

THE UNIVERSITY OF MEMPHIS
Notes to the Financial Statements
June 30, 2017

Note 1. Summary of Significant Accounting Policies

Reporting Entity

The university is a part of the State University and Community College System of Tennessee (the system). The Focus on College and University Success Act of 2016 removed the six universities from the governance of the Tennessee Board of Regents but they remain part of the system. The universities have their own local governing boards that provide governance, approve policies, set tuition and fee rates, and hire presidents. The system has limited oversight responsibilities during the transition period and continuing oversight responsibilities in the areas of budget approval and institutional debt. This system is a component unit of the State of Tennessee because the state appoints a majority of the system's governing body and provides significant financial support; the system is discretely presented in the *Tennessee Comprehensive Annual Financial Report*.

The financial statements present only that portion of the system's activities that is attributable to the transactions of the University of Memphis.

The University of Memphis Foundation is considered a component unit of the university. Although the university does not control the timing or amount of receipts from the foundation, the majority of resources, or income thereon, that the foundation holds and invests are restricted to the activities of the university by its donors. Because these restricted resources held by the foundation can only be used by, or for the benefit of, the university, the foundation is considered a component unit of the university and is discretely presented in the university's financial statements. See Note 22 for more detailed information about the component unit.

Basis of Presentation

The university's financial statements have been prepared in accordance with accounting principles generally accepted in the United States of America applicable to governmental colleges and universities engaged in business-type activities as prescribed by the Governmental Accounting Standards Board (GASB).

Basis of Accounting

For financial statement purposes, the university is considered a special-purpose government engaged only in business-type activities. Accordingly, the financial statements have been prepared using the economic resources measurement focus and the accrual basis of accounting. Revenues are recorded when earned, and expenses are recorded when a liability is incurred, regardless of the timing of related cash flows. Grants and similar items are recognized as revenue as soon as all of the provider's eligibility requirements have been met. All significant internal activity has been eliminated.

Notes to the Financial Statements (Continued)

The university has classified its revenues and expenses as either operating or nonoperating according to the following criteria: Operating revenues and expenses are those that have the characteristics of exchange transactions. Operating revenues include 1) tuition and fees, net of scholarship discounts and allowances; 2) certain federal, state, local, and private grants and contracts; 3) sales and services of auxiliary enterprises, net of scholarship discounts and allowances; and 4) interest on institutional loans. Operating expenses include 1) salaries and wages; 2) employee benefits; 3) utilities, supplies, and other services; 4) scholarships and fellowships; and 5) depreciation.

Nonoperating revenues and expenses include activities that have the characteristics of nonexchange transactions, such as gifts and contributions, and other activities that are defined as nonoperating by GASB Statement 9, *Reporting Cash Flows of Proprietary and Nonexpendable Trust Funds and Governmental Entities That Use Proprietary Fund Accounting*, and GASB Statement 34, such as state appropriations and investment income.

When both restricted and unrestricted resources are available for use, it is the university's policy to determine which to use first, depending upon existing facts and circumstances.

Cash Equivalents

This classification includes instruments that are readily convertible to known amounts of cash and have original maturities of three months or less.

Inventories

Inventories are valued at the lower of cost or market. Cost is determined on the average cost basis.

Compensated Absences

The university's employees accrue annual and sick leave at varying rates, depending on length of service or classification. Some employees also earn compensatory time.

The amount of the liabilities for annual leave and compensatory time and their related benefits are reported in the statement of net position. There is no liability for unpaid accumulated sick leave since the university's policy is to pay this only if the employee dies or is absent because of illness, injury, or related family death.

Capital Assets

Capital assets, which include property, plant, equipment, library holdings, works of art, historical treasures/collections, and intangible assets, are reported in the statement of net position at historical cost or at acquisition value at date of donation, less accumulated depreciation/amortization. The costs of normal maintenance and repairs that do not add to the value of the asset or materially extend the asset's useful life are not capitalized.

Notes to the Financial Statements (Continued)

A capitalization threshold of \$100,000 is used for buildings, and \$50,000 is used for infrastructure. Equipment is capitalized when the unit acquisition cost is \$5,000 or greater. The capitalization threshold for additions and improvements to buildings and land is set at \$50,000. The capitalization threshold for intangible assets is set at \$100,000. The capitalization threshold for art, historical treasures/collections, and similar assets is set at \$5,000.

These assets, with the exception of works of art and historical treasures/collections deemed inexhaustible and land, are depreciated/amortized using the straight-line method over the estimated useful lives, which range from 5 to 60 years.

Pensions

For purposes of measuring the net pension liability (asset), deferred outflows of resources and deferred inflows of resources related to pensions, and pension expense, information about the fiduciary net position of the Closed State and Higher Education Employee Pension Plan and the State and Higher Education Employee Retirement Plan in the Tennessee Consolidated Retirement System (TCRS) and additions to/deductions from the plans' fiduciary net positions have been determined on the same basis as they are reported by the TCRS. For this purpose, benefits (including refunds of employee contributions) are recognized when due and payable in accordance with the benefit terms of the Closed State and Higher Education Employee Pension Plan and the State and Higher Education Employee Retirement Plan. Investments are reported at fair value.

Net Position

The university's net position is classified as follows:

Net investment in capital assets – This represents the university's total investment in capital assets, net of accumulated depreciation and net of outstanding debt obligations and deferred outflows/inflows of resources related to those capital assets. To the extent debt has been incurred but not yet expended for capital assets, such amounts are not included as a component of net investment in capital assets.

Nonexpendable restricted net position – Nonexpendable restricted net position consists of endowment and similar type funds in which donors or other outside sources have stipulated, as a condition of the gift instrument, that the principal is to be maintained inviolate and in perpetuity, and invested for the purpose of producing present and future income, which may be expendable or added to principal.

Expendable restricted net position – Expendable restricted net position includes resources that the university is legally or contractually obligated to spend in accordance with restrictions imposed by external third parties.

Unrestricted net position – Unrestricted net position represents resources derived from student tuition and fees; state appropriations; sales and services of educational departments; sales and services of other activities; and auxiliary enterprises. These resources are used for transactions

Notes to the Financial Statements (Continued)

relating to the educational and general operations of the university and may be used at the university's discretion to meet current expenses for any purpose. The auxiliary enterprises are substantially self-supporting activities that provide services for students, faculty, and staff.

Scholarship Discounts and Allowances

Student tuition and fee revenues, as well as certain other revenues from students, are reported net of scholarship discounts and allowances in the statement of revenues, expenses, and changes in net position. Scholarship discounts and allowances are the difference between the stated charge for goods and services provided by the university and the amount that is paid by the student and/or third parties making payments on the student's behalf. Certain governmental grants, such as Pell grants and other federal, state, or nongovernmental programs, are recorded as either operating or nonoperating revenues in the university's financial statements. To the extent that revenues from such programs are used to satisfy tuition and fees and other student charges, the university has recorded a scholarship discount and allowance.

Note 2. Cash

This classification includes demand deposits and petty cash on hand. At June 30, 2017, cash consisted of \$7,896,691.88 in bank accounts, \$37,560.00 of petty cash on hand, \$95,566,785.06 in the Local Government Investment Pool (LGIP) administered by the State Treasurer, and \$4,612,353.51 in LGIP deposits for capital projects.

The LGIP is administered by the State Treasurer and is measured at amortized cost. The LGIP is part of the State Pooled Investment Fund. There are no minimum or maximum limitations on withdrawals with the exception of a 24-hour notification period for withdrawals of \$5 million or more. The fund's required risk disclosures are presented in the *State of Tennessee Treasurer's Report*. That report is available on the state's website at www.treasury.tn.gov.

LGIP deposits for capital projects – Payments related to the university's capital projects are made by the State of Tennessee's Department of Finance and Administration. The university's estimated local share of the cost of each project is held in a separate LGIP account. As expenses are incurred, funds are withdrawn from the LGIP account by the system and transferred to the Department of Finance and Administration. The funds in the account are not available to the university for any other purpose until the project is completed and the system releases any remaining funds.

Note 3. Investments

In accordance with GASB Statement 31, *Accounting and Financial Reporting for Certain Investments and External Investment Pools*, as amended, and GASB Statement 72, *Fair Value Measurement and Application*, as amended, investments are reported at fair value, including those with a maturity date of one year or less at the time of purchase, unless otherwise noted.

Notes to the Financial Statements (Continued)

Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of a debt investment. The university does not have a formal investment policy that limits investment maturities as a means of managing its exposure to fair value losses arising from increasing interest rates.

At June 30, 2017, the university had the following debt investments and maturities:

<u>Investment Type</u>	<u>Fair Value</u>	<u>Investment Maturities (in Years)</u>	
		<u>Less Than 1</u>	<u>1 to 5</u>
U.S. Treasury	\$33,892,305.05	\$3,216,552.70	\$30,675,752.35
U.S. government agencies	43,895,507.95	2,121,096.60	41,774,411.35
Total debt investments	\$77,787,813.00	\$5,337,649.30	\$72,450,163.70

Credit Risk

Credit risk is the risk that an issuer or other counterparty to an investment will not fulfill its obligations. The university is authorized by statute to invest funds in accordance with the policy of its governing board. Under the current policy, funds other than endowments may be invested only in obligations of the United States or its agencies backed by the full faith and credit of the United States; repurchase agreements for United States securities; certificates of deposit in banks and savings and loan associations; bankers' acceptances; commercial paper; money market mutual funds; and the State of Tennessee Local Government Investment Pool. The policy requires that investments of endowments in equity securities be limited to funds from private gifts or other sources external to the university and that endowment investments be prudently diversified. Securities are rated by Standard and Poor's, Moody's Investors Service, and/or Fitch Ratings and are presented below using the Standard and Poor's rating scale.

The policy restricts investments in bankers' acceptances and commercial paper. The policy requires that prime bankers' acceptances must be issued by domestic banks with a minimum AA rating or foreign banks with a AAA long-term debt rating by a majority of the ratings services that have rated the issuer. Prime bankers' acceptances are required to be eligible for purchase by the Federal Reserve System. To be eligible, the original maturity must not be more than 270 days, and it must 1) arise out of the current shipment of goods between countries or with the United States, or 2) arise out of storage within the United States of goods that are under contract of sale or are expected to move into the channel of trade within a reasonable time and that are secured throughout their life by a warehouse receipt or similar document conveying title to the underlying goods.

The policy requires that prime commercial paper be limited to that of corporations that meet the following criteria: 1) Senior long-term debt, if any, should have a minimum rating of A1 or

Notes to the Financial Statements (Continued)

equivalent, and short-term debt should have a minimum rating of A1 or equivalent, as provided by a majority of the rating services that rate the issuer. If there is no long-term debt rating, the short-term debt rating must be A1 by all rating services (minimum of two). 2) The rating should be based on the merits of the issuer or guarantee by a nonbank. 3) A financial review should be made to ascertain the issuer's financial strength to cover the debt. 4) Commercial paper of a banking institution should not be purchased. Prime commercial paper shall not have a maturity that exceeds 270 days.

At June 30, 2017, the university's investments were rated as follows:

<u>Investment Type</u>	<u>Balance</u>	<u>AA</u>	<u>Unrated</u>
LGIP (amortized cost)	\$ 95,566,785.06	\$ -	\$ 95,566,785.06
LGIP – capital projects (amortized cost)	4,612,353.51	-	4,612,353.51
U.S. government agencies	43,895,507.95	43,895,507.95	-
Total	\$144,074,646.52	\$43,895,507.95	\$100,179,138.57

Note 4. Fair Value Measurement

The university categorizes its fair value measurements within the fair value hierarchy established by accounting principles generally accepted in the United States of America. The university has the following recurring fair value measurements as of June 30, 2017:

<u>Assets by Fair Value Level</u>	<u>June 30, 2017</u>	<u>Quoted Prices in Active Markets for Identical Assets (Level 1)</u>	<u>Significant Other Observable Inputs (Level 2)</u>
Debt securities:			
U.S. Treasury	\$33,892,305.05	\$33,892,305.05	\$ -
U.S. agencies	43,895,507.95	-	43,895,507.95
Total debt securities	\$77,787,813.00	\$33,892,305.05	\$43,895,507.95

Assets classified in Level 1 of the fair value hierarchy are valued using prices quoted in active markets for those securities. Assets classified in Level 2 of the fair value hierarchy are valued using significant observable input other than Level 1 prices.

Investments measured at fair value as reflected in the above spreadsheet total \$77,787,813.00. Investments as reported on the statement of net position totaled \$77,987,813.00. The differences between these amounts represents certificates of deposit totaling \$200,000.00, which are not included in the above schedule as they are not measured at fair value. The certificates of deposit are time deposits measured at amortized cost.

Notes to the Financial Statements (Continued)

Note 5. Receivables

Receivables at June 30, 2017, included the following:

Student accounts receivable	\$ 9,884,044.99
Grants receivable	6,200,069.44
Notes receivable	635,026.96
Athletics receivables	1,030,224.31
Auxiliaries receivables	2,035,985.24
Other receivables	1,373,012.53
 Subtotal	 21,158,363.47
Less allowance for doubtful accounts	(7,443,159.09)
 Total receivables	 \$13,715,204.38

Federal Perkins Loan Program funds at June 30, 2017, included the following:

Perkins loans receivable	\$5,192,227.23
Less allowance for doubtful accounts	(283,097.33)
 Total	 \$4,909,129.90

Note 6. Capital Assets

Capital asset activity for the year ended June 30, 2017, was as follows:

	<u>Beginning Balance</u>	<u>Additions</u>	<u>Transfers</u>	<u>Reductions</u>	<u>Ending Balance</u>
Land	\$ 18,916,514.99	\$ 75,856.80	\$ -	\$ 196,299.80	\$18,796,071.99
Land improvements and infrastructure	106,412,790.30	5,960,038.08	1,307,509.80	-	113,680,338.18
Buildings	562,205,553.25	1,349,293.97	-	1,567,018.21	561,987,829.01
Equipment	45,011,195.07	2,923,968.77	-	786,657.94	47,148,505.90
Library holdings	11,641,102.50	1,223,463.69	-	1,412,925.31	11,451,640.88
Intangible assets					
Easement	1,200,000.00	-	-	-	1,200,000.00
Software	7,975,115.72	-	-	-	7,975,115.72
Art and historical collections	660,877.00	1,025,000.00	-	-	1,685,877.00
Projects in progress	10,351,471.56	19,620,536.10	(1,307,509.80)	-	28,664,497.86
 Total	 764,374,620.39	 32,178,157.41	 -	 3,962,901.26	 792,589,876.54

Notes to the Financial Statements (Continued)

Less accumulated depreciation/amortization:					
Land improvements and infrastructure	40,569,218.90	4,499,779.85	-	-	45,068,998.75
Buildings	165,019,819.54	9,105,817.64	-	1,489,973.71	172,635,663.47
Equipment	29,527,233.81	3,349,781.60	-	570,621.21	32,306,394.20
Library holdings	6,855,018.62	1,143,183.85	-	1,412,925.31	6,585,277.16
Intangible assets					
Software	7,274,791.38	260,153.00	-	-	7,534,944.38
Total	249,246,082.25	18,358,715.94	-	3,473,520.23	264,131,277.96
Capital assets, net	\$515,128,538.14	\$13,819,441.47	\$	- \$ 489,381.03	\$528,458,598.58

Note 7. Accounts Payable

Accounts payable at June 30, 2017, included the following:

Vendors payable	\$6,440,881.85
Other payables	1,592,753.79
Total accounts payable	\$8,033,635.64

Note 8. Long-term Liabilities

Long-term liabilities activity for the year ended June 30, 2017, was as follows:

	<u>Beginning Balance</u>	<u>Additions</u>	<u>Reductions</u>	<u>Ending Balance</u>	<u>Current Portion</u>
Payables:					
TSSBA debt:					
Bonds	\$128,856,740.90	\$ 2,412,395.74	\$ 4,670,915.31	\$126,598,221.33	\$5,119,797.13
Unamortized bond premium	18,020,399.78	-	411,598.21	17,608,801.57	-
Revolving credit facility	5,443,427.31	2,035,827.43	3,500,000.00	3,979,254.74	-
General obligation debt:					
Commercial paper	3,362,477.95	343,339.25	484,010.00	3,221,807.20	-
Subtotal	155,683,045.94	4,791,562.42	9,066,523.52	151,408,084.84	5,119,797.13

Notes to the Financial Statements (Continued)

Other liabilities:

Compensated absences	9,667,765.82	6,423,260.25	6,455,681.12	9,635,344.95	2,537,575.93
Due to grantor	4,820,073.86	80,637.62	200,089.06	4,700,622.42	-
Subtotal	14,487,839.68	6,503,897.87	6,655,770.18	14,335,967.37	2,537,575.93
Total long-term liabilities	\$170,170,885.62	\$11,295,460.29	\$15,722,293.70	\$165,744,052.21	\$7,657,373.06

TSSBA Debt – Bonds

Bonds, with interest rates ranging from 0.18%% to 5.63%, were issued by the Tennessee State School Bond Authority (TSSBA). The bonds are due serially to 2046 and are secured by pledges of the facilities' revenues to which they relate and certain other revenues and fees of the university, including state appropriations; see Note 10 for further details. The bonded indebtedness with the TSSBA included in long-term liabilities on the statement of net position is shown net of assets held by the authority in the debt service reserve and unexpended debt proceeds. The reserve amount was \$3,778,292.06 at June 30, 2017. Capitalized interest was \$1,206,197.87.

Debt service requirements to maturity for the university's portion of TSSBA bonds at June 30, 2017, are as follows:

<u>Year Ending</u> <u>June 30</u>	<u>Principal</u>	<u>Interest</u>	<u>Total</u>
2018	\$ 5,119,797.13	\$ 5,805,753.17	\$ 10,925,550.30
2019	6,024,238.88	5,613,821.09	11,638,059.97
2020	5,874,862.04	5,305,601.24	11,180,463.28
2021	6,370,413.49	5,051,182.33	11,421,595.82
2022	5,982,223.84	4,784,011.11	10,766,234.95
2023 – 2027	31,674,147.11	19,803,596.46	51,477,743.57
2028 – 2032	23,885,746.64	13,021,799.04	36,907,545.68
2033 – 2037	16,972,340.65	8,710,196.64	25,682,537.29
2038 – 2042	14,293,135.80	4,747,403.97	19,040,539.77
2043 – 2046	10,401,315.75	1,197,391.60	11,598,707.35
Total	\$126,598,221.33	\$74,040,756.65	\$200,638,977.98

TSSBA Debt – Revolving Credit Facility

The Tennessee State School Bond Authority (TSSBA) receives loans from the revolving credit facility to finance the costs of various capital projects during the construction phase. When projects are placed in service, TSSBA issues long-term, fixed-rate debt to finance the project over its useful payback period and repays the revolving credit facility debt. The total outstanding loans from the revolving credit facility for the university were \$3,979,254.74 at June 30, 2017.

Notes to the Financial Statements (Continued)

More detailed information regarding the bonds and revolving credit facility can be found in the notes to the financial statements in the financial report for the TSSBA. That report is available on the state's website at www.comptroller.tn.gov/tssba/cafr.asp.

General Obligation Debt – Commercial Paper

The Tennessee State Funding Board issues commercial paper for the purpose of, among other things, acquisition of certain sites and existing structures for expansion purposes on behalf of the university. The amount outstanding for projects at the university was \$3,221,807.20 at June 30, 2017. More detailed information regarding the commercial paper can be found in the notes to the financial statements in the *Tennessee Comprehensive Annual Financial Report*, which is available on the state's website at www.tn.gov/finance/article/fa-accfin-cafr.

Note 9. Endowments

If a donor has not provided specific instructions to the university, state law permits the university to authorize for expenditure the net appreciation (realized and unrealized) of the investments of endowment funds. When administering its power to spend net appreciation, the university is required to consider its long-term and short-term needs; present and anticipated financial requirements; expected total return on its investments; price-level trends; and general economic conditions. Any net appreciation spent is required to be spent for the purposes for which the endowment was established.

The university chooses to spend only a portion of the investment income (including changes in the value of investments) each year. Under the spending plan established by the university, all interest earnings have been authorized for expenditure. The remaining amount, if any, is retained to be used in future years when the amount computed using the spending plan exceeds the investment income. Five of the endowment accounts require any interest generated in excess of expenses be reapplied to the principal. At June 30, 2017, net appreciation of \$175,712.15 is available to be spent, of which \$103,128.29 is included in restricted net position expendable for scholarships and fellowships, \$2,755.44 is included in restricted net position expendable for instructional departmental uses, \$69,241.29 is included in restricted net position expendable for loans, and \$587.13 is included in restricted net position expendable for other.

Note 10. Pledged Revenues

The university has pledged certain revenues and fees, including state appropriations, to repay \$126,598,221.33 in revenue bonds issued from May 1992 to April 2015 (see Note 8 for further detail). Proceeds from the bonds provided financing for construction and renovation of various facilities as well as building systems and equipment. The bonds are payable through 2046. Annual principal and interest payments on the bonds are expected to require 2.19% of available revenues. The total principal and interest remaining to be paid on the bonds is \$200,638,977.98. Principal

Notes to the Financial Statements (Continued)

and interest paid for the current year and total available revenues were \$8,190,372.40 and \$387,287,192.54, respectively.

Note 11. Pension Plans

Defined Benefit Plans

Closed State and Higher Education Employee Pension Plan

General Information About the Pension Plan

Plan description – State employees and higher education employees with membership in the Tennessee Consolidated Retirement System (TCRS) before July 1, 2014, are provided with pensions through the Closed State and Higher Education Employee Pension Plan. This plan is a component of the Public Employee Retirement Plan, an agent, multiple-employer defined benefit pension plan. The Closed State and Higher Education Employee Pension Plan stopped accepting new membership on June 30, 2014, but will continue providing benefits to existing members and retirees. Beginning July 1, 2014, a new agent defined benefit retirement plan, the State and Higher Education Employee Retirement Plan, became effective for state employees and higher education employees hired on or after July 1, 2014.

The TCRS was created by state statute under Title 8, Chapters 34-37, *Tennessee Code Annotated*. The TCRS Board of Trustees is responsible for the proper operation and administration of all employer pension plans in the TCRS. The Tennessee Treasury Department, an agency in the legislative branch of state government, administers the plans of the TCRS. The TCRS issues a publicly available financial report that can be obtained at www.treasury.tn.gov/tcrs.

Benefits provided – Title 8, Chapters 34-37, *Tennessee Code Annotated*, establishes the benefit terms and can be amended only by the Tennessee General Assembly. Members of the Closed State and Higher Education Employee Pension Plan are eligible to retire with an unreduced benefit at age 60 with 5 years of service credit or after 30 years of service credit regardless of age. Benefits are determined using the following formula:

Average of member's highest compensation for 5 consecutive years (up to Social Security integration level)	x	1.50%	x	Years of Service Credit	x	105%
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Plus:

Average of member's highest compensation for 5 consecutive years (over the Social Security integration level)	x	1.75%	x	Years of Service Credit	x	105%
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Notes to the Financial Statements (Continued)

A reduced early retirement benefit is available at age 55 and vested. Members are vested with five years of service credit. Service-related disability benefits are provided regardless of length of service. Five years of service is required for non-service-related disability eligibility. The service-related and non-service-related disability benefits are determined in the same manner as a service retirement benefit but are reduced 10% and include projected service credits. A variety of death benefits are available under various eligibility criteria. Member and beneficiary annuitants are entitled to automatic cost-of-living adjustments (COLAs) after retirement. A COLA is granted each July for annuitants retired prior to July 2 of the previous year. The COLA is based on the change in the consumer price index (CPI) during the prior calendar year, capped at 3%, and applied to the current benefit. No COLA is granted if the change in the CPI is less than 0.5%. A 1% COLA is granted if the CPI change is between 0.5% and 1%. A member who leaves employment may withdraw employee contributions, plus any accumulated interest.

Contributions – Contributions for state employees and higher education employees are established in the statutes governing the TCRS and may only be changed by the Tennessee General Assembly. The university's employees are non-contributory, as are most members in the Closed State and Higher Education Employee Pension Plan. State and higher education agencies make employer contributions at the rate set by the Board of Trustees as determined by an actuarial valuation. By law, employer contributions for the Closed State and Higher Education Employee Pension Plan are required to be paid. Employer contributions by the university for the year ended June 30, 2017, to the Closed State and Higher Education Employee Pension Plan were \$6,995,147, which is 15.02% of covered payroll. The employer rate, when combined with member contributions, is expected to finance the costs of benefits earned by members during the year and the cost of administration, as well as an amortized portion of any unfunded liability.

Pension Liabilities, Pension Expense, and Deferred Outflows of Resources and Deferred Inflows of Resources Related to Pensions

Pension liability – At June 30, 2017, the university reported a liability of \$37,459,409 for its proportionate share of the net pension liability. The net pension liability was measured as of June 30, 2016, and the total pension liability used to calculate the net pension liability was determined by an actuarial valuation as of that date. The university's proportion of the net pension liability was based on a projection of the university's contributions during the year ended June 30, 2016, to the pension plan relative to the contributions of all participating state and higher education agencies. At the June 30, 2016, measurement date, the university's proportion was 2.05306%. The proportion measured as of June 30, 2015, was 1.96499%.

Pension expense – For the year ended June 30, 2017, the university recognized a pension expense of \$6,623,478.

Deferred outflows of resources and deferred inflows of resources – For the year ended June 30, 2017, the university reported deferred outflows of resources and deferred inflows of resources related to pensions from the following sources:

Notes to the Financial Statements (Continued)

	Deferred Outflows of Resources	Deferred Inflows of Resources
Differences between expected and actual experience	\$2,100,701	\$1,990,430
Net difference between projected and actual earnings on pension plan investments	9,059,467	-
Changes in proportion of net pension liability	944,690	454,897
The University of Memphis' contributions subsequent to the measurement date of June 30, 2016	6,995,147	-
Total	\$19,100,005	\$2,445,327

Deferred outflows of resources, resulting from the university's employer contributions of \$6,995,147 subsequent to the measurement date, will be recognized as a decrease in net pension liability in the year ending June 30, 2018. Other amounts reported as deferred outflows of resources and deferred inflows of resources related to pensions will be recognized in pension expense as follows:

<u>Year Ending June 30</u>	
2018	\$ 641,792
2019	\$ 641,792
2020	\$5,744,205
2021	\$2,631,732
2022	\$ -
Thereafter	\$ -

In the table above, positive amounts will increase pension expense, while negative amounts will decrease pension expense.

Actuarial assumptions – The total pension liability as of the June 30, 2016, actuarial valuation was determined using the following actuarial assumptions, applied to all periods included in the measurement:

Inflation	3.0%
Salary increases	Graded salary ranges from 8.97% to 3.71% based on age, including inflation, averaging 4.25%
Investment rate of return	7.5%, net of pension plan investment expenses, including inflation
Cost-of-living adjustment	2.5%

Notes to the Financial Statements (Continued)

Mortality rates were based on actual experience from the June 30, 2012, actuarial experience study adjusted for some of the expected future improvement in life expectancy.

The actuarial assumptions used in the June 30, 2016, actuarial valuation were based on the results of an actuarial experience study performed for the period July 1, 2008, through June 30, 2012. The demographic assumptions were adjusted to more closely reflect actual and expected future experience.

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees in conjunction with the June 30, 2012, actuarial experience study by considering the following three techniques: (1) the 25-year historical return of the TCRS at June 30, 2012; (2) the historical market returns of asset classes from 1926 to 2012 using the TCRS investment policy asset allocation; and (3) capital market projections that were utilized as a building-block method in which best-estimate ranges of expected future real rates of return (expected returns, net of pension plan investment expense and inflation) are developed for each major asset class. Four sources of capital market projections were blended and utilized in the third technique. The blended capital market projection established the long-term expected rate of return by weighting the expected future real rates of return by the target asset allocation percentage and by adding inflation of 3%. The target allocation and best estimates of arithmetic real rates of return for each major asset class are summarized in the following table:

<u>Asset Class</u>	<u>Long-term Expected Real Rate of Return</u>	<u>Target Allocation</u>
U.S. equity	6.46%	33%
Developed market international equity	6.26%	17%
Emerging market international equity	6.40%	5%
Private equity and strategic lending	4.61%	8%
U.S. fixed income	0.98%	29%
Real estate	4.73%	7%
Short-term securities	0.00%	1%
		<hr/> 100%

The long-term expected rate of return on pension plan investments was established by the TCRS Board of Trustees as 7.5% based on a blending of the three factors described above.

Discount rate – The discount rate used to measure the total pension liability was 7.5%. The projection of cash flows used to determine the discount rate assumed that employee contributions will be made at the current rate and that contributions from all state and higher education agencies will be made at the actuarially determined contribution rate in accordance with the funding policy of the TCRS Board of Trustees and as required to be paid by state statute. Based on those assumptions, the pension plan's fiduciary net position was projected to be available to make projected future benefit payments of current active and inactive members. Therefore, the long-term expected rate of return on pension plan investments was applied to all periods of projected benefit payments to determine the total pension liability.