

# Arkansas Judicial Retirement System Annual Financial Report

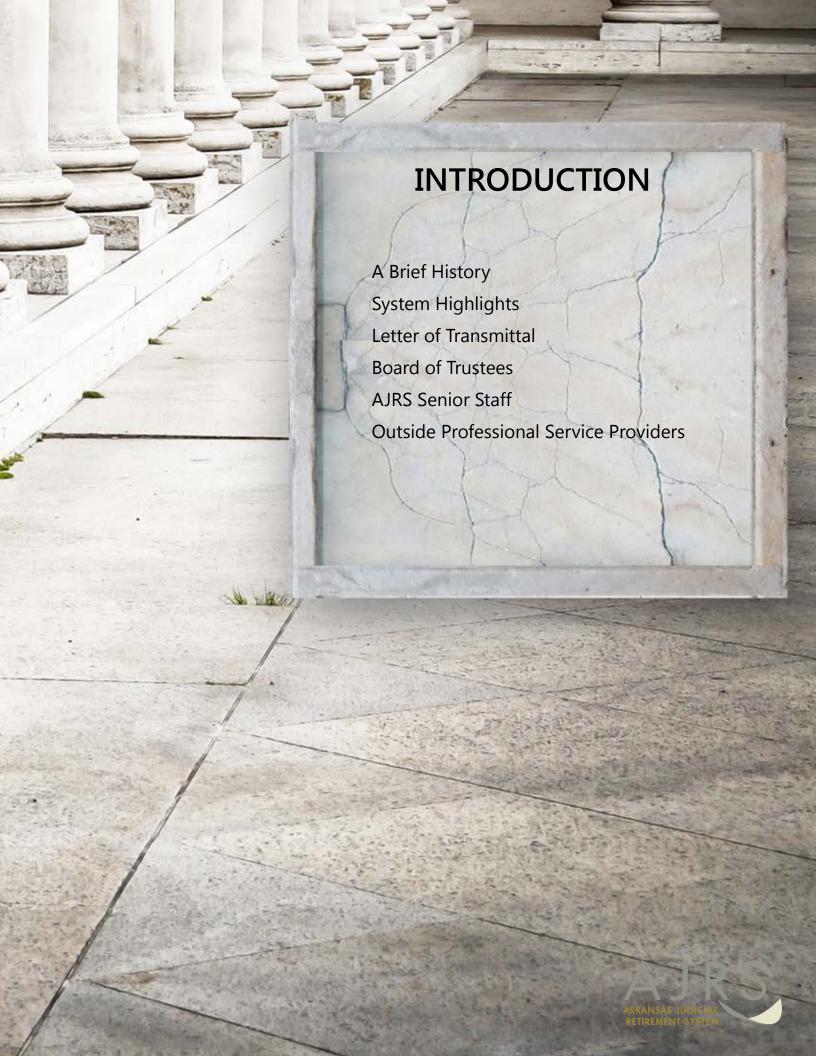
For the Fiscal Year Ended June 30, 2017

A Pension Trust Fund of the State of Arkansas

# Table of Contents

INTRODUCTION	
A Brief History	7
System Highlights	7
Letter of Transmittal	8
Board of Trustees	10
AJRS Senior Staff	11
Outside Professional Service Providers	12
FINANCIAL SECTION	
Management's Discussion and Analysis	15
Statement of Fiduciary Net Position	16
Statement of Changes in Fiduciary Net Position	17
Note to the Financial Statements	18
Note 1: Plan Description	18
Note 2: Summary of Significant Accounting Policies	21
Note 3: Legally Required Reserves	22
Note 4: Deposits and Investments	23
Note 5: Net Pension Liability	37
Actuarial Accrued Liabilities	39
Required Supplementary Information	40
Schedule of Employer Contributions	40
Schedule of Funding Progress	40
Schedule of Changes in Net Pension Liability and Related Ratios	41
Schedule of Net Pension Liabilities	42
Schedule of Investment Returns	42
Notes to Required Supplementary Information	43
Schedule of Administrative Expenses	43
Schedule of Investment Expenses	43
Schedule of Payments for Professional Consultants	43
INVESTMENT SECTION	
Chief Investment Officer's Report	47
Investment Consultant's Report	51
Investment Policy Summary	53
Asset Allocation	56
Manager Distribution	58
Schedule of Comparative Investment Results by Year	59
Schedule of Comparative Annualized Investment Results	60
Portfolio Characteristics	61

Ten Largest Holdings	62
Schedule of Brokerage Commissions	63
Schedule of Investment Fees	64
ACTUARIAL SECTION	
Actuary's Certificate Letter	67
Summary of Actuarial Assumptions	69
Summary of Actuarial Methods	71
Single-Life Retirement Values	72
Decrement And Pay Increase Assumptions for Active Members	73
Probabilities of Retirement for Members Eligible to Retire	74
Computed Employer Contribution Rates	75
Short Condition Test	76
Short Condition Test: Ten-Year Comparative Statement	77
Retirees and Beneficiaries Tabulated by Attained Age	78
Active Members by Attained Age and Years of Service - Tier One	79
Active Members by Attained Age and Years of Service - Tier Two	80
Analysis of Experience	81
Analysis of Experience - Gains/(Losses) by Risk Area	82
Summary of Plan Provisions	83
STATISTICAL SECTION	
Schedule of Revenue by Source	89
Schedule of Expenses by Type	90
Schedule of Benefit Expenses by Type	91
Schedule of Retired Members by Type of Benefit	92
Statistical Graphs	93





#### A BRIEF HISTORY

Arkansas Judicial Retirement System

With the passage of Act 365 on March 28, 1953, the Arkansas General Assembly created the Arkansas Judicial Retirement System (AJRS or the System).

The statutes providing for and governing AJRS may be found in Chapters 2 and 8 of Title 24 of the Arkansas Code Annotated (A.C.A.). The administration and control of the System is vested in the Board of Trustees of the Arkansas Judicial Retirement System (the Board). The Board is appointed by the Arkansas Judicial Council.

The System provides for the retirement of all circuit judges, court of appeals judges,- and Arkansas Supreme Court justices. Act 399 of 1999 created a Tier II benefit plan for all persons who become members of the System after August 1, 1999. Any active member of the System prior to August 1, 1999 had until the end of the term in office in which the member is serving on the effective date to elect coverage under Tier II.

Act 744 of 2009 permits Tier I judges with at least 20 years of judicial service to continue making 6% employee contributions in exchange for a 2.5% increase in benefits for each additional year of service. The maximum benefit payable is 75% of final salary.

This annual financial report, which covers the period from July 1, 2016 through June 30, 2017, provides comprehensive information about the System including statements of financial condition, investment objectives and policy, an actuarial report, historical and statistical information on active members, annuitants and benefit payments, as well as a description of the retirement plan.

#### SYSTEM HIGHLIGHTS (as of June 30, 2017)

<b>Active Members</b>				
Number	Average Age (yrs.)	Average Service (yrs.)	Average Annual Salary	
140	59	16.1	\$ 163,699	
2017 Retirees				
Number	Average Age (yrs.)	Average Service (yrs.)	Average Monthly Benefit	
7	69.9	21.9	\$ 8,342.86	
All Retired Members				
Number	Average Age (yrs.)	Average Service (yrs.)	Average Monthly Benefit	
147	75.6	NA	\$ 7,296.86	

# Arkansas Judicial Retirement System Annual Financial Report 2017

# Introduction

#### LETTER OF TRANSMITTAL



124 West Capitol, Suite 400 • Little Rock, AR 72201-3704 501-682-7800 • 1-800-682-7377 • www.apers.org

BOARD OF TRUSTEES
ROBERT EDWARDS, Chairman
Circuit Judge

RAYMOND ABRAMSON Court of Appeals Judge MARK HEWETT Circuit Judge (Retired) CHARLES YEARGAN
Circuit Judge

MARCIA HEARNSBERGER Circuit Judge GAIL H. STONE AJRS Executive Director

#### Dear AJRS Members:

The Arkansas Judicial Retirement System (AJRS) is pleased to present the Annual Financial Report for the period ending June 30, 2017. The report is designed to provide a clear and concise picture of the financial conditions of the System. The report includes the following sections:

- Introduction
- Financial
- Investment
- Actuarial
- Statistical

#### **Accounting System**

The accrual basis of accounting is used to record the assets, liabilities, revenues, and expenses of the Arkansas Judicial Retirement System Trust Fund. Revenues are recognized in the accounting period in which they are earned, without regard to date of collection, and expenses are recorded when incurred, regardless of when payment is made. Investments are reported at market values determined by the custodial agent. The agent's determination of market value includes, among other things, using pricing services or prices quoted by independent brokers at current exchange rates.

#### **Funding**

The System is funded through contributions from the state and employees as well as investment income. The general financial objective of the System is to establish and receive contributions which, expressed as a percentage of active member payroll, will remain approximately level from generation to generation.

#### Investments

In accordance with the Investment Code contained in A.C.A. Title 24, Chapter 2, the Board is required to invest the funds in conformity with the "prudent investor rule." The Investment Code permits the Board to establish an investment policy based upon certain investment criteria and allows the Board to retain professional investment advisors to assist the Board in making investments. The Board has established an investment policy that reflects the level of risk that is deemed appropriate for the fund. The investment advisor retained by the Board is listed in the schedule of professional services contractors.



#### **Professional Services**

Professional services are provided to AJRS by a firm selected by the Board to aid in the efficient and effective management of the System. A listing for this firm as well as other professional services contractors retained by AJRS is shown on page 12 of this report.

# Acknowledgments

This report is the result of the combined efforts of the AJRS staff under the direction of the Board. Its purpose is to provide complete and reliable information as a basis for making management decisions, as a means for determining compliance with legal provisions, and as a means for determining responsible stewardship over the assets contributed by the members and employers.

Judge Robert Edwards

Gail H. Stone

Chairman, AJRS Board

**Executive Director** 

# Introduction

# **BOARD OF TRUSTEES**

The Honorable Robert Edwards, Chair Circuit Judge 1600 E. Booth, Suite 500 Searcy, AR 72143

The Honorable Raymond Abramson Arkansas Court of Appeals Judge 625 Marshall Street Little Rock, AR 72201-1080

The Honorable Mark Hewett Circuit Judge 7201 Highland Park Fort Smith, AR 72916

The Honorable Charles Yeargan Circuit Judge P.O. Box 820 Murfreesboro, AR 71958

The Honorable Marcia Hearnsberger Circuit Judge 501 Ouachita Avenue, Room 304 Hot Springs, AR 71901

#### **Administrative Office**

Gail Stone - Executive Director Arkansas Judicial Retirement System 124 West Capitol Avenue, Suite 400 Little Rock, AR 72201 501-682-7800 1-800-682-7377



# AJRS SENIOR STAFF

Ms. Gail Stone Executive Director

Mr. Jay Wills Deputy Director

Mr. Jason Willett Chief Financial Officer

Mr. Carlos Borromeo Chief Investment Officer

Ms. Allison Woods
Director of Benefits Administration

Mr. Phillip Norton
Director of Information Technology

Ms. Becky Walker
Director of Operations

Ms. Jacobia Twiggs Manager, Educational Outreach

Ms. Jennifer Taylor Manager, Member and Retiree Services Section

Mr. Jon Aucoin Manager, Communications Section

Ms. Jessica Middleton Legal Counsel

Mr. John Owens Internal Auditor

Ms. Usha Doolabh Accounting Operations Manager, Investments

# Introduction

# **OUTSIDE PROFESSIONAL SERVICE PROVIDERS**

#### **Custodian Bank**

The Bank of New York Mellon Pittsburgh, PA 15258

# Actuary

Gabriel, Roeder, Smith & Co. Southfield, MI 48076

#### **Investment Consultant**

Callan Associates, Inc. Chicago, IL 60602

# **Investment Managers**

QS Investors, LLC Boston, MA 02116

Baillie Gifford Edinburgh, Scottland

Invesco Real Estate Dallas, TX 75240

MacKay Shields New York, NY 10105

Boston Partners Boston, MA 02108

Wellington Management Company Boston, MA 02210





# MANAGEMENT'S DISCUSSION AND ANALYSIS

To help facilitate a better understanding of the financial condition of the Arkansas Judicial Retirement System (AJRS or the System) as of June 30, 2017, management has prepared this narrative analysis. This narrative is intended to supplement the System's financial statements, and, as such, should be read in conjunction with these statements, which are presented beginning on page 16.

#### Revenues

The revenue from employer and employee contributions in fiscal year 2017 totaled \$8.92 million. This amount is \$2.95 million more than fiscal year 2016. The large increase in these contributions was due to a large increase in the annual transfer required by Act 763 of 2001 due to a significant increase in the actuarially computed employer contribution rate.

Net investment income for fiscal year 2017 was \$28.04 million after investment expenses of \$1,113,027, an increase of \$29.788 million from fiscal year 2016. Overall, the System's total additions increased by \$32.764 million from fiscal year 2016. The primary reason for this increase was the higher investment return achieved in fiscal year 2017.

#### **Expenses**

Benefit payments for fiscal year 2017 were \$12.310 million, or \$302,884 more than fiscal year 2016. Administrative expenses were \$168,702, of which \$50,400 was for professional fees and \$108,301 was transferred to the Arkansas Public Employment Retirement System (APERS) for indirect administrative costs.



# STATEMENT OF FIDUCIARY NET POSITION

(as of June 30, 2017)

	2017	 2016
Assets		
Cash and Cash Equivalents	\$ 2,922,192	\$ 4,002,128
Receivables		
Contributions	152,233	153,411
Deceased Retirant Receivable	0	0
Investment Principal Receivable	895,359	158,417
Accrued Investment Income Receivable	 806,969	 810,120
Total Receivables	1,854,561	1,121,948
Investments, At Fair Value		
Government Securities		
U.S. Government Securities	22,515,095	27,510,249
U.S. Government Agency Securities	2,453,138	2,303,883
Futures	(7,085)	(241,426)
Corporate Securities		
High Income Yield Fund	14,227,853	13,833,657
Collateralized Obligations	1,069,691	2,389,961
Corporate Bonds	35,863,298	32,410,857
Common Stock	55,719,007	47,369,145
Domestic Equity Commingled	39,970,217	34,863,219
International Securities		
Global Commingled	37,192,075	29,768,536
Global Corporate Fixed Income	3,339,344	1,769,212
Forwards	0	31,794
Global Equity	0	4,595
Global Government Fixed	628,000	0
Real Estate	21,007,817	19,489,647
Commercial Loans	 5,225,706	2,490,143
Total Investments	 239,204,156	 213,993,472
Total Assets	243,980,909	219,117,548
Liabilities		
Accrued Expenses and Other Liabilities	311,542	304,429
Investment Principal Payable	2,849,719	3,027,550
Total Liabilities	 3,161,261	 3,331,979
Net Position Restricted for Pension Benefits	\$ 240,819,648	\$ 215,785,569



# STATEMENT OF CHANGES IN FIDUCIARY NET POSITION

(as of June 30, 2017)

	2017		2016
Additions	,		
Contributions			
Employer	\$ 7,898,543	\$	4,962,144
Employee	1,016,646		1,011,372
Court Fees	 586,818	_	586,818
Total Contributions	9,502,007		6,560,333
Investment Income			
Interest	2,771,749		2,818,431
Dividends	2,053,919		1,859,724
Currency Gain/(Loss)	(2,370)		(1,743)
Investment Gain/(Loss)	24,334,103		(5,258,247)
Total Investment Income	29,157,400		(581,835)
Less: Investment Expense	1,113,027		1,162,251
Net Investment Income	28,044,374		(1,744,086)
Other Additions			
Miscellaneous Additions	 45,833		12,328
Total Additions	37,592,213		4,828,576
Deductions			
Benefits	12,310,422		12,007,538
Refunds of Contributions	79,011		800
Administrative Expenses	168,702		158,420
Total Deductions	12,558,134		12,166,758
Net Increase (Decrease)	25,034,079		(7,338,183)
Net Position Held in Trust for Benefits			
Beginning of Year	 215,785,569		223,123,752
End of Year	\$ 240,819,648	\$	215,785,569

Totals may not add due to rounding. The accompanying notes are an integral part of these financial statements.

# Financial

# NOTE TO THE FINANCIAL STATEMENTS

# Note 1: Plan Description

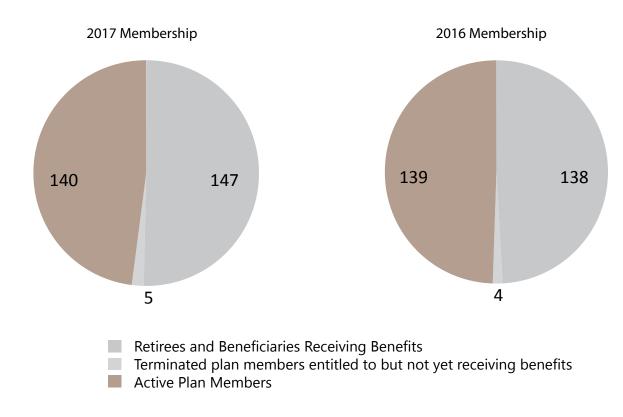
AJRS is a single-employer, defined benefit pension plan established on March 28, 1953.

The System provides for the retirement of all circuit judges, court of appeals judges, and Supreme Court justices. The laws governing operations of AJRS are set forth in Arkansas Code of 1987 Annotated (A.C.A.) §§ 24-8-201 through 24-8-228 and §§ 24-8-701 through 24-8-717. The administration and control of the System is vested in the Board of Trustees of the Arkansas Judicial Retirement System (the Board), which includes five members selected by the Arkansas Judicial Council.

#### Membership

As of June 30, 2017 and 2016, membership was as follows:

Membership	2017	2016
Retirees and Beneficiaries Receiving Benefits	147	138
Terminated plan members entitled to but not yet receiving benefits	5	4
Active Plan Members	140	139
Total	292	281





#### Contributions

Contribution provisions are established by state law and may be amended only by the Arkansas General Assembly. The contribution rate of each member of the System is 6% of annual salary for Tier I (A.C.A. § 24-8-209) and 5% of annual salary for Tier II (A.C.A. § 24-8-706). When a judge is certified as eligible for retirement, no further contribution is required of that member for Tier I (A.C.A. § 24-8-211) or for Tier II (A.C.A. § 24-8-708). The employer contribution rate is 12% of salaries paid.

In addition to the 12% employer rate and the statutory fees, the Chief Fiscal Officer of the State is required to transfer from the Constitutional and State Central Services Fund an amount that is equal to the difference between the mandatory contribution rate and the actuarially determined rate necessary to fund the plan (A.C.A. § 24-8-210).

Additionally, supplemental contributions are paid to the system from the Constitutional and Fiscal Agencies Fund in accordance with Section 8 of Act 922 of 1983.

#### Plan Administration

Costs for administering the plan are paid out of investment earnings.

#### **Benefits**

An active member in Tier I with a minimum of 10 years of credited service may voluntarily retire upon reaching 65 years of age or thereafter upon filing a written application with the Board. Any other Tier I member who has a minimum of 20 years of credited service may retire regardless of age, and any judge or justice who has served at least 14 years is eligible for benefits upon reaching age 65. In all cases of age and service retirement for judges or justices elected after July 1, 1983 and remaining in Tier I, the member must have a minimum of 8 years of actual service as a justice of the Arkansas State Supreme Court or a judge of the circuit courts or the Arkansas Court of Appeals (A.C.A. § 24-8-215). An active or former member in Tier II may retire at age 65 with 8 or more years of credited service or after 20 years of credited service regardless of age (A.C.A. § 24-8-710).



#### Increases after Retirement

For any person who was a member on or before June 30, 1983, the retirement benefits are increased or decreased from time to time as the salary for the particular judicial office is increased or decreased. For all judges or justices first elected on or after July 1, 1983, and who have received retirement benefits from the System for at least 12 full calendar months, the retirement benefits are increased each July 1st by 3%. Post retirement increases for members are authorized in A.C.A. sections as follows:

Tier I judges first elected prior to July 1, 1983:	§ 24-8-218 (c) (1) (B)
Tier I judges first elected after July 1, 1983:	§ 24-8-223
Tier II judges:	§ 24-8-717

# **Funded Status and Funding Progress**

The funded status of the plan as of June 30, 2017, the most recent actuarial date, is as follows (dollar amounts in thousands):

						(6)
		(2)	(3)			UAAL as a
	(1)	Actuarial	Unfunded	(4)	(5)	Percentage of
	Actuarial	Accrued	AAL	Funded	Annual	Covered
	Value of	Liability	(UAAL)	Ratio	Covered	Payroll
Valuation Date	Assets	(AAL)	(2) - (1)	(1)/(2)	Payroll	[(2-1)/(5)]
6/30/2017	\$ 238,956	\$ 270,382	\$ 31,426	88.4%	\$ 22,918	137%



# Note 2: Summary of Significant Accounting Policies

#### **Basis of Accounting**

AJRS accounts and records are maintained using fund accounting principles, and its financial statements are prepared using the accrual basis of accounting. Contributions and other revenues are recorded in the accounting period in which they are earned, and expenses are recognized when due and payable in accordance with the terms of the System.

#### Use of Estimates

The preparation of the System's financial statements in conformity with accounting principles generally accepted in the U.S. requires the System administrator to make significant estimates and assumptions that affect various data in the report, including the following:

- The net position restricted for pensions at the date of the financial statements
- The net pension liability and other actuarial information presented in Note 5
- The required supplementary information as of the benefit information date
- The changes in fiduciary net position during the reporting period

Estimates may also be involved in formulating disclosures of contingent assets and liabilities at the date of the financial statements. Actual results could differ from these estimates.

#### Cash and Cash Equivalents

Cash and cash equivalents include demand accounts, cash in state treasury, and short-term investment funds (STIF). The STIF accounts are created through daily sweeps of excess cash by the System's custodian bank into a bank-sponsored commingled fund that is invested in U.S. Government and agency securities and other short-term instruments.

#### **Risks and Uncertainties**

Certain data in this report – including contributions to the System and the net pension liability, as well as other actuarial information in Note 5 and the required supplementary information – has been formulated based on certain projections about interest rates, inflation rates, and employee compensation and demographics. Due to the dynamic nature of these factors, it is possible that these projections will need to be revised in the near term. Moreover, because of the uncertainties inherent in making such projections, the effect of any such changes could be material to the financial statements.



# Note 3: Legally Required Reserves

A description of reserve accounts and their balances for the years ended June 30, 2017 and 2016 are as follows:

The Members' Deposit Account (MDA) represents members' contributions held in trust until each member's retirement, at which time contributions are transferred to the Retirement Reserve Account, described below.

The Employers' Accumulation Account accumulates employers' contributions to be used in providing the reserves required for transfer to the Retirement Reserve Account as members retire or become eligible for disability benefits.

The Deferred Annuity Account is the reserve account established to cover estimated retirement benefits to inactive vested members who are not currently receiving benefit payments.

The Retirement Reserve Account is the account to which member contributions, interest on those contributions, and employer contributions are transferred upon member retirement.

	2017	2016
Members Deposit Account	\$ 13,260,684	\$ 13,337,472
Members Deposit Account Interest Reserve	698	698
Employer Accumulation Account	86,795,271	60,761,452
Retirement Reserve Account	139,295,064	139,880,369
Deferred Annuity Account	1,467,931	1,805,577
Total	\$ 240,819,648	\$ 215,785,569



# Note 4: Deposits and Investments

The deposits and investments of the System are exposed to risks that have the potential to result in losses. The following information discloses risks related to credit, interest rate and foreign currency risks, as well as policies related to these risks.

#### **Deposits**

Deposits are carried at cost and are included in "cash and cash equivalents". Cash and cash equivalents consisted of cash deposits with financial institutions of \$4,789, STIF accounts in the amount of \$2,751,299, and \$1,096 cash in state treasury. State Treasury Management Law governs the management of funds held in the State Treasury (cash in state treasury) and it is the responsibility of the Treasurer of State to ensure the funds are adequately insured and collateralized.

#### **Custodial Credit Risk**

Custodial credit risk for deposits is the risk that, in the event of the failure of a depository financial institution, the System will not be able to recover deposits or collateral securities held by an outside party. The System's deposit policy is to place deposits only in collateralized or insured accounts. As of June 30, 2017, the System's only deposits exposed to potential custodial credit risk would be any holdings in any foreign currency. As of June 30, 2017, the system had no foreign currency balances. The System holds foreign currency in banks outside the United States as a result of transactions by international investment managers.

#### Investments

Arkansas Code Annotated §§ 24-2-601 through 24-2-619 authorize the Board to have full power to invest and reinvest monies of the System and to hold, purchase, sell, assign, transfer or dispose of any of the investments, or proceeds of the investment in accordance with the prudent investor rule. Security transactions and any resulting gains or losses are accounted for on a trade basis. Net investment income includes net appreciation in the fair value of investments, interest income, dividend income, and total investment expense, which includes fees for investment management, custodial fees, and all other significant investment related costs.

Arkansas Code Annotated § 24-2-608 also states the System shall seek to invest not less than 5% or more than 10% of the System's portfolio in Arkansas-related investments. AJRS recognizes a legal responsibility to seek to invest in the Arkansas economy, while realizing its primary, legal, and fiduciary commitment is to beneficiaries of the retirement system. As stated in A.C.A. § 24-2-608 (d), "nothing in this section shall in any way limit or impair the responsibility of a fiduciary to invest in accordance with the prudent investor rule set forth in §§ 24-2-610 – 24-2-619."



Asset allocation guidelines have been established as follows:

Asset Allocation	Target	Lower Limit	Upper Limit
Domestic Equities	37 %	32 %	42 %
International Equities	15 %	10 %	20 %
Fixed Income	40 %	35 %	45 %
Real Estate	8 %	3 %	13 %

Investments are reported at fair value as determined by the custodian bank. The custodian bank's determination of fair values includes, among other things, using pricing services or quotes by independent brokers at current exchange rates, as available.

As of June 30, 2017, the System had the following investments:

Investment Type	Fair Value*
Government Securities	
U.S. Government Securities	\$ 22,515,095
U.S. Government Agency Securities	2,453,138
Futures	(7,085)
Corporate Securities	
Fixed Income Commingled	0
High Yield Income Fund	14,227,853
Collateralized Obligations	1,069,691
Corporate Bonds	35,863,298
Common Stock	55,719,007
Domestic Equity Commingled	39,970,217
International Securities	
Global Commingled	37,192,075
Global Corporate Fixed Income	3,339,344
Forwards	0
Global Equity	0
Global Govt Fixed	628,000
Emerging Markets	0
Real Estate	21,007,817
Commercial Loans	5,225,706
Total	\$ 239,204,155

<sup>\*</sup> Principal only Totals may not add due to rounding.



#### **Custodial Credit Risk**

Custodial credit risk for investments is the risk that, in the event of failure of the counterparty to a transaction, the System will not be able to recover the value of its investments or collateral securities that are in the possession of an outside party. Investment securities are exposed to custodial credit risk if the securities are (a) uninsured, (b) not registered in the name of the government, and (c) held by either the counterparty or the counterparty's trust department or agent but not in the System's name. As of June 30, 2017, there were no investments exposed to custodial credit risk.

#### Interest Rate Risk

Interest rate risk is the risk that changes in interest rates will adversely affect the fair value of investments. Investments can be highly sensitive to changes in interest rates due to their terms or characteristics. Interest rate risk is the greatest risk faced by an investor in the debt securities market since the price of a debt security will often move in the opposite direction of the change in interest rates.

The System's external fixed income investment manager uses the measurement of effective duration to mitigate the interest rate risk of the fixed income investments. The fixed income investment manager monitors and reports the effective duration on a monthly basis. The effective duration of the investment portfolio is required to be +/- 10% of the benchmark's duration. The benchmark for the U.S. fixed income markets is the Barclays Capital U.S. Aggregate Bond Index.

As of June 30, 2017, the System had the following debt security investments and maturities:

			Investment Maturity (In Years)		
Investment Type	Fair Value*	Less than 1	1 - 5	6 - 10	More than 10
U.S. Government Securities	\$ 22,515,095	\$ 0	\$ 10,575,443	\$ 7,480,699	\$ 4,458,954
Agency Pooled	2,453,138	0	0	0	2,453,138
Collateralized Obligations	1,069,691	399,689	222,275	0	447,727
High Yield Bond Fund	14,227,853	14,227,853	0	0	0
Corporate Bonds	35,863,789	1,250,401	15,128,123	9,661,356	9,823,909
Global Corporate Fixed	3,967,344	628,000	2,037,127	1,247,767	54,450
Commercial Loans	5,225,706	0	1,767,461	3,458,245	0
	\$ 85,322,615	\$16,505,942	\$ 29,730,429	\$ 14,367,368	\$ 17,238,177

<sup>\*</sup> Principal only Totals may not add due to rounding.



# Foreign Currency Risk

Foreign currency risk is the risk that changes in exchange rates will adversely affect the fair value of an investment. The System does not have a formal policy for foreign currency risk. All foreign currency investments are in equities, fixed income, cash and forward contracts.

#### Credit Risk

Credit risk of investments is the risk that the issuer or other counterparty will not meet its obligation. This credit risk is measured by the credit quality of investments in debt securities as described by nationally recognized statistical rating organizations. The System has a formal investment policy for credit risk. Exposure to a single issuer is limited to 5%. The Bank of New York Mellon provided the detail of Standard & Poor's (S&P) and Moody's ratings (see overleaf).



The System's exposure to credit risk as of June 30, 2017, was as follows:

# Moody's Credit Rating Dispersion Detail by Credit Rating

Investment Type and Fair Value		Aaa	Aa	Α	
<b>Government Securities</b>					
U.S. Governr	ment Securities	\$ 22,515,095	\$ 0	\$ 0	
	Agency Pooled	2,453,138	0	0	
Corporate Securities					
Collateraliz	ed Obligations	290,630	148,095	96,540	
High Y	ield Bond Fund	0	0	0	
Co	orporate Bonds	569,453	1,142,206	11,894,673	
International Securities					
Global C	Corporate Fixed	0	0	1,584,695	
Commercial Loans		1,467,938	298,873	0	
		\$ 27,296,254	\$ 1,589,175	\$ 13,575,908	•

# S&P's Credit Rating Dispersion Detail by Credit Rating

Investment Type and Fair Value	AAA	AA	Α		
Government Securities					
U.S. Government Securities	\$ 0	\$ 22,515,095	\$ 0		
Agency Pooled	2,453,138	0	0		
Corporate Securities					
Collateralized Obligations	290,630	148,095	96,540		
High Yield Bond Fund	0	0	0		
Corporate Bonds	569,453	2,964,453	8,692,171		
International Securities					
Global Corporate Fixed	0	0	1,039,712		
Commercial Loans	0	0	0		
	\$ 3,313,221	\$ 25,627,643	\$ 9,828,422		

<sup>\*</sup> Principal only Totals may not add due to rounding.



Ba	ia	Ва	a	 В	Caa	or below	N	IR	F	air Value*
\$	0	\$	0	\$ 0	\$	0	\$	0	\$	22,515,095
	0		0	0		0		0		2,453,138
	0	22	22,275	14,902		297,247		0		1,069,691
	0		0	0		0	14,2	227,853		14,227,853
17,7	11,555	1,9	56,313	1,178,655		0	1,4	110,934		35,863,789
1,9	17,496		55,153	0		0		0		3,967,344
	0		73,585	 1,063,838		207,037		)14,435		5,225,706
\$ 19,6	29,051	\$ 2,8	17,326	\$ 2,257,395	\$	504,285	\$ 17,6	553,222	\$	85,322,615
BB	ВВ	BE	3	 В	ccc	or below	N	IR	F	air Value*
\$	0	\$	0	\$ 0	\$	0	\$	0	\$	22,515,095
	0		0	0		0		0		2,453,138
	0	22	22,275	0		236,492		75,657		1,069,691
	0		0	0		0		227,853		14,227,853
18,7	82,185	3,76	51,641	232,100		0		861,786		35,863,789
2,4	62,479	46	55,153	0		0		0		3,967,344
5	00,517	1,14	12,785	 2,387,584		207,037		987,783		5,225,706

\$ 2,619,684

443,530

\$ 16,153,079

\$ 85,322,615

\$ 21,745,181

\$ 5,591,854



#### Concentration of Credit Risk

Concentration of credit risk is the risk of loss attributed to the magnitude of the System's investment in a single issuer (not including investments issued or guaranteed by the U.S. Government or investments in mutual funds or external investment pools). Each investment manager retained by the System has its own individualized investment policy regarding the concentration of credit risk. None of the System's investments in any one issuer (other than those issued or guaranteed by the U.S. Government) represented more than 5% of total investments.

#### Mortgage-Backed Securities

The System invests in mortgage-backed securities (MBSs) which are reported at fair value in the Statement of Fiduciary Net Position. MBSs entitle their holders to receive both principal and interest payments from the payments made by the borrowers of the underlying mortgages over the lives of those loans. An MBS depends on the underlying pool of mortgage loans to provide cash flow to make principal and interest payments on the security. The life of a mortgage that underlies an MBS can be shortened by several economic events, including borrower refinancing. When interest rates decline and remain low, borrowers may refinance their existing loans which causes MBS holders to be repaid more quickly than originally anticipated, and is known as prepayments. Prepayments reduce the weighted average life of the security and are a form of market risk assumed by the holders of MBSs. Alternatively, when interest rates rise, the refinancing of existing mortgages slows. If interest rates remain high for long periods of time fewer borrowers refinance their mortgages. As a result MBS holders are repaid over longer periods of time, which is known as extension risk. Extension risk increases the weighted average life of the security and is another form of market risk assumed by holders of MBSs.

A collateralized mortgage obligation (CMO) is an MBS that is composed of classes of bonds created by prioritizing the cash flows of the underlying mortgage pool. This redistributes prepayment risk and credit risk among the various bond classes in the CMO structure. Income is derived from payments and prepayments of principal and interest generated from collateral mortgages. CMOs may be collateralized by whole-loan mortgages, mortgage pass-through securities, or stripped mortgage-backed securities. As of June 30, 2017 the System held approximately \$1.069 million of collateralized obligations.

The System invests in MBSs and CMOs for diversification and to enhance fixed income returns. In addition to the risks outlined above, MBSs are subject to credit risk, the risk that the borrower will be unable to meet its obligations.

As of June 30, 2017, the System held approximately \$2.453 million in mortgage-backed securities, none of which were considered as highly sensitive to changes in interest rates.



# **Asset-Backed Securities**

As of June 30, 2017, the System did not have any asset-backed securities. Asset-backed securities (ABSs) are bonds or notes backed by loan paper or accounts receivable originated by banks, credit card companies, or other credit providers. The originator of the loan or accounts receivable paper sells it to a specially created trust, which repackages it as securities. Similar to the collateralized mortgage obligations described above, ABSs have been structured as pass-through securities and as structures with multiple bond classes. The System's ability to recover the amount of principal invested in these securities depends on the performance and quality of the trust assets.

#### **Corporate Bonds**

As of June 30, 2017, the System held corporate bonds with a fair value of approximately \$35.863 million. Corporate bonds are a debt security issued by a corporation. The backing for the bond is usually the ability of the company to pay the debt, which is typically based on money to be earned from future operations. In some cases, the company's physical assets may be used as collateral for bonds. Such bonds usually have a fixed term maturity and can have either a fixed or variable interest rate. Variable interest rate bonds have adjustments that are made periodically and vary directly with movements in interest rates.

#### **Pooled Funds**

AJRS has approximately \$37.192 million invested in international pooled funds. AJRS could be indirectly exposed to credit and market risks associated with currency forward contracts to the extent that these pooled funds hold currency forward contracts for purposes of managing exposure to fluctuations in foreign exchange rates.

#### **Derivative Instruments**

Derivative instruments are financial contracts or agreements whose values depend on the values of one or more underlying assets, reference rates, or financial indexes. Derivative instruments include futures contracts, forward contracts, swap contracts, options contracts, and forward foreign currency exchange. At any given time, AJRS, through its external investment managers, may hold such instruments. The external investment managers may enter into these investments on behalf of AJRS, primarily to enhance the performance and reduce the volatility of its portfolio. The external investment managers may enter into swaps and futures contracts to gain or hedge exposure to certain markets and to manage interest rate risk. AJRS' external investment managers seek to control this risk by evaluating the counterparties before approval, establishing credit limits for each counterparty, and employing procedures for monitoring exposure to credit risk. AJRS' external investment managers anticipate that the counterparties will be able to satisfy their obligations under the contracts. Investments in limited partnerships and commingled funds may include derivatives that are not shown in any derivative totals.



The external investment manager invests in MBSs, which are reported at fair value in the Statement of Fiduciary Net Position. Because MBSs are based on the cash flows from interest and principal payments of the underlying mortgages, they are sensitive to prepayments on mortgages in a declining interest rate environment that could reduce the value of the securities. The external investment manager may invest in MBSs to diversify AJRS' portfolio and increase return while minimizing the extent of risk.

As of June 30, 2017, the System had the following mortgage-backed TBA:

Mortgage-Backed tba	CUSIP	Notional Value	Fair Mkt Value	Duration	Credit Rating
FHLMC 3.50% 07/01/2047	02R032679	\$ 412,750	\$ 410,928	30.02	Aaa/AA+
FNMA 3.50% 07/01/2047	01F032674	402,066	400,557	30.02	Aaa/AA+
FNMA 4.55% 07/01/2047	01F040677	801,800	798,920	28.68	Aaa/AA+
		\$ 1,616,616	\$ 1,610,405	=	

As of June 30, 2017, the System had the following U.S. Treasury futures:

Future Description	Maturity Date	CUSIP	Notional Value	Unrealized Gain/(Loss)
U.S. 2-year Treasury Note	Sept 2017	99F217I7A	\$ (8,860,484)	\$ 12,172
U.S. 5-year Treasury Note	Sept 2017	99F183I7A	5,773,961	(13,398)
U.S. 10-year Treasury Note	Sept 2017	99F139I7A	1,004,250	(2,671)
U.S. Treasury Bond	Sept 2017	99F133I7A	(461,063)	(3,188)
			\$ (2,543,336)	\$ (7,085)



#### Fair Value Measurements

AJRS categorizes its fair value measurements within the fair value hierarchy by generally accepted accounting principles. The hierarchy is based on the valuation inputs used to measure the fair value of the asset and give the highest priority to unadjusted quoted prices in active markets for identical assets of liabilities (Level 1 measurements) and the lower priority to unobservable inputs (Level 3 measurements).

- 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 are observable.
- Level 3 Valuations derived from valuation techniques in which significant inputs are unobservable.

Investments that are measured at fair value using the net asset value per share (or its equivalent) as a practical expedient are not classified in the fair value hierarchy.

In instances where inputs used to measure fair value fall into different levels in the fair value hierarchy, fair value measurements in their entirety are categorized based on the lowest level input that is significant to the valuation. The System assessment of the significance of particular inputs to these fair value measurements requires judgment and considers factors specific to each asset or liability. The table(s) on the following pages shows the fair value leveling of the investments for the System.

Assets classified in Level 1 of the fair value hierarchy are valued directly from a predetermined primary external pricing vendor. Assets classified in Level 2 are subject to pricing by an alternative pricing source due to lack of information available by the primary vendor. Real estate, timberland, and Partnership assets classified in Level 3, due to lack of an independent pricing source, are valued using an internal fair value as provided by the investment manager.

The categorization of investments within the hierarchy is based upon the pricing transparency of the instrument(s) and should not be perceived as the particular investment's risk.



Investments and Derivative Instruments Measured at Fair Value (as of June 30, 2017)

	Fair Value	Level 1	Level 2		Level 3
Investments at Fair Value					
U.S. Domestic Equities	\$ 55,719,007	\$ 55,719,007	\$ 0	\$	0
Convertible Securities	0	0	0		0
Preferred Securities	422,015	0	422,015		0
Fixed Income					
U.S. Government Securities	22,515,095	22,515,095	0		0
Futures	(7,085)	(7,085)	0		0
Global Corporate Fixed	628,000	0	628,000		0
Agency Pooled Securities	2,453,138	0	2,453,138		
Corporate Bonds	39,850,809	0	39,850,809		0
Loans/JV interest	5,225,706	 0	0		5,225,706
Total Investments at Fair Value	\$ 70,665,663	\$ 78,227,017	\$ 43,353,961	= \$ =	5,225,706
Investments at the Net Asset Value (NAV)					
Defensive Bond Fund	\$ 7,957,546				
High Yield Core Fund	6,270,306				
Baillie Gifford International Choice Fund	37,192,075				
Invesco Core Real Estate Fund	21,007,817				
Wellington Diversified Growth Fund	 39,970,217				
Total Investments at the NAV	\$ 112,397,962				

Investments classified as level 1 in the preceding table are exchange-traded securities whose values are based on published market prices and quotations from either national security exchanges or active markets for those securities.

Investments classified as level 2 in the preceding table include publicly traded debt securities and exchange traded stocks in inactive markets. Investments in this category are sourced from reputable pricing vendors using pricing matrix models and techniques. Matrix pricing is used to value securities based on the securities' relationship to benchmark quoted prices. Fair value is defined as the quoted market value on the last trading day of the period. These prices are obtained from various pricing sources by AJRS' custodian bank which maintains the book of record for all investments.

Investments classified as level 3 in the preceding table are unobservable, meaning that the assets lack an independent pricing source. Values are provided by the investment manager or an external pricing source such as an independent appraiser.

#### Investments Measured at the Net Asset Value (NAV)

The fair value of investments that are organized as commingled funds or limited partnerships have no readily ascertainable fair value. The value is determined by using the net asset value per share or its equivalent. Commingled fund values are based on each investor's proportionate share of the total underlying assets in the fund less any liabilities for client withdrawals, investment purchases or other accrued expenses. Limited partnership values are based on the capital account balance the general partner reports at the end of each reporting period, adjusted by subsequent contributions, distributions, management fees, and changes in values

Totals may not add due to rounding.



of foreign currency and published market prices for certain securities. Even though the limited partnerships and commingled funds issue annual financial statements audited by independent auditors, the year-end for the State and these entities do not always agree.

There are inherent uncertainties in estimating fair values for these types of investments, and it is possible that the estimates will change in the near-term or the subsequent sale of assets will be different from the reported net asset value. With certain exceptions, mainly the equity and the fixed income funds, these investments cannot be redeemed, or, have certain restrictions regarding redemption. The real estate investments distributions are through the liquidation of the underlying assets or net operating cash flows. Each investment has a different redemption frequency and notice period as noted in the following table.

	Fair Value	Strategy Type	Fund Life of Non- redeemable Mandates	Unfunded Commitments	Redemption Frequency (if currently eligible)	Redemption Notice Period	Other Redemption Restrictions	Restriction Time Remaining
Defensive Bond Fund	\$ 7,957,546	Income Oriented	N/A	none	daily	T + 1	N/A	N/A
High Yield Core Fund	6,270,306	Active High Yield Fixed Income	N/A	none	daily	T + 1	N/A	N/A
Baillie Gifford International Choice Fund	37,192,075	International Equities	N/A	none	daily	T+3	N/A	N/A
Invesco Core Real Estate Fund	21,007,817	Core Real Esate	N/A	none	quarterly	T + 45	N/A	N/A
Diversified Growth Fund	39,970,217	U.S. Large Cap Growth stocks	N/A	none	daily	T + 1	N/A	N/A
Total	\$ 112,397,962							

#### Baillie Gifford International Choice Fund

The Choice Fund aims to deliver good long-term performance to shareholders by investing in a portfolio of 60-90 international growth stocks with up to 15% in emerging markets. The portfolio is built through bottom-up stock selection. It differs from the benchmark and looks for businesses that seek to outperform the market over the long term. Portfolio guidelines ensure a level of diversification across sectors and regions.

### Invesco Core Real Estate (ICRE)

The ICRE strategy is a portfolio of U.S. properties diversified by property type and geographic location, with an emphasis on attractive current income returns and the opportunity for both income and capital growth. It is based on top-down economic fundamentals combined with bottom-up local market intelligence.



### Defensive Bond Arbitrage Fund

The Defensive Bond Arbitrage Fund's investment objective is to exploit different sources of return in high yield corporate securities in a way that generates risk-adjusted returns superior to those available from conventional high yield securities. The investment strategy is based on the assumption and observation that numerous market inefficiencies exist throughout the capital markets (particularly in the high yield bond markets) and that the prudent, active, and systematic exploitation of these inefficiencies can generate returns consistent with these objectives.

# High Yield Income Fund

The High Yield Active Core philosophy is centered on the belief that the best risk-adjusted returns and, ultimately, the best absolute returns are generated by a strategy of yield capture and error avoidance.

#### Wellington CIF II Diversified Growth Fund

The investment objective of the Diversified Growth Fund is to provide long-term returns above those of the Russell 1000 Growth Index by investing primarily in large U.S. companies that are projected to grow faster than other large-cap stocks.



# Note 5: Net Pension Liability

The components of the net pension liability of the System at June 30, 2017, were as follows:

Total Pension Liability	\$ 270,381,518
Plan Fiduciary Net Position	\$ 240,819,648
Net Pension Liability	\$ 29,561,870
Plan fiduciary net position as a percentage of total pension liability	89.07%

# Long-Term Expected Return on Plan Assets

The long-term expected rate of return on pension plan investments was determined using 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. These ranges are combined to produce 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 expected inflation. Best estimates of arithmetic real rates of return were provided by the plan's investment consultant. For each major asset class that is included in the pension plan's target asset allocation as of June 30, 2017 these best estimates, provided by the plan's investment consultant, are summarized in the following table:

Asset Class	Target Allocation	Long-Term Expected Real Rate of Return
Broad Domestic Equity	37%	6.05%
International Equity	15	6.71
Real Estate	8	4.65
Cash Equivalents	0	0.02
Domestic Fixed	40	0.83
Total	100%	
Total Real Rate of Return		3.95%
Plus: Price Inflation - Actuary's Assumption		2.50
Less: Admin and Investment Expenses*		0.00
Net Expected Return		6.45%

<sup>\*</sup> This may overstate the investment expense as the investment market assumptions are based upon passive management. Our assumption for investment expense includes the cost of active management.



### Annual Money-Weighted Rate of Return

For the year ended June 30, 2017, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 12.93%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

#### **Discount Rate**

A single discount rate of 5.75% was used to measure the total pension liability. This single discount rate was based on the expected rate of return on pension plan investments of 5.75%. The projection of cash flows used to determine this single discount rate assumed that plan member contributions will be made at the current contribution rate and that employer contributions will be made at rates equal to the difference between actuarially determined contribution rates and the member rate. Based on these assumptions, the pension plan's fiduciary net position was projected to be available to make all projected future benefit payments of current plan 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.

# Sensitivity of the Net Pension Liability

The following table presents the net pension liability of the System, calculated using the discount rate of 5.75%, as well as what the System's net pension liability would be if it were calculated using a discount rate of one percentage point lower (4.75%) or one percentage point higher (6.75%) than the current rate.

	1% Decrease	<b>Current Discount Rate</b>	1% Increase
	4.75%	5.75%	6.75%
Net Pension Liability	\$ 62,941,835	\$ 29,561,870	\$ 1,377,142

The Board engages an independent firm of actuaries to (1) estimate the present value of actuarial accrued liabilities (AALs) and pension benefit obligations so they can then (2) determine the reserves and employer contribution rates that are required to meet the System's obligations to current and terminated participants, retired individuals, and beneficiaries.

AALs are those future periodic payments including lump sum distributions that are attributable to the service employees have rendered to date and the plan provisions of the System. The present value of AALs is calculated based on the entry age actuarial cost method with benefits based on projected salary increases. The actuarial assumed investment rate of return of 6.25% was allocated to appropriate actuarial accrued liabilities.



#### **Actuarial Gains and Losses**

Actuarial gains and losses result from the differences between the AAL amount computed by the actuary and those same amounts reflected in the required supplemental schedules as of the date of the actuarial report. The net actuarial gain or loss increases or decreases the unfunded AAL based on the annual actuarial valuation. The 2017 actuarial gains and losses were due to routine adjustments of actuarial assumptions and methodology, as well as normal experience gains and losses. The resulting actuarial gain was \$6,297,064.

### **Actuarial Computed Liabilities**

The total unfunded actuarial computed liability of the System as adjusted to fair value, based on entry age normal cost method which is the projected benefit method with a supplemental cost, used for determining required contributions as appears in the actuarial valuation, was \$31,426,009 as of June 30, 2017.

### **Actuarial Accrued Liabilities**

	(1) Total Present	Total Portion Covered	
ACTUARIAL PRESENT VALUE OF	Value	Cost Contributions	(1)-(2)
Benefits to be paid to current retirees, beneficiaries, and future beneficiaries of current retirees	\$ 161,761,010	\$ 0	\$ 161,761,010
Age and service allowances based on total service likely to be rendered by present active members	154,998,735	51,473,783	103,524,952
Separation benefits (refunds of contributions and deferred allowances) likely to be paid to present active and inactive members	4,147,049	2,627,713	1,519,336
Disability benefits likely to be paid to present active members	1,374,387	2,056,275	(681,888)
Death-in-service benefits likely to be paid on behalf of present active members	7,468,903	3,210,795	4,258,108
Total	\$ 329,750,084	\$ 59,368,566	\$ 270,381,518
Applicable Assets (Funding Value)	238,955,509	0	238,955,509
Liabilities to be covered by future contributions	\$ 90,794,575	\$ 59,368,566	\$ 31,426,009



### REQUIRED SUPPLEMENTARY INFORMATION

The historical trend information designed to provide information about the System's progress made in accumulating sufficient assets to pay benefits when due is required supplementary information.

## **Schedule of Employer Contributions**

Year Ended	Annual Required	Percent
June 30	Contribution	Contributed
2008	\$ 5,144,958	100%
2009	4,466,571	100
2010	4,667,612	100
2011	5,220,623	100
2012	5,465,079	100
2013	5,672,291	100
2014	6,117,327	100
2015	5,690,381	100
2016	5,561,289	100
2017	\$ 8,485,361	100%

Source: actuarial valuations as of 6/30/2017

The percentage contributed amounts are included per Act 922 of 1983, which authorizes an annual transfer from the Constitutional Officers Fund and the State Central Services Fund to provide full actuarial funding for the System. Because of the timing of this annual transfer, the actual percentage contributed in any single fiscal year may vary from the annual required contribution amount.

## **Schedule of Funding Progress**

Actuarial Valuation Date	Actuarial Value of Assets (a)	Entry Age (AAL) (b)	UAAL* (b) - (a)	Funded Ratio (a)/(b)	Annual Covered Payroll (c)	UAAL* as a Percentage of Covered Payroll [(b-a)/(c)]
6/30/08	\$ 169,061	\$ 165,747	\$ (3,314)	102.0%	\$ 18,074	0%
6/30/09	167,433	180,166	12,732	92.9	18,875	67
6/30/10	165,244	182,912	17,668	90.3	18,630	95
6/30/11	165,377	186,635	21,258	88.6	19,338	110
6/30/12	167,796	195,455	27,658	85.8	19,202	144
6/30/13	182,596	203,134	20,537	89.9	19,586	105
6/30/14	201,792	208,006	6,213	97.0	19,782	31
6/30/15	215,448	254,714	39,266	84.6	22,308	176
6/30/16	225,254	260,522	35,268	86.5	22,308	158
6/30/17	\$ 238,956	\$ 270,382	\$ 31,426	88.4%	\$ 22,918	137%

<sup>\*</sup> UAAL is unfunded actuarial accrued liability. Dollars in thousands



## Schedule of Changes in Net Pension Liability and Related Ratios

(eventually 10 fiscal years will be displayed)	2017	2016	2015
Total Pension Liability			
Service Cost	\$ 7,221,153	\$ 7,230,267	\$ 5,342,168
Interest	16,121,127	15,770,309	14,883,382
Changes in Benefit Terms	0	0	0
Differences Between Expected and Actual Experience	(3,462,751)	(5,184,045)	12,969,853
Changes of Assumptions	2,369,244	0	24,290,229
Benefit Payments	(12,389,433)	(12,008,338)	(10,762,871)
Refunds	0	0	(14,320)
Net Change in Total Pension Liability	9,859,340	5,808,193	46,708,441
Total Pension Liability, Beginning of Year	260,522,178	254,713,985	208,005,544
Total Pension Liability, End of Year (A)	\$ 270,381,518	\$ 260,522,178	\$ 254,713,985
Plan Fiduciary Net Position			
Employer Contributions	\$ 8,485,361	\$ 5,561,289	\$ \$5,690,381
Employee Contributions	1,016,646	1,011,372	946,149
Net Investment Income	28,044,374	(1,744,085)	9,971,823
Benefit Payments	(12,389,433)	(12,008,338)	(10,762,871)
Refunds	45,832	0	(14,320)
Administrative Expense	(168,701)	(158,420)	(137,951)
Net Change in Plan Fiduciary Net Position	25,034,079	(7,338,182)	5,693,211
Plan Fiduciary Net Position, Beginning of Year	215,785,569	223,123,751	217,430,540
Plan Fiduciary Net Position, End of Year (B)	\$ 240,819,648	\$ 215,785,569	\$ 223,123,751
Net Pension Liability, End of Year (A) - (B)	\$ 29,561,870	\$ 44,736,609	\$ \$31,590,234
Plan Fiduciary Net Position as a Percentage of			
the Total Pension Liability	89.07%	82.83%	87.60%
Covered-Employee Payroll	\$ 22,917,870	\$ 22,308,000	\$ 22,308,000
Net Pension Liability as a Percentage of Covered-			
Employee Payroll	128.99%	200.54%	141.61%

Totals may not add due to rounding.



## Schedule of Net Pension Liabilities

FY Ending June 30	Total Pension Liability	Plan Net Position	Net Pension Liability	Plan Net Position as a % of Total Pension Liability	Covered Payroll	Net Pension Liability as a % of Covered Payroll
2014	\$ 208,005,544	\$ 217,430,541	\$ (9,424,997)	104.53%	\$ 19,781,628	(47.65)%
2015	\$ 254,713,985	\$ 223,123,751	31,590,234	87.60%	22,308,000	141.61%
2016	\$ 260,522,178	\$ 215,785,569	44,736,609	82.83%	22,308,000	200.54%
2017	\$ 270,381,518	\$ 240,819,648	\$ 29,561,870	89.07%	\$ 22,917,870	128.99%

## Schedule of Investment Returns

Annual money-weighted rate of return, net of investment expense

2014	15.63%
2015	4.60%
2016	(0.79%)
2017	12.93%



## NOTES TO REQUIRED SUPPLEMENTARY INFORMATION

## **Schedule of Administrative Expenses**

2017			2016
\$ 2,025		\$	1,659
1,077			1,625
50,400			43,100
 6,899	_		3,735
57,299			46,835
 108,301	_		108,301
\$ 168,702	_	\$	158,420
\$	\$ 2,025 1,077 50,400 6,899 57,299 108,301	\$ 2,025 1,077 50,400 6,899 57,299 108,301	\$ 2,025 \$ 1,077 \$ 50,400 6,899 57,299 108,301

NOTE: Administrative expenses will change once pension expense amount is adjusted based upon actuarially determined net pension liability.

## Schedule of Investment Expenses (as of June 30, 2017)

	2017	2016
Custodian Bank Fees	\$ 14,352	\$ 14,546
Investment Consultant Fee	59,485	57,200
Investment Manager Fees*	1,039,190	1,090,504
Transaction Fees	0	0
Total Investment Expenses	\$ 1,113,027	\$ 1,162,251

<sup>\*</sup> For fee paid to investment managers, please see the schedule of investment fees shown on page ## .

## Schedule of Payments for Professional Consultants (as of June 30, 2017)

	2017	2016
Gabriel, Roeder, Smith & Company	\$ 50,400	\$ 43,100





### CHIEF INVESTMENT OFFICER'S REPORT

Dear Members,

Oh behalf of the AJRS Investment Department, it is my pleasure to present the Investment Section of the AJRS Annual Financial Report for the fiscal year ended June 30, 2017.

### Performance and Stability

For fiscal year 2017, the AJRS investment portfolio closed with total investments of \$240,973,562. The investment return for the fiscal year was 13.35%.

### Fiscal Year 2017 Financial Market Recap

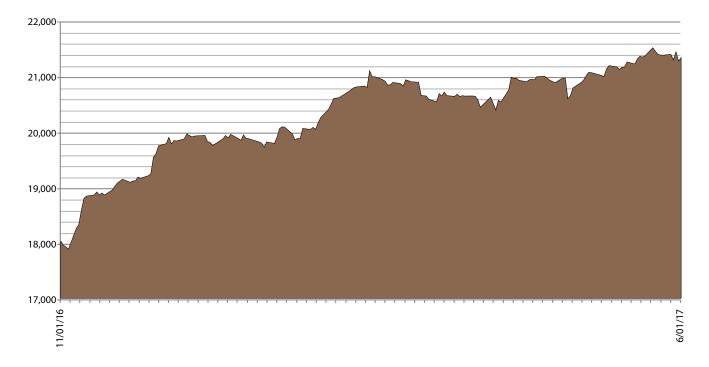
One of the last paragraphs that I wrote last year stated that the previous fiscal year was definitely volatile. The first two quarters of the fiscal year continued to see economic uncertainty. Geopolitical events as well as volatility across all asset classes, all major indices, and the currency markets have made the past fiscal year and the beginning of the upcoming fiscal year challenging. The Brexit vote and its repercussions were feared to be the most material exogenous shock to the global economy since the beginning of the post 2008 recovery.

When Donald Trump was elected to be the President of the U.S., it was definitely a watershed moment. His perceived economic platform had the equity markets extremely optimistic. The U.S. financial markets experienced a "Trump bump" as well as a "growth acceleration trade." The U.S. stock markets and interest rates both were propelled higher. The yield on the U.S. 10-year note rose 85bps. British 10-year GILTS rose 49bps, and the 10-year German Bund rose 33bps. The U.S. Federal Reserve tightened monetary policy and hiked the Fed Funds rates 25bps in the middle of December.

Other Central Banks remained in stimulation mode. The Bank of Japan was facing rising bond yields and reasserted its intent to maintain lower rates by offering to purchase unlimited quantities of JGBs of specific maturities and yields. The ECB announced it will trim its monthly bond purchasing program from €80 billion to €60 billion starting in March 2017 and also stated that the deflation risk "has largely disappeared."

U.S. labor conditions remained tight. The November unemployment rate fell to 4.6%. The U.S. had a third-quarter annualized GDP of 2.9%, which was the best in eight quarters. Europe's GDP for the same period was 1.2% annualized. At the end of November, OPEC agreed to cut oil production by 1.2million barrels a day. West Texas Intermediate (WTI) crude oil rallied through year-end. WTI closed the year at \$54 which was a 45% increase for the year.

# Investments



The first quarter of 2017 (third quarter of the fiscal year) saw the markets reassess the Trump bump. The administration strived to garner enough Republican support in the House of Representatives to repeal and replace Obamacare. "Repeal and replace" was the battle cry of the president's campaign, along with tax cuts, deregulation, and infrastructure spending. The financial markets reconsidered the timing and likelihood of the new administration's stimulative policies. The Federal Reserve raised the Fed Funds target in March which was widely expected. The FOMC also signaled that three more rate hikes are likely in 2017. The U.S. Treasury yield curve flattened.

Britain invoked Article 50 of the Lisbon Treaty which set the two-year Brexit process in motion. Inflation data crept up in a number of major markets. The U.S. core Personal Consumption Expenditure Index less food and energy exceeded the Fed's 2% target as it came in at 2.1%. The U.K came in at 2.3%, and Japan had its first back-to-back rise since 2015 as it came in at 0.2%. West Texas Intermediate closed at \$47.73 which was down \$11.15 for the quarter. The global markets kept a close eye on other elections, particularly in Europe. The defeat of Geert Wilders in the Netherlands was a positive for the capital markets, and the first round of the French presidential election impacted the sovereign debt markets. French candidate Marine Le Pen's rise caused spreads of French OATs (Obligations Assimilables du Tresor) to widen against German bunds.

The second quarter of 2017 (fourth quarter of the fiscal year) focused mostly on politics and central bank activity. The Federal Reserve laid out its plans to reduce its \$4.5 trillion balance sheet. The tapering was expected to start later in 2017. The Fed also raised the Fed Funds target rate to 1.25% at their June meeting,



which was expected. The U.S. unemployment rate fell to 4.3%, which was a 16 year low.

As of June 30, there had not been any hard economic data to validate a "Trump bump." The new administration had not enacted any new tax cuts, begun any infrastructure expansion, or succeeded in repealing and replacing the Affordable Care Act. Despite the administration's inability to deliver on its platform promises, the markets continued to be focused on whether corporate earnings will continue to rise at a healthy clip in spite of what is going on inside the beltway and around the globe, which includes increased tension between the U.S. and North Korea, and the continuing conflict in Syria.

As I write this, global stocks have continued to grind higher in the third quarter of the year (the first quarter of the 2018 fiscal year), despite political turmoil in D.C., the volatile situation in the Middle East, and the increased Brexit uncertainty with investors apparently choosing to be optimistic about the proposed Republican tax plan, an increase in oil prices, buoyant job growth, and a somewhat positive global economic backdrop as we go into the final quarter of the calendar year.

Weather, geopolitics, and presidential tweets did cause some temporary strains. Hurricane Harvey devastated Houston. The Caribbean and Florida got slammed by Hurricanes Irma and Maria. Puerto Rico, a U.S. territory, took the brunt of the devastation. Tensions continue to escalate on the Korean peninsula as North Korea continued to test its nuclear arsenal and fired a missile over Japan prompting Trump to threaten "dire consequences" in a tweet.

The domestic equity markets have viewed the administration's proposed corporate tax cut favorably. The Dow Jones closed the fiscal year end (06/30/2017) at 21,068, and at the time of this letter, the DJIA has touched an all-time high of 23,485 during the month of October. However, political turmoil continues.

The special counsel continues to investigate Russia's meddling in the 2016 political election. Facebook, Google, and Twitter all testified before the Senate Intelligence Committee on how Russia may have used their social media platform to meddle in the election. Federal Reserve Chairperson Janet Yellen will not be reappointed to her position. President Trump has nominated Jerome Powell to be the next Chairperson. How will the markets react to a new Chairperson? He's not as dovish as Yellen.

Also, the most recent updated proposed tax reform could eliminate the deductions for medical and dental expenses, student loan interest, alimony, moving expenses, casualty, disaster & theft losses, and adoption, and it will eliminate the federal tax credit for electric cars. It will also cap the mortgage interest tax break as well as the deduction for property taxes. I am not quite sure how those recent proposals help the average working class American.

# Investments

With all that said, can the financial markets continue on their upward trajectory? I am hopeful, but skeptical.

I would like to thank each member of the Board of Trustees, the ultimate fiduciaries of APERS, for embracing the current investment structure that allowed APERS to achieve strong results for our members and the Arkansas taxpayers. APERS' staff is committed to placing the System in the best position to continue to face the challenges of the global financial markets and to ensure that APERS' assets are positioned to provide long-term financial stability for you, the members.

Respectfully yours,

Carlos Borromeo

**Chief Investment Officer** 



### INVESTMENT CONSULTANT'S REPORT

# Callan

Callan Associates Inc. 120 North LaSalle Street Suite 2400 Chicago, IL 60602



August 30, 2017

#### Dear Trustees:

AJRS' investment program objective is to provide plan participants with retirement benefits. This is accomplished by the implementation of a carefully planned and executed long-term investment program. The Board of Trustees (Board) has exclusive control of all retirement system investments and is responsible for establishing investment objectives, strategies, and policies.

The Board is charged with the responsibility of investing the Systems' assets to provide for the benefits of the members of the systems. To achieve that goal the Board follows a policy of preserving capital while seeking means of enhancing revenues and protecting against undue losses in any particular investment area. The Board diversifies the investment of the assets among classes of securities to reduce risk while maximizing the long-range return.

#### **Asset Allocation**

Based on its analysis of capital and money market return patterns, both historical and projected, the Board considers the following asset allocation targets to be consistent with the return requirements and risk tolerance of the fund:

Domestic Equity	37%
International Equity	15%
Domestic Fixed Income	40%
Real Estate	8%

The Fund benchmark is the return that would have been achieved if the Fund had been invested: 37% in the Russell 3000 Index, 15% in the Morgan Stanley Capital International Europe, Australia, Far East Index, 40% in the Bloomberg Aggregate Bond Index and 8% in the NCREIF Fund Index - Open End Diversified Core Equity Real Estate Index.

#### **Total Fund Goals**

The System's primary funding goal is to achieve and maintain a funded status that provides for the security of retirement income to participants in the Plan.

The Board's investment objective, as per the Investment Policy Statement, shall be to achieve a rate of return on the System's assets of at least two and one-half percent (2.5%) above the rate of inflation and a total return of the actuarially assumed rate of seven and one-half percent (6.25%).

# Investments

Callan

-

#### **Total Fund Returns**

For the fiscal year 2017 AJRS produced a return of 13.35%. This return outperformed the fund benchmark, as described above, by 3.28%.

The five-year annualized return of 9.55% outperformed the Fund's benchmark return of 8.47%. In the Callan Public Fund Universe, AJRS' total fund performance ranks at the 25<sup>th</sup> percentile for five years. The five year return exceeded the actuarially assumed interest rate of 6.25%.

The performance calculations presented above were prepared by the Systems' custodial bank using a time-weighted rate of return methodology based upon the market value of assets.

Sincerely,

R. Ryan Ball, CFA Senior Vice President



### INVESTMENT POLICY SUMMARY

#### Introduction

The basic policy of the Board of Trustees of the Arkansas Judicial Retirement System (the Board) shall be to provide all the benefits specified by law to the members of the Arkansas Judicial Retirement System (AJRS or the System) and their beneficiaries.

At all times acting solely in the best interest of the beneficiaries of the System, the Board shall manage the System's funds as provided by Arkansas Code of 1987 Annotated (A.C.A.) §§ 24-2-601 through 24-2-619, operating on the principles of the prudent investor rule. This will include devoting careful consideration to the following factors:

- · both the funded and unfunded AALs,
- the period of time necessary to amortize all unfunded AALs,
- · the anticipated long term return from both equities and bonds,
- · the need for short term liquidity for disbursements to beneficiaries,
- · the general economic conditions,
- · the effects of inflation or deflation, and
- any other material, actuarial, fiscal, or economic factors.

#### **Investment Objectives**

The Board's investment objective shall be to achieve a rate of return on the System's assets of at least 2.5% above the rate of inflation which results in an assumed investment return rate for purposes of the actuarial valuation of 5.75%.

In pursuing this objective the Board shall attempt to maximize the total return in both income and capital appreciation but with greater emphasis on capital appreciation. However, the effort to obtain maximum returns must be consistent with prudent risk-taking, and short-term fluctuations in market value should be considered secondary to long-term results. The Board shall review individual investment decisions as follows:

- in the context of the entire trust fund,
- as a part of an overall investment strategy, and
- · with reasonable objectives for risk and return.

# Investments

#### **Asset Allocation**

The Board, with advice by investment consultants and investment managers, shall cause the System's funds to be invested primarily in equities and fixed income securities.

The System frequently has cash from dividends, interest, sale of securities, and contributions, and it is invested in very short-term, or overnight, investments. The Board is authorized to delegate its investment functions.

Accordingly, the Board has employed investment managers that invest in both equities and fixed income securities and has employed a custodian bank that makes overnight investments with cash.

The Board, after consultation with investment consultants and investment managers, periodically will determine the allocation to be made with the System's assets. The Board, after consultation with investment consultants and investment managers, periodically will determine the allocation to be made with the System's assets. The Board has a targeted allocation of 37% to domestic equity investments, 40% to domestic fixed income securities, 15% to international equities, and 8% to real estate with ranges of plus or minus 5% to be tolerated as transitory occurrences. Thus, the current asset allocation is to be as follows:

Asset Class	Range
Domestic Equities	32% to 42%
International Equities	10% to 20%
Fixed Income	35% to 45%
Real Estate	3% to 13%



#### **Review of Investment Processes**

The Board is authorized to directly manage the System's funds or to delegate its investment function. Currently the Board has delegated its investment function to investment managers and has delegated investment discretion to the managers by separate contract. The duties and responsibilities of each of the investment managers hired by the Board shall include the following:

- A. Each must manage the assets it holds in accordance with the policy guidelines and objectives expressed in this statement. If some deviation from this statement is deemed prudent and desirable by both the Board and manager, they may accordingly modify this policy statement in writing.
- B. Each must demonstrate satisfactory performance in investing the System's funds. In evaluating a manager's performance the Board will give consideration to the investment conditions during the evaluation period, to the manager's style of investment, and to these investment guidelines. The Board will determine the length of a reasonable demonstration period, but each manager's performance will be reviewed at least annually. The manager's performance will be compared against a neutral benchmark of 37% Russell 3000 Index and 40% Barclays Aggregate Index, 15% MSCI EAFE Index, and 8% NFI-ODCE Equal Weight net, as well as against a universe of similarly managed funds in the Investment Consultant's database. The Board may also consider how proxies are voted, which stockbrokers the investment manager employs, and what commissions are paid to them.
- C. Managers must keep the Board apprised of their progress in meeting the investment objectives set forth in this statement and must promptly inform the Board of significant changes in any of the following:
  - 1. the manager's investment strategy or portfolio structure,
  - 2. the market value of managed assets, and
  - 3. the ownership, affiliations, organizational structure, financial condition, professional personnel staffing, or clientele of the manager.
- D. Each manager must comply with all of the duties and responsibilities the manager has as a fiduciary. In addition, the System's assets are to be invested with the care, skill, prudence, and diligence that a prudent professional investment manager would use in similar circumstances.

**Target Asset Allocation** 

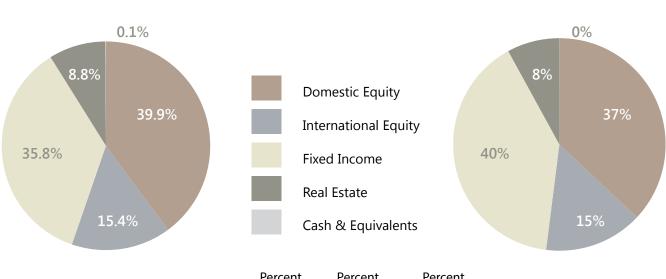
# Investments

## ASSET ALLOCATION (as of June 30, 2017)

### **Actual versus Target Asset Allocation**

**Actual Asset Allocation** 

AJRS' actual asset allocation is within the target range set by its investment policy. This target should be confirmed based on AJRS' ongoing asset allocation discussions. The current target allocation is as follows:



		Percent	Percent	Percent		
Asset Class	Actual*	Actual	Target	Difference	Difference <sup>†</sup>	*
Domestic Equity	\$ 96,192	39.9%	37.0%	2.9%	\$ 7,032	2
International Equity	37,192	15.4	15.0	0.4	1,046	;
Domestic Fixed Income	86,249	35.8	40.0	(4.2)	(10,140	))
Real Estate	21,181	8.8	8.0	0.8	1,903	}
Cash & Equivalents	159	0.1	0.0	0.1	159	)
Total*	\$ 240,974	100.0%	100.0%			

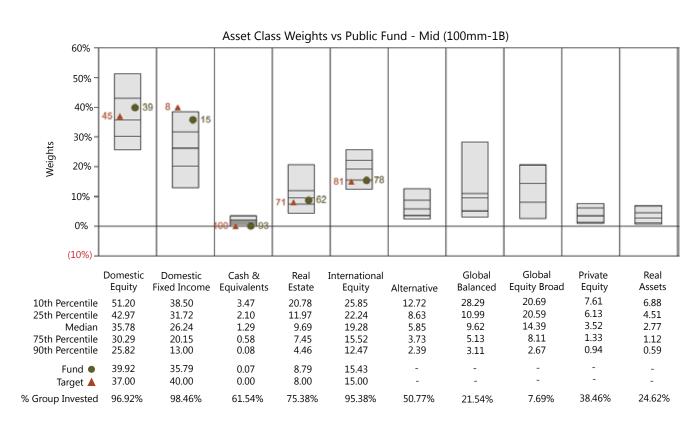
<sup>\*</sup>Dollars in thousands

Total asset class does not include cash at local bank and non-investment receivables. Totals may not add due to rounding.

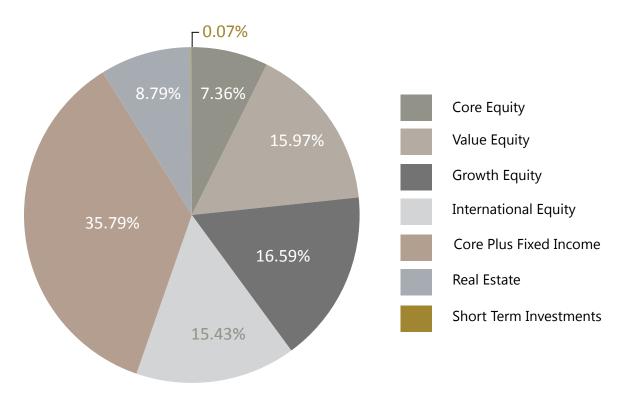


### **Public Plan Sponsor Database**

The illustration below shows the average percentage of asset allocations by asset type for the Public Plan Sponsor Database. Because different public funds allocate assets differently, percentages will not equal 100%.



# MANAGER DISTRIBUTION (as of June 30, 2017)



Investment Manager	Strategy	Allocation	Market Value
QS Batterymarch Financial	Core Equity	7.36%	\$ 17,737,410
Boston Partners	Value Equity	15.97	38,484,370
Wellington Management Co.	Growth Equity	16.59	39,970,217
Baillie Gifford International Choice Fund	International Equity	15.43	37,192,075
MacKay Shields LLC	Core Plus Fixed Income	35.79	86,249,134
Invesco Core Real Estate	Real Estate	8.79	21,180,967
AJRS General Fund	Short Term Investments	0.07	159,389
Total Investments		100%	\$240,973,562



## SCHEDULE OF COMPARATIVE INVESTMENT RESULTS BY YEAR

(fiscal years ended 2013 through 2017)

	2017	2016	2015	2014	2013
Total Fund					
Arkansas Judicial Retirement System	13.35%	(0.27)%	5.06%	16.09%	14.42%
Callan Total Public Fund Median	12.50	0.34	3.12	16.03	11.87
Inflation (Consumer Price Index)	1.50	0.64	(0.38)	2.04	1.75
Equities					
Arkansas Judicial Retirement System	19.99%	(1.81)%	9.18%	23.49%	22.94%
Callan Total Equity Database Median	18.92	1.01	7.37	24.78	22.16
Russell 3000 Index	18.51	2.14	7.29	25.22	21.46
International Equities					
Arkansas Judicial Retirement System	25.17%	(12.15)%	(1.41)%	21.28%	21.00%
Callan Total Non-U.S. Equity Database Median	20.73	(8.88)	(3.22)	20.83	14.70
MSCI EAFE Index	20.27	(10.16)	(4.22)	23.57	18.62
Fixed Income					
Arkansas Judicial Retirement System	3.90%	3.92%	1.16%	7.55%	4.84%
Callan Total Fixed Income Database Median	1.09	4.87	1.70	5.10	0.79
Bloomberg Aggregate Index	(0.31)	6.00	1.86	4.37	0.69

Source: Callan Associates Inc. (CAI database contains returns of over 115 public retirement funds.) Returns are reported gross of fees.

# Investments

## SCHEDULE OF COMPARATIVE ANNUALIZED INVESTMENT RESULTS

(for the current fiscal year and the preceding 3-year and 5-year rates of return)

		Annualized	
	2017	3-Year	5-Year
Total Fund			
Arkansas Judicial Retirement System	13.35%	5.90%	9.55%
Callan Total Public Fund Median	12.50	5.18	8.42
Inflation (Consumer Price Index)	1.50	0.58	1.11
Equities			
Arkansas Judicial Retirement System	19.99%	8.76%	14.32%
Callan Total Equity Database Median	18.92	8.82	14.47
Russell 3000 Index	18.51	9.10	14.58
International Equities			
Arkansas Judicial Retirement System	25.17%	2.72%	9.73%
Callan Total Non-U.S. Equity Database Median	20.73	2.05	8.44
MSCI EAFE Index	20.27	1.15	8.69
Fixed Income			
Arkansas Judicial Retirement System	3.90%	2.98%	4.25%
Callan Total Fixed Income Database Median	1.09	2.71	2.71
Barclays Capital Aggregate Index	(0.31)	2.48	2.21

Source: Callan Associates Inc. (CAI database contains returns of over 115 public retirement funds.)

Returns are reported gross of fees.



# PORTFOLIO CHARACTERISTICS

(fiscal years ended June 30, 2016 and 2017)

	2017	2016
Selected Bond Characteristics		
Yield to Maturity (Market)	3.18%	3.41%
Current Yield	3.02%	2.98%
Average Coupon Rate	3.23%	3.45%
Average Maturity	8.60 yrs.	8.63 yrs.
Quality Breakdown		
AAA (Includes Govts. & Agencies)	30.10%	36.50%
AA	1.10%	2.30%
A	15.90%	11.80%
BAA	33.50%	29.90%
Below BAA	19.00%	19.60%
Cash*	0.40%	(0.10)%
Selected Stock Characteristics		
Average P/E Ratio	21.13x	19.30x
Estimated Earnings Growth Rate (Next 5 Years)	13.92%	13.77%
Current Yield	1.62%	1.72%

<sup>\*</sup> Includes short term investment fund

Source: Callan Associates

# Investments

# TEN LARGEST HOLDINGS (as of June 30, 2017)

## **Fixed Income Holdings (by market value)**

	Par	Description	Market Value
1	\$ 4,300,000	U.S. Treasury Note 2.500% 08/15/2023	\$ 4,413,047
2	3,540,000	U.S. Treasury Note 2.000% 08/31/2021	3,571,117
3	2,730,000	U.S. Treasury Note 2.250% 04/30/2021	2,782,989
4	2,765,000	U.S. Treasury Note 2.000% 11/30/2022	2,770,834
5	2,145,000	U.S. Treasury Note 2.000% 11/15/2026	2,091,547
6	1,365,000	U.S. Treasury Note 1.750% 05/15/2023	1,344,743
7	875,000	Goldman Sachs 3.850% 01/26/2027	890,146
8	935,000	U.S. Treasury Bond 2.500% 05/15/2046	869,877
9	860,000	U.S. Treasury Note 2.000% 08/15/2025	845,389
10	\$ 760,000	FNMA TBA 4.000% 07/01/2047	798,920
			\$ 20,378,609

## **Equity Holdings (by market value)**

	Shares	Description	Market Value
1	20,809	JP Morgan Chase & Co.	\$ 1,901,943
2	72,928	Bank of America Corp.	1,769,233
3	21,302	Citigroup Inc.	1,424,678
4	8,212	Berkshire Hathaway Inc.	1,390,866
5	9,095	Johnson & Johnson	1,203,178
6	17,845	Wells Fargo & Co.	988,791
7	9,115	Chevron Corp.	950,968
8	14,502	Merck & Co Inc.	929,433
9	6,037	Apple Inc.	869,449
10	26,791	Cisco Systems Inc.	838,558
			\$ 12,267,097

## **International Equity Holdings (by market value)**

	Shares	Description	Ma	arket Value*
1	26,819	TSMC ADR	\$	937,590
2	4,490	Naspers		872,091
3	23,470	Atlas Copco		817,288
4	23,892	MS&AD Insurance		802,496
5	1,348	Mettler-Toledo		793,333
6	42,347	Japan Exchange Group		766,969
7	12,845	Kao		762,758
8	6,342	Cochlear		756,210
9	43,056	Hargreaves Lansdown		728,181
10	15,350	Zalando SE		700,482
			\$	7,937,398

 $<sup>{\</sup>bf *Market\, Value\, represents\, AJRS\, percentage\, of\, investment\, in\, international\, Equity\, Commingled\, fund.}$ 

Totals may not add due to rounding.

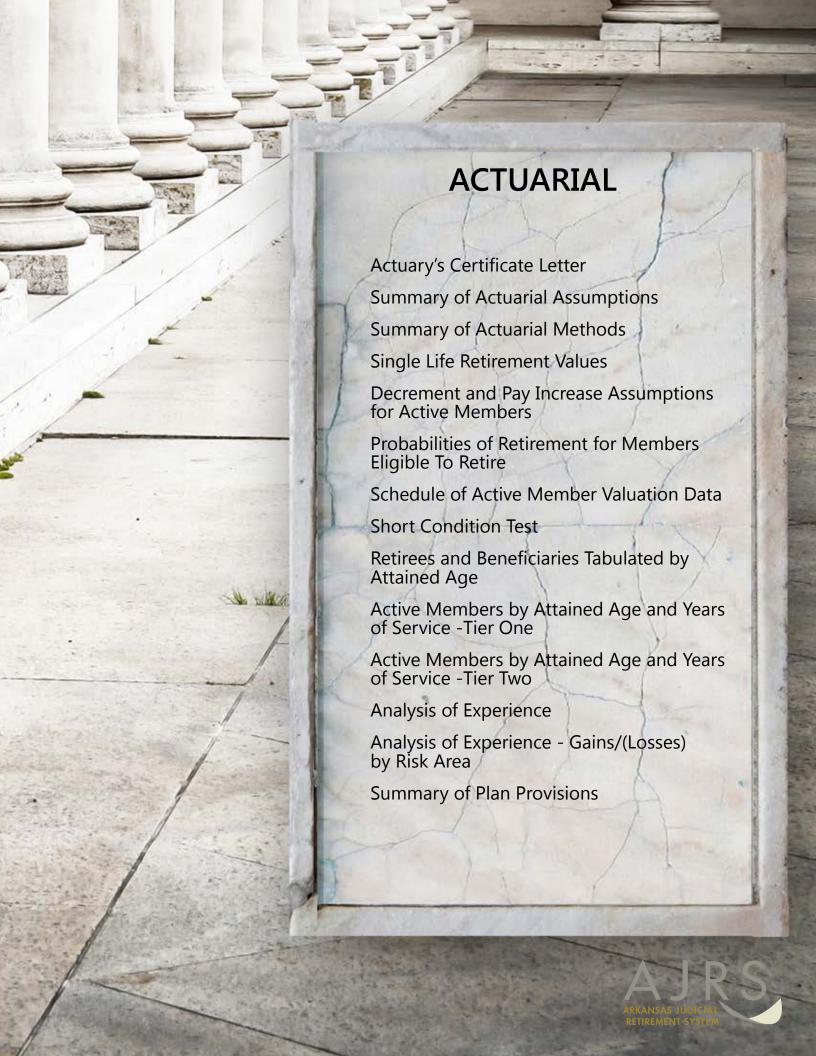


# SCHEDULE OF BROKERAGE COMMISSIONS (for the fiscal year ended June 30, 2017)

Brokerage Firm	Number of Shares Traded	Total Commission	Commission Per Share
Barclays Capital	219,965	\$ 2,771	\$ 0.01
Goldman Sachs & Co.	169,216	2,733	0.02
J.P. Morgan Securities	195,123	2,725	0.01
Credit Suisse	104,795	1,937	0.02
Sanford C Bernstein & Co.	95,658	1,665	0.02
HSBC Securitites	75,906	1,518	0.02
Merrill Lynch Pierce Fenner Smith Inc.	89,707	1,364	0.02
S J Levinson & Sons LLC	91,833	1,335	0.01
Morgan Stanley & Co. Inc.	44,667	1,072	0.02
Citigroup Global Markets Inc.	21,312	550	0.03
Liquidnet Inc.	51,001	510	0.01
UBS Securities LLC	31,191	481	0.02
Instinet Corp.	38,572	386	0.01
ITG Inc.	31,127	302	0.01
JPMorgan Securities Inc.	19,831	198	0.01
FBR Capital Markets & Co.	7,841	157	0.02
Deutsche Bank Securities Inc.	5,614	147	0.03
Cantor Fitzgerald	4,871	129	0.03
ISI Group Inc.	6,092	110	0.02
Jefferies & Co. Inc.	4,044	95	0.02
Investment Technology Group	12,516	89	0.01
RBC Capital Markets	2,802	75	0.03
Leerink Swann & Co.	3,102	62	0.02
National Financial Services Corp.	5,055	51	0.01
MacQuarie Securities	1,999	50	0.02
Others (17 brokerage firms)	14,483	254	0.02
	1,348,323	\$ 20,766	

# SCHEDULE OF INVESTMENT FEES (as of June 30, 2017)

Equities	Market Value	Fee	<b>Basis Points</b>
Batterymarch Financial Management	\$ 17,737,410	\$ 151,274	0.85
Wellington Management Co.	39,970,217	206,751	0.55
Robeco Boston Partners	38,484,370	205,884	0.58
Fixed Income			
MacKay Shields LLC	\$ 86,249,134	\$ 252,357	0.30
Real Estate			
Invesco Core Real Estate	\$ 21,180,967	\$ 141,297	0.80
livesco core near Estate	\$ 21,100,907	\$ 141,297	0.60
International Equities			
Capital Guardian	0	\$ 24,513	0.67
MCM EB DV Int'l Stock Index	0	20,000	0.06
Baillie Gifford	\$ 37,192,075	37,114	0.53
Total Investment Manager Fees		\$ 1,039,190	
Other Services			
Bank of New York Mellon (Custodian)		\$ 14,352	
Callan Associates (Consultant)		59,485	
Total Other Services		73,837	
Total Investment Fees		\$1,113,027	





## **ACTUARY'S CERTIFICATE LETTER**



800.521.0498 | P: 248.799.9000 | F: 248.799.9020 | www.grsconsulting.com

November 21, 2017

Board of Trustees Arkansas Judicial Retirement System Little Rock, Arkansas

**Dear Board Members:** 

The basic financial objective of the Arkansas Judicial Retirement System (AJRS) as provided in the Arkansas Code is to establish and receive contributions which, expressed as percents of active member payroll, will remain approximately level from generation to generation of Arkansas citizens and when combined with present assets and future investment return will be sufficient to meet the financial obligations of AJRS to present and future benefit recipients. The progress towards meeting this financial objective is illustrated in the Schedule of Funding Progress and the Schedule of Employer Contributions.

We performed an actuarial valuation and issued an actuarial valuation report for AJRS as of June 30, 2017. The purpose of the June 30, 2017 annual actuarial valuation was to determine the contribution requirements for the fiscal year ending June 30, 2019 and to measure the System's funding progress. The actuarial valuation report should not be relied upon for any other purpose. The valuation process develops contribution rates that are sufficient to fund the plan's normal cost (i.e., the cost assigned by the valuation method to the year of service about to be rendered) as well as to fund unfunded actuarial accrued liabilities as a level percent of active member payroll over a period of up to 30 years. The most recent valuations were completed based upon population data, asset data, and plan provisions as of June 30, 2017. In addition, a separate report was issued (dated November 13, 2017) to provide actuarial information for GASB Statement No. 67 and GASB Statement No. 68.

The AJRS administrative staff provides the actuary with data for the actuarial valuation. The actuary relies on the data after reviewing it for internal and year-to-year consistency. The actuary summarizes and tabulates population data in order to analyze longer term trends. We are not responsible for the accuracy and completeness of the information provided by the administrative staff.

The actuarial valuation report and GASB Statement No. 67 and No. 68 report contain the following supporting schedules for use in the Actuarial and Financial Sections of the Comprehensive Annual Financial Report.

#### **Actuarial Section**

Summary of Assumptions Used
Summary of Actuarial Methods and Assumptions
Active Member Valuation Data
Short Condition Test
Analysis of Financial Experience
Analysis of Financial Experience – Gains and Losses by Risk Area



Board of Trustees Arkansas Judicial Retirement System November 21, 2017 Page 2

#### **Financial Section**

Schedule of Funding Progress
Schedule of Changes in Net Pension Liability and Related Ratios
Schedule of the Net Pension Liability
Schedule of Contributions
Notes to Schedule of Contributions

For actuarial valuation purposes, assets are valued on a market related basis that recognizes each year's difference between actual and assumed investment return over a closed four year period.

Actuarial valuations are based upon assumptions regarding future activity in specific risk areas including the rates of investment return and payroll growth, eligibility for the various classes of benefits, and longevity among retired lives. These assumptions are adopted by the Board after considering the advice of the actuary and other professionals. The assumptions and the methods comply with the requirements of the Actuarial Standards of Practice. Each actuarial valuation takes into account all prior differences between actual and assumed experience in each risk area and adjusts the contribution rates as needed. The June 30, 2017 valuation was based upon assumptions that were recommended in connection with a study of experience through the period 2011-2016.

Future actuarial measurements may differ significantly from those presented in the annual valuations due to such factors as experience differing from that anticipated by actuarial assumptions, or changes in plan provisions, actuarial assumption/methods or applicable law. Due to the limited scope of the assignment, we did not perform an analysis of the potential range of future measurements.

The signing individuals are independent of the plan sponsor.

On the basis of the June 30, 2017 actuarial valuation and the benefits and contribution rates then in effect, it is our opinion that the Arkansas Judicial Retirement System is satisfying the general financial objective of level-percent-of-payroll financing.

Mita D. Drazilov is a Member of the American Academy of Actuaries (MAAA) and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein.

Respectfully submitted,

Mita D. Drazilov, ASA, FCA, MAAA

MDD/DLH:sc



### SUMMARY OF ACTUARIAL ASSUMPTIONS

### **Economic Assumptions**

The investment return rate used in making the valuation was 5.75% per year, compounded annually (net after investment expenses). Adopted 2017.

Pay increase assumptions for individual active members are shown on page D-3. Part of the assumption for each age is for a merit and/or seniority increase, and the other 3.25% recognizes wage inflation. This wage inflation assumption consists of 2.50% for price inflation and 0.75% for real wage growth. Adopted 2015 and readopted 2017.

Total active member payroll is assumed to increase 3.25% a year, which is the portion of the individual pay increase assumptions recognizing inflation.

The number of active members is assumed to continue at the present number.

### Non-Economic Assumptions

The healthy mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the RP-2014 Healthy Annuitant table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The disabled retiree mortality tables, for post-retirement mortality, used in evaluating allowances to be paid were the RP-2014 disabled mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. The pre-retirement mortality tables used were the RP-2014 employees mortality table for males and females, adjusted for mortality improvement back to the observation period base year of 2006. It was assumed that 100% of pre-retirement deaths would be non-duty related. Mortality rates for a particular calendar year are determined by applying the MP-2016 improvement scale to the above described tables. Related values are shown on pages D-3 and D-5. Adopted 2017.

The probabilities of retirement for members eligible to retire are shown on page D-4. Adopted 2017.

The probabilities of withdrawal from service, death-in-service, and disability are shown for sample ages on page D-3. Adopted 2017.

<sup>\*</sup>The data referenced in this section is taken from the actuary's report, Arkansas Public Employees Retirement System Actuarial Valuation and Experience Gain/(Loss) Analysis June 30, 2016, prepared by Gabriel Roeder Smith & Co. Unless otherwise noted, page number citations refer to that report. A PDF copy of the report is available for download at www.apers.org.



Normal cost and the allocation of benefit values between service rendered before and after the valuation date was determined using an individual entry-age actuarial cost method having the following characteristics:

- The annual normal cost for each individual active member, payable from the date of employment to the date of retirement, is sufficient to accumulate the value of the member's benefit at the time of retirement; and
- Each annual normal cost is a constant percentage of the member's year-by-year projected covered pay.

The normal cost, the present value of future normal cost, and the present value of benefits are based on the benefit levels available to each member. The accrued liability is the difference between the present value of benefits and the present value of future normal cost.

Funding value of assets (cash & investments) was determined by phasing-in differences between actual market return and the assumed rate of return over a four-year period.

The data about persons now covered and about present assets was furnished by the System's administrative staff. Although examined for general reasonableness, the data was not audited by the actuary.

The actuarial valuation computations were made by or under the supervision of a Member of the American Academy of Actuaries (MAAA).



## SUMMARY OF ACTUARIAL METHODS

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated. Additional information as of the latest valuation date follows:

Valuation Date	June 30, 2017
Actuarial Cost Method	Entry Age
Amortization Method	Level Percent-of-Payroll
Remaining Amortization Period	15-Year Closed and 20-Year Closed for assumption changes
Asset Valuation Method	4-Year smoothed market with 25% corridor
Actuarial Assumptions:	
Investment Rate of Return	5.75%
Projected Salary Increases	3.25%
Including Price Inflation at	2.50%
Cost-of-Living Adjustments	Pre July 1, 1983 retirees: Increased with increases in active judges pay. Post June 30, 1983 retirees: 3% compound.
Retirees and Beneficiaries Receiving Benefits	147
Terminated Plan Members Entitled to But Not Yet Receiving Benefits	5
Active Plan Members	140
Total	292



## SINGLE-LIFE RETIREMENT VALUES

(as of June 30, 2017)

Sample	\$1 Month	Value of nly for Life 3% Annually	Future Life Expectancy (Years		
Ages	Men	Women	Men	Women	
50	\$ 234.35	\$ 244.59	34.48	37.09	
55	216.15	227.11	29.73	32.15	
60	195.65	207.08	25.18	27.39	
65	172.90	184.57	20.86	22.85	
70	148.05	159.50	16.78	18.51	
75	121.61	132.56	13.00	14.48	
80	\$ 95.06	\$ 105.11	9.64	10.86	

55 <u>-</u>
men
)%
5
8
8
4
5



# DECREMENT AND PAY INCREASE ASSUMPTIONS FOR ACTIVE MEMBERS

(as of June 30, 2017)

		Percentage of Active Members Separating Within the Next Year					ease Assump dividual Mem		
		Ma	ale	Fei	male				
Sample Ages	Years Service	Death	Disability	Death	Disability	Withdrawal	Merit & Seniority	Base (Economy)	Increase Next Year
	0					6.00%			
	1					6.00			
	2					6.00			
	3					6.00			
	4					6.00			
30	5+	0.05%	0.04%	0.02%	0.05%	1.00	0.00%	3.25%	3.25%
35		0.06	0.04	0.03	0.05	1.00	0.00	3.25	3.25
40		0.08	0.10	0.05	0.18	1.00	0.00	3.25	3.25
45		0.12	0.13	0.08	0.20	1.00	0.00	3.25	3.25
50		0.20	0.25	0.12	0.28	1.00	0.00	3.25	3.25
55		0.30	0.45	0.17	0.38	1.00	0.00	3.25	3.25
60		0.50	0.71	0.28	0.51	1.00	0.00	3.25	3.25
65		0.95	0.83	0.45	0.62	1.00	0.00	3.25	3.25



## PROBABILITIES OF RETIREMENT FOR MEMBERS ELIGIBLE TO RETIRE

(as of June 30, 2017)

### **Early Retirement**

	Percentage of Eligible Active Members				
Retirement Ages	Electing Early Retirement Within Next Year				
62	2%				
63	2%				
64	2%				

#### Normal Retirement

- 1. For ages under 70, a 4% probability of retirement is used.
- 2. For ages 70 and over
  - a. if the future year of consideration is an odd year, then a 4% probability of retirement is used.
  - b. if the future year of consideration is an even year,
    - i. for members under the age of 76, a 33% probability of retirement is used.
    - ii. for members ages 76 or older, a 100% probability of retirement is used.

For Tier One, a member was assumed eligible to retire at age 50 with 20 years of service or at age 65 with 10 years of service. A member was assumed eligible to retire early at age 62 with 14 years of service.

For Tier Two, a member was assumed eligible to retire at age 50 with 20 years of service or at age 65 with 8 years of service. A member was assumed eligible to retire early at age 62 with 8 years of service.



## COMPUTED EMPLOYER CONTRIBUTION RATES

### Historical Schedule

Valuation		Active Membe				
Date June 30			Averag	es in Years	UAAL Financing	Computed Employer
	Number	Average Pay	Age	Service @	Period	Contribution Rate
2008	137	\$ 131,929	57.8 yrs.	12.6 yrs.	*	24.59%
2009 (a)	138	136,775	56.2	15.0	30	27.43
2010	136	136,984	57.1	15.4	30	29.08
2011	141	137,149	57.6	15.3	30	29.93
2012#	140	137,155	58.5	15.8	30	31.46
2013	140	139,898	58.7	15.9	30	29.12
2014#	140	141,297	59.7	16.8	29	25.09
2015 #	139	160,489	58.6	16.4	28	37.99
2016	139	160,489	59.5	17.0	27	37.37
2017	140	163,699	59.0	16.1	26	35.65
2017#	140	\$ 163,699	59.0 yrs.	16.1 yrs.	15/20 yrs.	35.87%

<sup>(</sup>a) After changes in benefit provisions.

Employer contributions are the total of all types of revenue to the System except member contributions by payroll deduction and investment return. Employer contributions include court fees and Act 922 transfers.

<sup>#</sup> Revised actuarial assumptions and/or methods.

\* Retirement System was fully funded.

@ Includes reciprocal service for Tier One members on and after June 30, 2006 and Tier Two members on and after June 30, 2009.



### SHORT CONDITION TEST

The AJRS funding objective is to meet long-term benefit promises through contributions that remain approximately level from year-to-year as a percent of member payroll. If the contributions to the System are level in concept and soundly executed, the System will pay all promised benefits when due — the ultimate test of financial soundness. Testing for level contribution rates is the long-term test.

A short condition test is one means of checking a system's progress under its funding program. In a short condition test, the plan's present assets (cash and investments) are compared with

- member accumulated contributions
- the liabilities for future benefits to present retired lives
- the employer financed portion of liabilities for service already rendered by non-retired members.

In a system that has been following the discipline of level percent-of-payroll financing, active member contributions (liability 1) and the liabilities for future benefits to present retired lives (liability 2) will be fully covered by present assets. In addition, the liabilities for service already rendered by active members (liability 3) will be partially covered by the remainder of present assets. The larger the funded portion of liability 3, the stronger the condition of the System.



## Short Condition Test: Ten-Year Comparative Statement

	Entry Age Accrued Liability									
Valuation Date	(1) Active Member	ctive Retirees (Employe		(3) ive Member Employer Financed	Present	Portion of Present Values Covered By Present Assets			Market	
June 30	Contributions			Portion)	Assets	(1)	(2)	(3)	Total	Value Total
2008	\$ 11,825	\$ 81,712	\$	72,211	\$ 169,061	100%	100%	105%	102%	- %
2009(a)	12,689	103,249		64,227	167,433	100	100	80	93	73
2010	11,474	102,200		69,238	165,244	100	100	74	90	78
2011	11,822	102,379		72,434	165,377	100	100	71	89	92
2012(a)	12,356	107,413		75,685	167,796	100	100	63	86	87
2013	12,397	114,770		75,967	182,596	100	100	73	90	94
2014(a)	13,310	113,468		81,228	201,792	100	100	92	97	105
2015(a)	12,665	143,898		98,150	215,448	100	100	60	85	88
2016	13,337	142,743		104,441	225,254			66	86	83
2017	13,261	150,664		104,088	238,956	100	100	72	89	90
2017 (a)	\$ 13,261	\$ 161,761	\$	95,360	\$ 238,956	100%	100%	67%	88%	89%

<sup>(</sup>a) After changes in benefit provisions and/or actuarial assumptions and methods. Dollars (\$) in thousands



# RETIREES AND BENEFICIARIES TABULATED BY ATTAINED AGE

	Retirees		Survivo	r Beneficiaries	Total				
Attained		Annual	Annual			Annual Annual			Annual
Ages	No.	Allowances	No.			Allowances			
54	1	\$ 38,124	0	\$ 0	1	\$ 38,124			
59	0	0	4	282,286	4	282,286			
61	0	0	2	116,577	2	116,577			
62	2	182,080	1	61,728	3	243,808			
63	1	78,313	0	0	1	78,313			
64	1	91,751	0	0	1	91,751			
65	2	121,046	1	50,095	3	171,141			
66	3	356,162	2	129,875	5	486,037			
67	4	357,283	1	66,250	5	423,533			
68	4	362,449	2	164,980	6	527,429			
69	6	581,547	1	94,937	7	676,484			
70	3	273,438	1	73,807	4	347,245			
71	7	701,160	0	0	7	701,160			
72	7	730,469	3	233,604	10	964,073			
73	6	433,700	1	66,222	7	499,922			
74	9	712,805	1	69,737	10	782,542			
75	4	443,930	2	141,831	6	585,761			
76	5	537,138	2	138,642	7	675,780			
77	3	130,779	1	93,771	4	224,550			
78	5	462,292	0	0	5	462,292			
79	3	302,784	0	0	3	302,784			
80	6	607,085	1	66,815	7	673,900			
81	3	292,106	1	70,602	4	362,708			
82	5	564,912	3	204,959	8	769,871			
83	3	309,739	2	131,212	5	440,951			
84	0	0	1	65,606	1	65,606			
85	3	304,271	0	0	3	304,271			
86	1	101,653	1	65,606	2	167,259			
87	2	196,355	1	75,612	3	271,967			
88	1	107,112	1	65,606	2	172,718			
89	1	97,920	2	131,212	3	229,132			
90	0	0	2	133,878	2	133,878			
91	2	249,145	1	65,606	3	314,751			
92	0	0	1	66,222	1	66,222			
93	1	151,225	0	0	1	151,225			
94	0	0	1	65,606	1	65,606			
Totals	104	\$ 9,878,773	43	\$ 2,992,884	147	\$ 12,871,657			



### ACTIVE MEMBERS BY ATTAINED AGE AND YEARS OF SERVICE - TIER ONE

			Totals						
Attained									Valuation
Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Payroll
50-54				1				1	\$ 163,200
55-59					1			1	163,200
60									0
61									0
62									0
63									0
64				1			1	2	326,400
65							1	1	163,200
66							2	2	333,030
67				1	1	1	1	4	656,880
68				1				1	163,200
69					2		1	3	489,600
70						2	1	3	489,600
71									0
72							1	1	163,200
73									0
74					1			1	169,830
Totals				4	5	3	8	20	\$ 3,281,340

			Averages					
Group	No.	Age	Service	Annual Pay				
Tier One	20	66.6	27	\$164,067				



# ACTIVE MEMBERS BY ATTAINED AGE AND YEARS OF SERVICE - TIER TWO

	Years of Service to Valuation Date								Totals
Attained									Valuation
Age	0-4	5-9	10-14	15-19	20-24	25-29	30 Plus	No.	Payroll
35-39	3		1					4	\$ 654,330
40-44	4	1	1	1				7	1,142,400
45-49	5	4	6	4	3			22	3,611,820
50-54	1		2	1	2	1		7	1,149,030
55-59	3	4	2	3	1	6		19	3,106,920
60			2					2	326,400
61	3	1		2	1	1	2	10	1,637,610
62			1	1	1			3	489,600
63			3	2	3		1	9	1,468,800
64	2	1					1	4	659,430
65	2	2			1	1		6	979,200
66	1		1	1	2	1		6	980,730
67	1		1				1	3	489,600
68		2	2	1			1	6	979,200
69			1			1		2	326,400
70		1	1	2	1		1	6	980,730
71			1					1	163,200
72									0
73		2	1					3	491,130
Totals	25	18	26	18	15	11	7	120	\$ 19,636,530

			Averages	
Group	No.	Age	Service	Annual Pay
Tier Two	120	57.7	14.3	\$ 163,638



### **ANALYSIS OF EXPERIENCE**

Actual experience will not (except by coincidence) coincide exactly with assumed experience. Gains and losses often cancel each other over a period of years, but sizable year-to-year fluctuations are common. Detail on the derivation of the experience gain (loss) is shown below.

	2017	2016
1) UAAL* at Start of Year	\$ 35,267,807	\$ 39,266,434
2) Normal Cost from Last Valuation	6,431,333	 6,401,732
3) Employer Contributions	8,485,361	5,561,289
4) Interest Accrual: (1) x .0625 + [(2) - (3)] x .03125	2,140,050	2,480,416
5) Expected UAAL Before Changes: (1) + (2) - (3) + (4)	35,353,829	42,587,293
6) Changes in Benefits/Assumptions/Methods	2,369,244	0
7) Expected UAAL After Changes: (5) + (6)	37,723,073	42,587,293
8) Actual UAAL at End of Year	31,426,009	35,267,807
9) Gain(Loss): (7) - (8)	\$ 6,297,064	\$ 7,319,486
10) Gain(Loss) as Percent of Actuarial Accrued Liabilities at Start of Year: \$260,522,178	2.4%	2.9%
Last Year's Accrued Liability	\$ 260,522,178	\$ 254,713,985

<sup>\*</sup>Unfunded actuarial accrued liability.



# ANALYSIS OF EXPERIENCE - GAINS/(LOSSES) BY RISK AREA

(during the period July 1, 2016 to June 30, 2017)

	Gain (Loss) During Year		
Type of Risk Area	(\$ in Millions)	Percent of Liabilities	
Economic Risk Areas			
Pay Increases If there are smaller pay increases than assumed, there is a gain, if greater increases, a (loss).	\$ 1.5	0.6 %	
Investment Return If there is greater investment return than assumed, there is a gain, if less return, a (loss).	2.7	1.0	
Non-Economic Risk Areas			
Age & Service Retirements  If members retire at older ages or with lower final average pays than assumed, there is a gain. If they retire at younger ages or with higher average pays, a (loss).	2.1	0.8	
Disability Retirements If there are fewer disabilities than assumed, there is a gain, if more, a (loss).	0.0	0.0	
Death-in-Service Benefits If there are fewer claims than assumed, there is a gain, if more, a (loss).	(0.1)	(0.0)	
Withdrawal If more liabilities are released by other separations than assumed, there is a gain, if fewer are released, a (loss).	1.0	0.4	
Retiree Mortality / COLAs If there are fewer deaths than assumed, there is a (loss), if more, a gain. This includes gains and losses related to Tier I pre-July 1, 1983 retired member increases.	(1.1)	(0.4)	
Other Gains and losses resulting from group size change, data adjustments, timing of financial transactions, additional contributions and miscellaneous unidentified sources.	0.2	0.1	
Experience Gains/(Losses)	\$ 6.3	2.42 %	



#### SUMMARY OF PLAN PROVISIONS

Tier One Tier Two

#### Description

Elected or appointed prior to the effective date of Act 399 of 1999 and who do not elect to participate in Tier Two.

Elected or appointed after the effective date of Act 399 of 1999 or elected to participate in Tier Two.

#### **Regular Retirement**

An active member may retire at age 65 with 10 or more years of credited service, or after 20 years of credited service regardless of age. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit or Chancery Courts or the Court of Appeals.

An active member or former member may retire at age 65 with 8 or more years of credited service, or after 20 years of credited service regardless of age.

#### **Compulsory Retirement**

Any judge or justice who attains 70 years of age during a term of office to which he has been elected may complete the term without forfeiting rights to retirement benefits. Any judge or justice who is not eligible to retire at age 70 may continue to serve as judge until completion of the term in which there has accrued sufficient credited service to retire. Otherwise, judges or justices must retire by their 70th birthday or lose their retirement benefits.

Any judge or justice who attains 70 years of age during a term of office to which he has been elected may complete the term without forfeiting rights to retirement benefits. Any judge or justice who is not eligible to retire at age 70 may continue to serve as judge until completion of the term in which there has accrued sufficient credited service to retire. Otherwise, judges or justices must retire by their 70th birthday or lose their retirement benefits.

#### **Final Salary**

The annual salary for the last judicial office held.

The annual salary for the last judicial office held.



Tier One Tier Two

#### **Age and Service Annuity**

60% of the judge's final salary, for life.

Each year of additional service after twenty (20) years of judicial service, the benefit shall be increased by two and one-half percent (2.5%) with a maximum benefit payable of seventy-five percent (75%) of the judge's final salary.

3.2% of the salary of the last judicial office held multiplied by the number of years of service not to exceed 80% of the salary of the last judicial office held.

#### **Deferred Retirement**

An inactive member who has 14 or more years of credited service and left judicial service before attaining age 65 will be entitled to an age and service annuity beginning at age 65. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit or the Chancery Courts or the Court of Appeals.

An inactive member who has 8 or more years of credited service and left judicial service before attaining age 65 will be entitled to an age and service annuity beginning at age 65.

#### **Disability Retirement**

An active member with 3 or more consecutive years of credited service who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age and service annuity. The 3 years of service is not required for persons who were members before July 1, 1983.

An active member with 3 or more consecutive years of credited service who becomes totally and permanently disabled may be retired and receive a disability annuity computed in the same manner as an age and service annuity, except that the benefit shall not be less than 25.6% of final salary.



Tier One Tier Two

#### **Early Retirement**

A member who became a member before July 1, 1983 and who has 18 but less than 20 years credited service may retire, regardless of age, and receive an immediate annuity. The amount is the full age and service amount reduced proportionately for service less than 20 years.

A member with 14 years of credited service may retire between ages 62 and 65 and receive an immediate annuity. The amount is the full age and service amount reduced 1/2 of 1% for each month that retirement age is younger than age 65. Persons who become members after June 30, 1983 must also have at least 8 years of actual service as a justice of the Supreme Court, or as a judge of the Circuit Court or Chancery Courts or the Court of Appeals.

A member with 8 years of credited service may retire between ages 62 and 65 and receive an immediate annuity. The amount is the full age and service amount reduced 1/2 of 1% for each month retirement age is younger than age 65.

#### **Survivor Benefits**

Upon the death of a member with 3 or more years of service, before or after retirement, an annuity of 67% of the judge's benefit is payable to the following survivors (shared if there is more than one eligible survivor):

- A surviving spouse married to the judge more than 1 year at the time of death.
- · A minor child of the judge.

The 3-year service requirement is not required of those who became members prior to July 1, 1983.

Upon the death of a member with 3 or more years of service, before or after retirement, an annuity of 67% of the judge's benefit, but not less than 17.152% of final salary, is payable to the following survivors (shared if there is more than one eligible survivor):

- A surviving spouse married to the judge more than 1 year at the time of death.
- A minor child of the judge.

The 3-year service requirement is not required of those who became members prior to July 1, 1983.



Tier One Tier Two

#### **Increases after Retirement**

For any person who was a member on or before June 30, 1983, the retirement benefits are increased or decreased from time to time as the salary for the particular judicial office is increased or decreased. For all judges or justices first elected after June 30, 1983, and who have received retirement benefits from the System for at least 12 full calendar months, the retirement benefits are increased each July 1st by 3%.

For all judges or justices who have received retirement benefits from the System for at least 12 full calendar months, the retirement benefits are increased each July 1st by 3%.

#### **Member Contributions**

Active members contribute 6% of their salaries. Members with 20 or more years of service and members age 65 or older with 10 or more years of service do not contribute to the Retirement System. At any time a member is accruing the additional 2.5% of final salary benefit, member contributions would be required. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.

Active members contribute 5% of their salaries. Members with 25 or more years of service do not contribute to the Retirement System. If a member leaves service before becoming eligible to retire, accumulated contributions may be refunded.



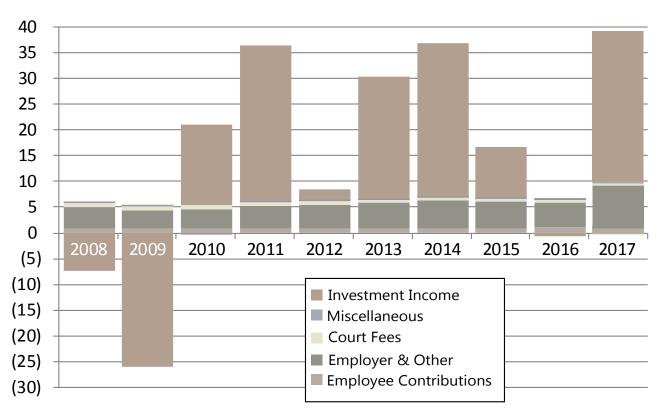
### SCHEDULE OF REVENUE BY SOURCE

(for fiscal years ended June 30, 2008 through June 30, 2017

Year Ending June 30	Employee Contributions	Employer & Other Entity Contributions	Court Fees	Misc.	Investment Income	Total
2008	\$ 803,022	\$ 4,231,183	\$ 902,797	\$ 74,660	\$ (7,438,553)	\$ (1,426,891)
2009	816,348	3,500,600	902,797	68,631	(25,971,792)	(20,683,416)
2010	871,330	3,753,808	902,797	(1,193)	15,439,110	20,965,852
2011	860,565	4,303,921	902,797	13,905	30,449,948	36,531,135
2012	879,762	4,640,182	814,993	9,904	2,148,975	8,493,816
2013	886,685	4,931,998	740,293	40,696	23,706,205	30,305,877
2014	925,324	5,345,572	764,883	6,873	29,793,113	36,835,765
2015	946,149	5,078,901	609,388	2,092	9,971,824	16,608,354
2016	1,011,372	4,962,144	586,818	12,328	(581,835)	5,990,826
2017	\$ 1,016,646	\$ 7,898,543	\$ 586,818	\$ 45,833	\$ 29,157,400	\$ 38,705,240

# Revenues by Source

(In Millions)



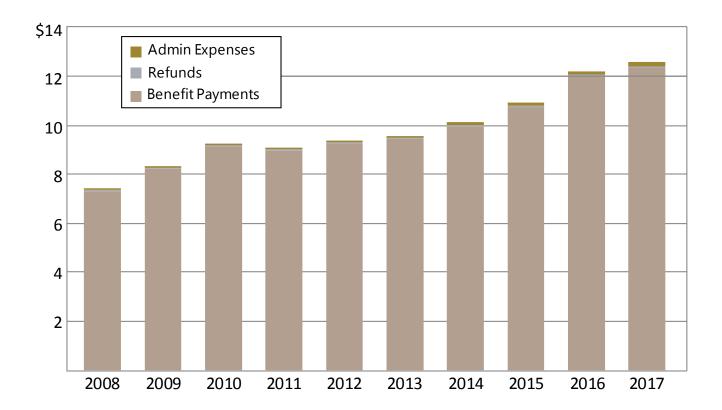
# Statistical

SCHEDULE OF EXPENSES BY TYPE (for the fiscal year ended June 30, 2017)

Year Ending Benefit		Benefit	Administrative					
June 30		Payments		Refunds		Expenses		Total
2008	\$	7,308,028	\$	42,372	\$	58,544	\$	7,408,944
2009		8,235,694		20,505		59,194		8,315,393
2010		9,125,873		22,782		49,021		9,197,676
2011		8,983,419		15,823		48,919		9,048,161
2012		9,280,100		7,014		67,798		9,354,912
2013		9,448,550		27,593		55,591		9,531,734
2014		9,966,020		18,836		130,529		10,115,385
2015		10,762,871		14,320		137,951		10,915,142
2016		12,007,537		800		158,420		12,166,757
2017	\$	12,310,422	\$	79,011	\$	168,702	\$	12,558,134

<sup>\*</sup> Expenses are annualized based on June 30 benefit amounts. NOTE: Administrative expenses will change once the pension expense amount is adjusted based upon actuarially determined net pension liability.

# Expense by Type (In Millions)

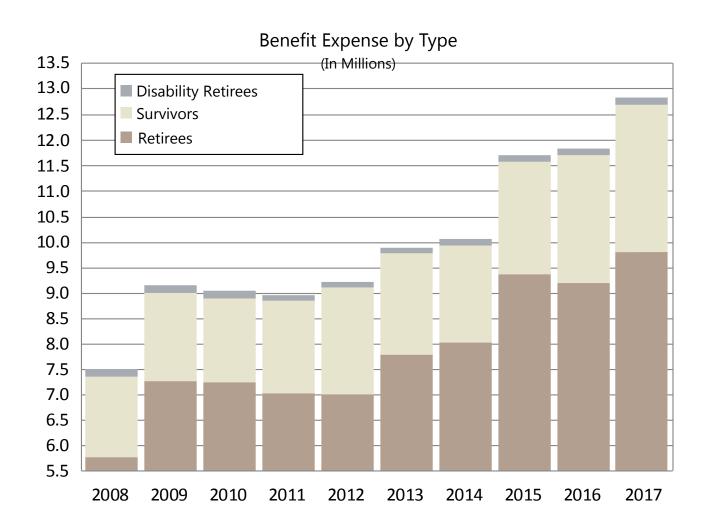




# SCHEDULE OF BENEFIT EXPENSES BY TYPE\* (for the fiscal year ended June 30, 2017)

Year Ended	Age and	Disability			
June 30	Retirees		Survivors		Retirees
2008	\$ 5,764,682	\$	1,588,875	\$	152,438
2009	7,266,337	1,742,101			157,724
2010	7,254,889		1,642,645		159,842
2011	7,032,265		1,824,181		110,829
2012	7,010,699		2,096,331		114,154
2013	7,783,179		1,992,752		117,579
2014	8,020,300		1,916,865		121,106
2015	9,377,001		2,206,257		124,740
2016	9,194,076		2,516,580		128,482
2017	\$ 9,746,437	\$	2,856,225	\$	132,336

<sup>\*</sup> Expenses are annualized based on June 30 benefit amounts.



# Statistical

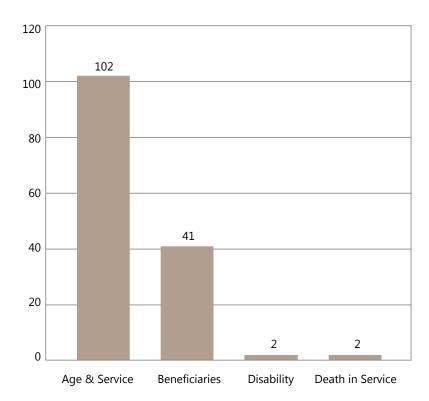
### SCHEDULE OF RETIRED MEMBERS BY TYPE OF BENEFIT

(as of June 30, 2017)

		Annual	Annuity		
	Number	Annuities	Liabilities		
Age and Service Retirees					
Life	13	\$ 1,188,214	\$ 12,703,305		
Life Continuing to Survivor	89	8,558,223	114,555,099		
Totals	102	9,746,437	127,258,404		
Beneficiaries of Age & Service Retirees	41	2,856,225	30,724,890		
Total Age & Service Retirees & Beneficiaries	143	12,602,662	157,983,294		
Disability Retirees					
Life	1	89,436	808,442		
Life Continuing to Survivor		42,900	635,222		
Totals	2	132,336	1,443,664		
Beneficiaries of Disability Retirees	0	0	0		
Total Disability Retirees & Beneficiaries	2	132,336	1,443,664		
Death-in-Service Beneficiaries	2	136,659	2,334,052		
Total Retirees & Beneficiaries	<u>147</u>	\$ 12,871,657	\$ 161,761,010		

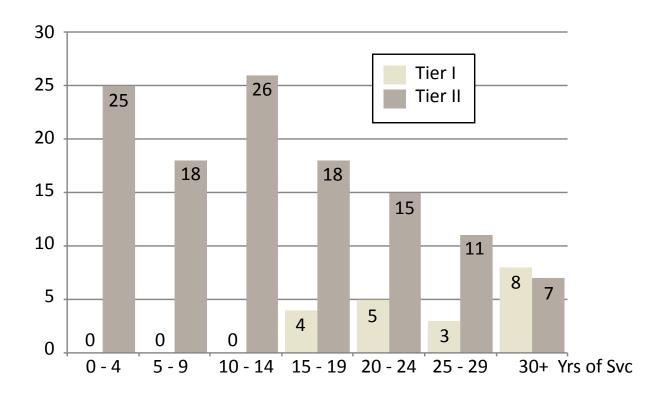
Totals may not add due to rounding.

# Retiree by Type of Annuity



### STATISTICAL GRAPHS

### Active Members for Tier I and Tier II



### **Projected Separation of Current Membership**

