of the swaps will increase, and as rates fall the fair value of the swaps will decrease.

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.

N.C. State University

Interest rate risk. N.C. State University (University) is exposed to interest rate risk on its interest rate swaps. The fair values of these instruments are highly sensitive to interest rate changes. Because rates have changed since the effective dates of the swaps, both of the swaps have a negative fair value as of June 30, 2015. The negative fair value may be countered by a reduction in total interest payments required under the variable-rate bonds, creating lower synthetic interest rates. Because the coupons on the University's variable-rate bonds adjust to changing interest rates, the bonds do not have corresponding fair value increases. The fair values are the market values as of June 30, 2015. Both of the swaps outstanding have termination dates greater than 11 years. As the yield curve rises, the value of the swaps will increase and as rates fall, the value of the swaps will decrease.

Basis risk. The University is exposed to basis risk on the swaps when the variable payment received is based on an index other than the Securities Industry and Financial Markets Association Swap Index (SIFMA). Should the relationship between LIBOR and SIFMA move to convergence, the expected cost savings may not be realized. The current outstanding swaps and the related bonds reset rates weekly and pay monthly. As of June 30, 2015, the SIFMA rate was 0.07%, whereas 75% of LIBOR was 0.14%.

Termination risk. The University or the counterparty may terminate any of the swaps if the other party fails to perform under the terms of the contract. If any of the swaps are terminated, the associated variable-rate bonds would no longer carry synthetic interest rates. Also, if at the time of termination the swap has a negative fair value, the University would be liable to the counterparty for that amount.

Rollover risk. By definition, the University is exposed to rollover risk because the swap related to the 2008A bonds terminates October 1, 2026, two years before the related bonds mature on October 1, 2028. It is not the intent of the University at this time to re-hedge the bonds.

Future swaps. The University has also entered into a future dated interest rate swap agreement for $22.38 million to be effective March 1, 2017, on the General Revenue Series 2008A bonds.

UNC at Pembroke

Interest rate risk. UNC at Pembroke (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. As LIBOR increases, the University's net payment on the swap increases.

Basis risk. The University is exposed to basis risk on the swap because the variable-rate payments received is based on a different rate than the University pays on its 2001A Series variable rate debt. As of June 30, 2015, the interest rate on the University's swap is benchmarked to 67% of one-month LIBOR, which is 0.13%. The variable-interest rate paid is not benchmarked to a reference rate but is reset weekly by the Remarketing Agent based upon market conditions and the University's credit rating. At June 30, 2015, the interest rate upon the demand bond was 0.08%.

Termination risk. The University or its counterparty may terminate the swap if the other party fails to perform under the terms of the contract.

Fayetteville State University

Interest rate risk. Fayetteville State University (University) is exposed to interest rate risk on the interest rate swap. The fair value of this instrument is highly sensitive to interest rate changes. As LIBOR increases, the University's net payment on the swap decreases.

Basis risk. The University is exposed to basis risk on the pay fixed interest rate swap because the variable-rate payments received is based on a different rate than the University pays on its 2001 Series variable rate debt. As of June 30, 2015, the interest rate on the University's pay-fixed interest rate swap is benchmarked to 67% of one-month LIBOR, which is 0.13%. The variable-interest rate paid on the University's debt is not benchmarked to a reference rate but is reset weekly by the Remarketing Agent based upon market conditions and the University's credit rating. At June 30, 2015, the interest rate upon the demand bond was 0.08%.

Termination risk. The University or its counterparty may terminate the swap if the other party fails to perform under the terms of the contract.

N.C. Central University

Interest rate risk. N.C. Central University (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 decreased since the effective date of the swap, the swap has a negative fair value as of June 30, 2015. The negative fair value is countered by a reduction in total interest payments required under the variable-rate bonds. Because the coupons on the University's variable-rate bonds adjust to changing interest rates, the bonds do not have corresponding fair value increases.

Basis risk. The swap exposes the University to basis risk when the variable payment received is based on an index other than SIFMA. Should the relationship between LIBOR and SIFMA converge, the synthetic rates on the debt would change. The University receives 70% of a one-month LIBOR from the counterparty and pays a floating rate to its bondholders set by the Remarketing Agent. The University incurs basis risk when its bonds trade at a yield above 70% of LIBOR. If the relationship of the University's bonds trade to a percentage of LIBOR greater than 70%, the University will experience an increase in debt service above the fixed rate on the swap.

Termination risk. The swap contract uses the 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. As of June 30, 2015, no termination events had occurred and there was no known date when the derivative instrument may be terminated. The swap agreement is terminated if the University or the counterparty fails to perform under the contract. There were no out of the ordinary termination events as of June 30, 2015.

Rollover risk. The University is exposed to rollover risk when the swap matures on October 1, 2024. When the swap matures, the interest rate on the underlying debt will return to a variable rate. The bonds mature on October 1, 2034.

UNC Hospitals

Interest rate risk. UNC Hospitals (Hospitals) is exposed to interest rate risk on its interest rate swaps. The fair values of these instruments are sensitive to interest rate changes. Because rates have changed since the effective dates of the swaps, both of the swaps have a negative fair value as of June 30, 2015. The negative fair value may be countered by a reduction in total interest payments required under the variable-rate bonds, creating lower synthetic interest rates. Because the coupons on the Hospitals' variable-rate bonds adjust to changing interest rates, the bonds do not have corresponding fair value increases. As the yield curve rises, the value of the swaps will increase and as rates fall, the value of the swaps will decrease. The fair values reported are the market values as of June 30, 2015.

Basis risk. The Hospitals receives 67% of one-month LIBOR from Bank of America, N.A. and pays a floating rate to its bondholders set by the Remarketing Agent. The Hospitals incurs basis risk when its bonds trade at a yield above 67% of one-month LIBOR. If the relationship of the Hospitals' bonds trade to a percentage of LIBOR is greater than 67%, the Hospitals will experience an increase in debt service above the fixed rate on the swap.

Termination risk. The derivative contracts use the ISDA Master Agreement, which includes standard termination events, such as failure to pay and bankruptcy. The Hospitals or the counterparty may terminate the swap if the other party fails to perform under the terms of the contract. If the swap is terminated, the associated variable-rate bonds would no longer carry synthetic interest rates. Also, if at the time of termination the swap has a negative fair value, the Hospitals would be liable to the counterparty for that amount. Termination could result in the Hospitals being required to make an unanticipated termination payment.

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 Investment Pool maintained by the State Treasurer has investments in U.S. dollar equity futures and foreign equity futures. The investment disclosures for these derivatives are included as part of the equity based trust and alternative investments portfolios which are included in the Investment Pool. More detailed information about the Investment Pool is presented in Note 3A.

Component Units

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

University of North Carolina System

UNC at Chapel Hill

Interest rate risk. UNC at Chapel Hill (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 dates of the swap, the swap has a negative fair value as of June 30, 2015. The negative fair value may be countered by a reduction in total interest payments required under the variable-rate bonds, creating lower synthetic interest rates. Because the coupons on the University's variable-rate bonds adjust to changing interest rates, the bonds do not have corresponding fair value increases. The negative fair value is the calculated value as of June 30, 2015. As the yield curve rises, the value of the swap will increase and as rates fall, the value of the swap will decrease. The University pays 5.24% and receives SIFMA. On June 30, 2015, SIFMA was 0.05%. The interest rate swap has a notional amount of $16.9 million and matures November 1, 2025.

Foreign currency risk. Foreign currency forward contracts are utilitzed from time to time to minimize the risk and exposure to fluctuations in the exchange rates of foreign currencies. Futures contracts based in foreign currency obligate the buyer to purchase an asset (or the seller to sell an asset), such as a physical commodity or a financial instrument, at a predetermined future date and price. More detailed information about the University of North Carolina System's exposure to foreign currency risk is presented in Note 3C.

D. Synthetic Guaranteed Investment Contracts

Primary Government

In the Supplemental Retirement Income Plan of North Carolina, 401(k) Plan, there are synthetic guaranteed investment contracts (SGICs) within the North Carolina Stable Value Fund. SGICs are unallocated insurance contracts. There are two SGICs with The Prudential Insurance Company of America (Prudential), one SGIC with Nationwide Life Insurance Company (Nationwide Life), and one SGIC with American General Life Insurance Company (American General) which are all fully benefit responsive. The SGICs provided an average credit rating yield of 2.37%, 2.37%, 1.79%, and 1.19%, respectively. The fair value of the securities covered by the contracts as of December 31, 2014, is $1.11 billion and the contract value is $1.08 billion. The contracts are unrated and have a maturity of less than one year.

In the North Carolina Public Employee Deferred Compensation Plan, 457 Plan, there are SGICs within the North Carolina Stable Value Fund. SGICs are unallocated insurance contracts. There are two SGICs with Prudential, one SGIC with Nationwide Life, and one SGIC with American General which are all fully benefit responsive. The SGICs provided an average credit rating yield of 2.45%, 2.45%, 1.76%, and 1.19%, respectively. The fair value of the securities covered by the contracts as of December 31, 2014, is $232 million and the contract value is $227 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 entered into wrap contracts with Prudential, Nationwide Life, and American General to assure that the crediting rate on participant investments will not be less than zero. The wrap contracts with Prudential, Nationwide Life, and American General were determined to have no value.