# ARIZONA STATE RETIREMENT SYSTEM

A Component Unit of the State of Arizona

### YOUR FUTURE MOTIVATES EVERYTHING WE DO!



## 2014 COMPREHENSIVE ANNUAL Financial Report

For Fiscal Year Ended June 30, 2014



# Delivering service with... PRBIDE

### OUR VISION

#### For the benefit of our members... the Arizona State Retirement System

will be a leading state benefit plan administrator in the areas of:

- Core Member Services
- Investment Performance
- Funded Status
- Operational Effectiveness

This will be accomplished while keeping program benefits and associated costs relatively aligned and maintaining actuarial and fiscal integrity.

### OUR VALUES

#### Professionalism.

A highly capable workforce will promote a professional and respectful environment and *lead* the organization.

#### Results.

A results-oriented approach to operations will *energize* the organization.

#### Improvement.

A climate of continuous quality improvement and enhanced efficiencies will *drive* the organization.

#### Diversity.

Engagement of diversity by the appreciation, recognition and support for all people will *propel* the organization to ever greater achievement.

#### Excellence.

A commitment to service excellence will *permeate* the organization.

**ARIZONA STATE** RETIREMENT SYSTEM

# Arizona State Retirement System

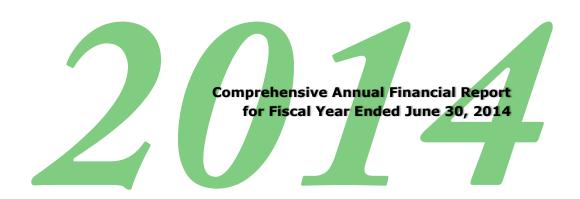
A COMPONENT UNIT OF THE STATE OF ARIZONA



Mr. Thomas Manos, Chair Mr. Michael Smarik, Vice Chair

Report Prepared by the Staff of the Arizona State Retirement System

Paul Matson, Director



### I. Introductory Section

Certificate of Achievement for Excellence in Financial Reporting	2
Public Pension Standards Award	3
Letter of Transmittal	4
Administrative Organization	
Organization Chart	10
ASRS Board of Trustees	11
Executive Staff	12
Outside Professional Consultants	13

#### **II. Financial Section**

Independent Auditors' Report	
Management's Discussion and Analysis	
Basic Financial Statements	
Combined Statements of Fiduciary Net Position	
Combined Statements of Changes in Fiduciary Net Position	
Notes to the Basic Financial Statements	
Required Supplementary Information	
Schedule of Funding Progress – HBS and LTD – Last 3 Years	43
Schedule of Contributions from Employer and Other Contributing Entities -	
HBS and LTD – Last 3 Years	43
Schedule of Changes in the Net Pension Liability	44
Schedule of Net Pension Liability	
Schedule of Contributions from Employer – Retirement – Last 10 Years	45
Schedule of Investment Returns	45
Notes to Required Supplementary Information	
Additional Supplementary Information	
Combining Schedule of Retirement Fiduciary Net Position	50
Combining Schedule of Changes in Retirement Fiduciary Net Position	51
Schedule of Administrative Expenses	
Schedule of Professional Consultant Fees	53
Schedule of Investment Expenses	54
Schedule of Internal Investment Activity Expenses	58

#### **III. Investment Section**

Chief Investment Officer's Report	60
Asset Allocation	67
Investment Results	
Performance Accounting / Computation Standards	68
Annualized Rates of Return	
Historical Rates of Return	
Ten Year Review of Investment Income	70
Net Income from Investments	
Asset Allocation	
Schedule of Investment Portfolios by Asset Class	71
Equity Portfolio Profile	
Equity Sub-Sector Allocation	72
Ten Largest Domestic Equity Holdings	
Distribution by Market Sector	
Ten Largest International Equity Holdings	
Summary of Broker Commissions	
Fixed Income Portfolio Profile	
Distribution by Sector	74
Distribution by Maturity	
Distribution by Coupon	74
Ten Largest Domestic Fixed Income Holdings	
Private Investment Portfolio Profile	
Ten Largest Real Estate Managers	75
Ten Largest Private Equity Managers	
Opportunistic Equity Managers	
Opportunistic Debt Managers	
Private Debt Managers	77
Farmland and Timber Managers	
Schedule of Broker Commissions	
Domestic Equity Trades	78
Foreign Equity Trades	
Schedule of Investment Fees	
Equity	81
Fixed Income	84
Real Estate	
Commodities	
Global Tactical Asset Allocation	
Other Investments	

#### **IV. Actuarial Section**

#### **Retirement and HBS**

Actuarial Certification Statement	. 90
Independent Review of 2013 Actuarial Valuations	
General Actuarial Information	. 99
Summary of the Benefit Provisions	. 101
Statement of Actuarial Methods and Assumptions	
Retirement and HBS Schedules	
Schedule of Active Member Valuation Data – Last 10 Years	. 113
Schedule of Retirement Retirees Added to and Removed from Rolls - Last 10 Years	. 113
Schedule of HBS Retirees Added to and Removed from Rolls – Last 5 Years	. 114
Schedule of Funding Progress – Retirement and HBS – Last 10 Years	
Solvency Test – Retirement – Last 10 Years	115
Solvency Test – HBS – Last 10 Years	. 115
Analysis of Financial Experience for Retirement – Last 10 Years	116
Analysis of Financial Experience for HBS – Last 10 Years	116

#### LTD

Actuarial Certification Statement	
General Actuarial Information	
Summary of Benefit Provisions	121
Statement of Actuarial Methods and Assumptions	
LTD Schedules	
Schedule of Benefit Recipients Added to and Removed from Rolls - Last 10 Years	125
Schedule of Funding Progress – Last 10 Years	126
Solvency Test – Last 10 Years	126
Analysis of Financial Experience for LTD	127

#### Legislative Plan Changes

Summary of Legislative Plan Changes13	30
---------------------------------------	----

#### **V. Statistical Section**

This part of the Arizona State Retirement System's Comprehensive Annual Financial Report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required summary information says about the ASRS's overall financial health.

#### Financial Trends

These schedules contain trend information to help the reader understand how the ASRS's Financial Performance has changed over the past 10 years.

Fiduciary Net Position – Last 10 Years	132
Changes in Fiduciary Net Position – Last 10 Years	134

#### Revenues

These schedules contain information to help the reader understand the ASRS's funding over the last 10 years.

Actual Contribution Rates – Last 10 Years 13	38
--	----

#### Operations

These schedules contain information about the ASRS's Operations.

Members by Type of Benefit	139
Average Benefit Payments – Retirement – Last 10 Years	140
Average Benefit Payments – HBS – Last 9 Years	141
Average Benefit Payments – LTD – Last 9 Years	142
Principal Participating Employers – Current Year and Nine Years Ago	143

Schedules and information is derived from ASRS internal sources unless otherwise noted.

# ASRS ROAD TO RETIREMENT NAVIGATE YOUR FUTURE



#### You're on your journey to retirement!

Feel like you need a GPS? We have one for you - a Guide to Pre-Retirement Services linking you to specific resources that will help navigate your future.

www.azasrs.gov



# INTRODUCTORY

# SECTION

### I. Introductory Section

Certificate of Achievement for Excellence in Financial Reporting	2
Public Pension Standards Award	3
Letter of Transmittal	4
Administrative Organization	
Organization Chart	10
ASRS Board of Trustees	11
Executive Staff	12
Outside Professional Consultants	13

#### **CERTIFICATE OF ACHIEVEMENT FOR EXCELLENCE IN FINANCIAL REPORTING**



The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the Arizona State Retirement System for its comprehensive annual financial report for the fiscal year ended June 30, 2013. This was the 25<sup>th</sup> consecutive year that the Arizona State Retirement System has achieved this prestigious award.

#### PUBLIC PENSION STANDARDS AWARD FOR PLAN FUNDING AND ADMINISTRATION



The National Association of State Retirement Administrators (NASRA), National Conference on Public Employee Retirement Systems (NCPERS) and the National Council on Teacher Retirement (NCTR) awarded a Public Pension Standards Award to the Arizona State Retirement System for plan design and administration as set forth in the Public Pension Standards for 2014. The Public Pension Standards are intended to reflect minimum expectations for public retirement system management and administration, as well as serve as a benchmark by which all defined benefit public plans should be measured. This is the 10th consecutive year that the Arizona State Retirement System has received this prestigious award.



#### ARIZONA STATE RETIREMENT SYSTEM

3300 NORTH CENTRAL AVENUE • PO BOX 33910 • PHOENIX, AZ 85067-3910 • PHONE (602) 240-2000 7660 EAST BROADWAY BOULEVARD • SUITE 108 • TUCSON, AZ 85710-3776 • PHONE (520) 239-3100 TOLL FREE OUTSIDE METRO PHOENIX AND TUCSON 1 (800) 621-3778 EMAIL ADDRESS: ASKMAC@AZASRS.GOV • WEB ADDRESS: WWW. AZASRS.GOV

Paul Matson Director

November 7, 2014

To: The Arizona State Retirement System Board of Trustees

We are pleased to present, on behalf of the ASRS staff, the sixty-first Comprehensive Annual Financial Report (CAFR) of the Arizona State Retirements System (ASRS), a component unit of the State of Arizona, for the fiscal year ended June 30, 2014. This year's CAFR theme features the interactive, multi-media tool called the Guide to Pre-Retirement Services (GPS), launched in 2014, to assist members with navigating the retirement process and understanding their benefits.

Title 38 of the Arizona Revised Statutes requires the ASRS Board of Trustees (ASRS Board) to submit an annual report to the Governor and the Legislature within eight months of the close of each fiscal year. This report complies with the legal requirements governing the preparation and content of annual reports.

Responsibility for both the accuracy of the data, and the completeness and fairness of the presentation, rests with the ASRS management. Management relies on a comprehensive framework of internal controls to provide reasonable, rather than absolute, assurance that the financial statements are free of any material misstatements. Cost/benefit considerations, the risk of management override, and the risk of collusion are inherent limitations on any system of internal control.

CliftonLarsonAllen LLP has issued an unmodified ("clean") opinion on the ASRS financial statements for the year ended June 30, 2014. The Independent Auditors' Report is located at the front of the financial section of this report.

Management's discussion and analysis (MD&A) immediately follows the Independent Auditors' Report and provides a narrative introduction, overview, and analysis of the basic financial statements. MD&A complements this letter of transmittal and should be read in conjunction with it.

#### **History and Overview**

The ASRS was created in 1953 to provide defined contribution retirement benefits to employees of the State of Arizona, Arizona universities, and political subdivisions. During calendar year 1954, Arizona teachers voted to join the ASRS effective January 1, 1955. In 1970, the State legislature authorized the creation of a defined benefit plan, contingent upon the election to transfer a minimum 70% of the ASRS membership. More than 80% voted to transfer to the defined benefit plan, which became effective July 1, 1971.

At June 30, 2014, total ASRS membership, including active, inactive, disabled and retired members was 551,296. There are 585 employer units participating in the ASRS, including school districts, charter schools, state colleges and universities, and local, county and state government.

In addition to pension benefits, the ASRS provides a health insurance premium benefit and sponsors medical and dental coverage for retired and disabled members and their eligible dependents and children. Active members also receive long-term disability insurance coverage equal to two-thirds of pay at the time of disablement.

Active non-state employees are also eligible to participate in an ASRS sponsored Supplemental Salary Deferral Plan (SSDP) and/or Supplemental Retirement Savings Plan (SRSP). The SSDP is a supplemental defined contribution plan qualified under 403 (b) and 457 (b) of the Internal Revenue Code. In addition, the SRSP is a supplemental defined contribution plan qualified under 401 (a) of the Internal Revenue Code.

During fiscal year 2014, more than 127,881 retired annuitants, their survivors, and 4,313 disabled members received in excess of \$2.7 billion in benefits. As of June 30, 2014, there were 47,111 retired members and their families enrolled in the ASRS-sponsored medical program and 47,354 retired members and their families enrolled in dental plans through the ASRS.

#### **Major Initiatives for Fiscal Year 2014**

#### **Investments:**

- Implemented ASRS Strategic Asset Allocation Policy: Continued to restructure the portfolio consistent with new asset classes and tactical investment opportunities, which are expected to collectively achieve ASRS investment performance objectives.
- **Developed and Implemented Private Market Investment Information System:** Provides a closer to real time state-of-the art information tool that more quickly assesses portfolio information, generates quantitative fund metrics and provides rates of return estimates, which assists in investment decision-making.
- Awarded Investment Consulting Services Contracts: Issued an RFP and awarded contracts to the ASRS General Investment Consultant and a list of Project Investment Consultants.
- Established a Series of Investment Forums: ASRS IMD Staff hosted investment forums intended to foster engagement and discussion with participations by IC Trustees, Director, CIO, ASRS Investment Staff, ASRS Investment Consultants and select external parties who are knowledgeable of and can share perspectives on the specific subject matter. Forum topics included emerging markets, energy, U.S. home construction industry and the management of the Federal Reserve Balance Sheet.

#### **Benefits Processing:**

- Online return to work application: The paper return to work process for members and employers was converted to an online application. The new application was created to educate current and future retirees about the rules that must be followed when returning to work for an ASRS employer after retirement. The new application is expected to increase member and employer understanding about return to work statutes and reduce errors associated with the process.
- Qualified Domestic Relations Order (QDRO) processing: A workflow was implemented for the receipt and processing of QDRO documentation, including the storing of data required for future calculations and disbursements. This process is expected to make the process more efficient and reduce the risk of error.

#### Administration:

- **Online enrollment enhancements:** The enrollment process was simplified and made more efficient by adding the ability for members to register for secure account access and elect a beneficiary at the time of enrollment.
- **Public Web Site enhancements:** The overall look, feel and navigation of the public website was improved and new content was added.
- Interactive Pre-Retirement Guide (GPS): The agency implemented an interactive, multi-media tool, called the Guide to Pre-Retirement Services (GPS) to help members understand ASRS benefits and services.
- New employer file format: The ASRS is working with employers to transition to a new payroll file format that will allow the ASRS to collect additional information from members. The agency anticipates that the collection of the additional information included in the new file layout will, over the long term, improve the ability of the ASRS to monitor membership eligibility and research and monitor changes in salary that may be attributable to salary spiking.

#### Annualized Rates of Return (Net of Fees)

(Retirement & Health Benefit Supplement)

	1 Year	3 Year	5 Year	10 Year	<b>Inception</b> (June 30, 1975)
ASRS Total Fund	18.6%	10.8%	14.2%	7.5%	10.1%

The ASRS has investment guidelines for its internal and external investment managers and a set of policies, procedures, compliance requirements, and oversight of internal investment management to ensure that investment assets are prudently managed. Both internally and externally generated compliance procedures are in place. Details of ASRS investment policies and investments are contained in the Investment Section of this report.

#### Funding

Any excess of additions, which include contributions and investment earnings, over deductions, which include benefits and administrative expenses, is accumulated by the ASRS in order to meet future benefit obligations due to retirees and beneficiaries. State statutes require the ASRS to conduct an annual actuarial valuation of its plan assets and liabilities.

The funding objective of the ASRS is to maintain reasonably stable contribution rates and to achieve an ultimate funded status of 100 percent. According to the ASRS' most recently available actuarial valuation, dated June 30, 2013, the actuarial value of total plan assets (pension and health benefit supplement) was  $$31.4^{1}$  billion and the actuarial accrued liability was  $$41.4^{1}$  billion. The unfunded actuarial accrued liability of \$10.0 billion results in an actuarial funding ratio of 75.9%<sup>1</sup> for the total plan, which is a slight increase from 75.7%<sup>1</sup> at June 30, 2012.

Funding status and progress for the ASRS based on the most currently available valuation is presented in the Notes to the Financial Statements. A detailed discussion of funding is provided in the Actuarial Section of this report.

<sup>1</sup>Results include System liabilities and assets for members who retired or will retire on or after July 1, 1981.

#### **Funded Status and Contribution Rate Projections**

Although the ASRS funds are a well-diversified and professionally managed portfolio of investments, they incurred significant losses in fiscal years 2008 and 2009. As a result of this and significant prior benefit increases, the combined pension and health benefit supplement contribution rate has risen significantly. The contribution rate in now expected to level off, and gradually begin to fall in the next several years.

#### **ASRS Cost Saving Initiatives**

In order to increase the funded status of the plans, mitigate future increases in contribution rates, and ensure plan sustainability, the ASRS has engaged in significant policy and program review since 2003. While this is an on-going process, the program policy and legislative initiatives that have been implemented are estimated to reduce total contributions to the ASRS (including non-ASRS initiated legislation) by approximately \$364 million per year, which is equivalent to approximately \$5.4 billion in liability savings for the group of all current employees, or approximately \$10.7 billion in liability savings for the group of all current and future employees. Over the long term, these very significant savings will reduce future increases in contribution rates for both employee and employers by an average of approximately 4.01% in total each year.

Please see chart on next page.

#### **Estimated Impact of ASRS Cost Reduction Initiatives**

As of June 30, 2013 Valuation Date (Amount in Millions of Dollars)

Action	Reduction in Total Contribution Rate	Rec Cor	Total	of	Savings on	of S Op	sent Value Savings on Den Group D Growth) Basis
COST SAVINGS INITIATIVES CONTAINED IN CURRENT		-			24013		24013
VALUATION & REFLECTED IN LOWER CURRENT CONTRIBUTION RATE Change basis for service purchases from normal cost to actuarial present							
value (APV)	0.60%	\$	52.51	\$	1,033.58	\$	1,808.92
Correction of Permanent Benefit Increase (PBI) reserve	0.04%		3.50		68.71		68.71
Decrease interest credited on withdrawn contributions from 8% to 4%	0.27%		23.63		514.74		863.65
Decrease interest credited on withdrawn contributions from 4% to 2%	0.44%		38.51		309.13		877.75
Redesign non-retired survivor benefits	0.02%		1.75		14.04		39.88
Sub-Total, Savings in Current Valuation	1.37%	\$	119.90	\$	1,940.20	\$	3,658.91
COST SAVINGS INITIATIVES CONTAINED IN FUTURE EXPERIENCE							
Long Term Disability (LTD) program design changes	0.02%	\$	1.75	\$	38.72	\$	64.56
Reimbursements for early retirement incentives	0.18%		15.75		342.91		575.47
Increase interest rate on payroll deduction agreements (PDAs) from $0\%$ to $8\%$	0.16%		14.00		305.25		511.97
Pop-up restrictions	0.41%		37.51		677.25		1,231.10
Rescinding modified Deferred Retirement Option Plan (mDROP)	0.50%		43.72		804.57		1,450.11
LTD changes to offsets and pre-existing condition period	0.15%		13.13		219.59		413.46
Recapture of unclaimed monies	0.01%		0.56		9.50		17.76
Eliminate 80% cap on retirement benefits	0.04%		3.50		42.54		94.22
Require 20/20 Rule for dual employment situations	0.04%		3.25		39.43		87.42
Eliminate enhanced refunds	0.16%		14.07		129.31		337.06
Replace Rule of 80 with Rule of 85	0.30%		26.38		242.43		631.95
Replace 36-month average salary with 60-month average	0.25%		21.99		202.08		526.77
Apply Alternative Contribution Rate (ACR) to return-to-work	0.25%		21.99		202.08		526.77
Compute service purchases with 6% discount rate	0.08%		7.08		56.83		161.37
Eliminate service purchases through partial lump sumes	0.07%		5.74		46.08		130.83
Eliminate Permanent Benefit Increases for future members	0.11%		9.63		77.31		219.50
Sub-Total, Savings Emerging in Experience	2.73%	\$	240.05	\$	3,435.88	\$	6,980.32
NON-ASRS INITIATIVES							
Replace Rule of 85 with 55 & 30 or 60 & 25	0.00%	\$	0.60	\$	5.48	\$	14.34
Change pre-retirement death benefit to sum of employee and employer balances (ASRS Initiative)	0.04%		3.22		29.58		77.13
Adopt 6-month delay in contributions from state members	-0.13%		-		-		-
Prospective cost-shift of 6-month delay (not included in totals)	N/A		(11.63)		(106.56)		(278.22)
Sub-Total, Saving Emerging in Experience from Non-ASRS Initiatives	-0.09%	\$	3.82	\$	35.06	\$	91.47
GRAND TOTAL	4.01%	\$	363.77	\$	5,411.14	\$	10,730.70

#### **Budget Savings**

The ASRS regularly implements strategies to reduce agency expenditures. As a result, the ASRS realized reductions to the operating budget totaling \$486,000 for fiscal year 2014 and \$4.4 million over the past six years.

#### Awards

The Government Finance Officers Association of the United States and Canada (GFOA) awarded a Certificate of Achievement for Excellence in Financial Reporting to the ASRS for its CAFR for the fiscal year ended June 30, 2013. The ASRS has received this prestigious award in each of the last 25 years.

To be awarded a Certificate of Achievement, a government must publish an easily readable and efficiently organized CAFR that satisfies both accounting principles generally accepted in the United States of America and applicable legal requirements. A Certificate of Achievement is valid for one year only. We believe this report continues to conform to the Certificate of Achievement Program requirements and we are submitting it to the GFOA to determine its eligibility for another certificate.

The GFOA also awarded the ASRS the Award for Outstanding Achievement for its June 30, 2013 Popular Annual Financial Report (PAFR). PAFR's must be readily accessible and easily understandable to the general public and other interested parties without a background in public finance. This was the third time the ASRS has published a PAFR. To be awarded the Award for Outstanding Achievement, a government must have received the Certificate of Achievement for Excellence for its CAFR for the previous year or current year.

In addition, the Public Pension Coordinating Council awarded a Pension Standards Award for 2014 to the ASRS for meeting professional standards and plan design and administration. To be awarded the Pension Standards Award, a public employee retirement system must certify that it meets requirements in six areas of assessment. The areas assessed are comprehensive benefits program, funding adequacy, actuarial, audit, investments and communications. The Pension Standards Award is valid for one year. This is the tenth year the ASRS has received this award.

#### Acknowledgements

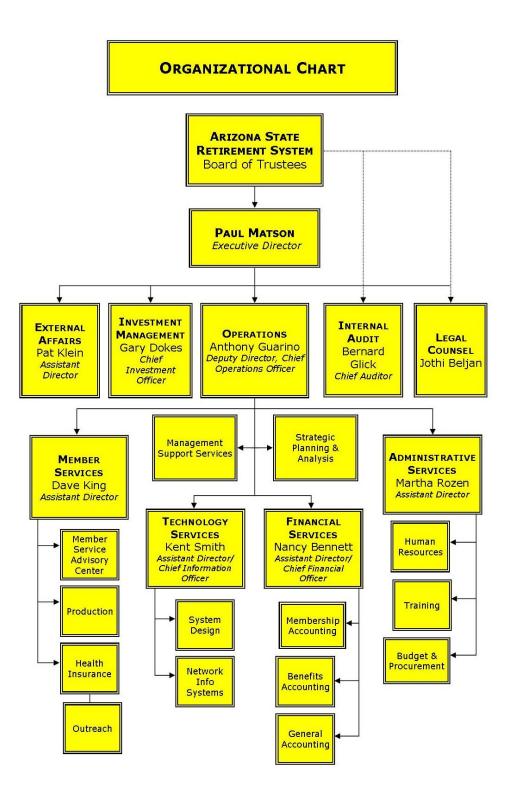
This report represents the culmination of hours of hard work by the ASRS General Accounting and Investment Management Division staff. It is intended to provide complete and reliable information for decision making, to ensure compliance with legal requirements, and is a means of measuring the responsible stewardship of the assets of the ASRS.

We would like to express our gratitude to the ASRS Board for its support for and leadership in planning and conducting the financial affairs of the ASRS in a responsible and progressive manner. The ASRS Board, along with the ASRS Executive and Senior Management and the entire staff of the ASRS has been instrumental in maintaining the high quality of service and performance, which has become the standard for the ASRS.

Respectfully submitted,

Paul Matson, Executive Director

Nancy Bennett, Chief Financial Officer





As of June 30, 2014



#### ACTUARY

Buck Consultants Phoenix, AZ

#### LONG TERM DISABILITY BENEFITS

Sedgwick Claims Management Services Company Calabasas, CA

#### **CUSTODIAL BANK**

State Street Bank and Trust Co. Boston, MA

#### PENSION DISBURSEMENT SERVICES

State Street Retiree Services Jacksonville, FL

#### **INDEPENDENT AUDITORS**

CliftonLarsonAllen, LLP Baltimore, MD

#### **GENERAL INVESTMENT CONSULTANT**

New England Pension Consultants, LLC Cambridge, MA

#### PRIVATE REAL ESTATE CONSULTANT

Robert Charles Lessor and Co., LLC Bethesda, MD

#### **PRIVATE EQUITY CONSULTANT**

Meketa Investment Group Boston, MA

#### **INVESTMENT MANAGERS**

Investment Managers are listed in the Schedule of Investment Fees See Page 81-87



### YOUR CAREER: EARLY - ZERO TO FIVE YEARS



#### The greatest journey starts with good planning.

- ✓ Travel Center: Let us be your trip planner
- ✓ Fueling Station: Get started and fuel up
- ✓ Bank: Open 24/7 for your convenience
- ✓ Library: You don't need a library card to check out these resources!
- ✓ Court House: Resources that will help smooth out bumps for an easier ride

See you at the next highway marker!

# FINANCIAL

# SECTION

#### **II. Financial Section**

Independent Auditors' Report	16
Management's Discussion and Analysis	18
Basic Financial Statements	
Combined Statements of Fiduciary Net Position	23
Combined Statements of Changes in Fiduciary Net Position	24
Notes to the Basic Financial Statements	25
Required Supplementary Information	
Schedule of Funding Progress – HBS and LTD – Last 3 Years	43
Schedule of Contributions from Employer and Other Contributing Entities –	
HBS and LTD – Last 3 Years	.43
Schedule of Changes in the Net Pension Liability	
Schedule of Net Pension Liability	
Schedule of Contributions from Employer – Retirement – Last 10 Years	45
Schedule of Investment Returns	45
Notes to Required Supplementary Information	
Additional Supplementary Information	
Combining Schedule of Retirement Fiduciary Net Position	50
Combining Schedule of Changes in Retirement Fiduciary Net Position	51
Schedule of Administrative Expenses	52
Schedule of Professional Consultant Fees	
Schedule of Investment Expenses	
Schedule of Internal Investment Activity Expenses	



CliftonLarsonAllen LLP www.CLAconnect.com

Independent Auditors' Report

The Honorable Janice K. Brewer, Governor State of Arizona and Board of Trustees Arizona State Retirement System

#### **Report on the Financial Statements**

We have audited the financial statements of the Arizona State Retirement System (ASRS), a component unit of the State of Arizona, which comprise the Combined Statements of Fiduciary Net Position as of June 30, 2014, and the related Combined Statements of Changes in Fiduciary Net Position for the year then ended, and the related Notes to the Basic Financial Statements, as listed in the table of contents.

#### Management's Responsibility for the Financial Statements

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

#### Auditors' Responsibility

Our responsibility is to express an opinion on these financial statements based on our audit. We conducted our audit in accordance with auditing standards generally accepted in the United States of America and the standards applicable to financial audits contained in *Government Auditing Standards*, issued by the Comptroller General of the United States. Those standards require that we plan and perform the audit to obtain reasonable assurance about whether the financial statements are free from material misstatement.

An audit involves performing procedures to obtain audit evidence about the amounts and disclosures in the financial statements. The procedures selected depend on the auditors' judgment, including the assessment of the risks of material misstatement of the financial statements, whether due to fraud or error. In making those risk assessments, the auditor considers internal control relevant to the entity's preparation and fair presentation of the financial statements in order to design audit procedures that are appropriate in the circumstances, but not for the purpose of expressing an opinion on the effectiveness of the entity's internal control. Accordingly, we express no such opinion. An audit also includes evaluating the appropriateness of accounting policies used and the reasonableness of significant accounting estimates made by management, as well as evaluating the overall presentation of the financial statements.

We believe that the audit evidence we have obtained is sufficient and appropriate to provide a basis for our audit opinion.

#### Opinion

In our opinion, the financial statements referred to above present fairly, in all material respects, the net position of the ASRS as of June 30, 2014, and the respective changes in its net position for the year then ended in accordance with accounting principles generally accepted in the United States of America.



An independent member of Nexia International

#### **Other Matters**

#### Required Supplementary Information

Accounting principles generally accepted in the United States of America require that the Management's Discussion and Analysis and the Schedules of Funding Progress, Contributions from the Employer and Other Contributing Entities, Changes in the Net Pension Liability, Net Pension Liability, Contributions from Employer, and Investment Returns, and related Notes, as listed in the table of contents, be presented to supplement the financial statements. Such information, although not a part of the financial statements, is required by the Governmental Accounting Standards Board who considers it to be an essential part of financial reporting for placing the financial statements in an appropriate operational, economic, or historical context. We have applied certain limited procedures to the required supplementary information in accordance with auditing standards generally accepted in the United States of America, which consisted of inquiries of management about the methods of preparing the information and comparing the information for consistency with management's responses to our inquiries, the financial statements, and other knowledge we obtained during our audit of the financial statements. We do not express an opinion or provide any assurance on the information because the limited procedures do not provide us with sufficient evidence to express an opinion or provide any assurance.

#### Other Information

Our audit was conducted for the purpose of forming an opinion on the ASRS' financial statements. The Additional Supplementary Information, as listed in the table of contents, is presented for purposes of additional analysis and is not a required part of the financial statements.

The Additional Supplementary Information, as listed in the table of contents, is the responsibility of management and was derived from and relates directly to the underlying accounting and other records used to prepare the financial statements. Such information has been subjected to the auditing procedures applied in the audit of the financial statements and certain additional procedures, including comparing and reconciling such information directly to the underlying accounting and other records used to prepare the financial statements or to the financial statements themselves, and other additional procedures in accordance with auditing standards generally accepted in the United States of America. In our opinion, the Additional Supplementary Information is fairly stated, in all material respects, in relation to the financial statements as a whole.

The Introductory, Investment, Actuarial and Statistical sections, as listed in the table of contents, have not been subjected to the auditing procedures applied in the audit of the financial statements, and accordingly, we do not express an opinion or provide any assurance on it.

#### Other Reporting Required by Government Auditing Standards

In accordance with *Government Auditing Standards*, we have also issued our report dated November 7, 2014 on our consideration of the ASRS' internal control over financial reporting and on our tests of its compliance with certain provisions of laws, regulations, contracts, and grant agreements and other matters. The purpose of that report is to describe the scope of our testing of internal control over financial reporting and compliance and the results of that testing, and not to provide an opinion on internal control over financial reporting or on compliance. That report is an integral part of an audit performed in accordance with *Government Auditing Standards* in considering the ASRS' internal control over financial reporting and compliance.

Clifton Larson Allen LLP

Baltimore, Maryland November 7, 2014

This section presents Management's Discussion and Analysis (MD&A) of the Arizona State Retirement System's (ASRS) fiduciary net position and changes in fiduciary net position for the fiscal year ended June 30, 2014. It is presented as a narrative overview and analysis. The discussion and analysis should be read in conjunction with the Letter of Transmittal included in the Introductory Section of the ASRS' Comprehensive Annual Financial Report (CAFR), and the basic financial statements and notes to the basic financial statements presented in the Financial Section of the CAFR.

#### **Financial Highlights**

During fiscal year 2014, the ASRS assets increased primarily as the result of strong market conditions.

- At June 30, 2014, the ASRS held investments of \$35.6 billion, an increase of \$4.9 billion from fiscal year 2013.
- The combined investment portfolio experienced a return of 18.6% compared to 13.1% in fiscal year 2013.

#### **Overview of the Financial Statements**

The MD&A is intended to serve as an introduction and overview of the ASRS financial section of the CAFR, which is comprised of the following components: 1) basic financial statements, 2) notes to the basic financial statements, 3) required supplementary information and 4) additional supplementary schedules. Collectively, this information presents the combined fiduciary net position held in trust for pension benefits, which includes health benefit supplements and long term disability for each of the funds administered by the ASRS as of June 30, 2014. This financial information also summarizes the combined changes in fiduciary net position held in trust for benefits for the year then ended. The information available in each of these sections is briefly summarized as follows:

 Basic financial statements - For the fiscal year ended June 30, 2014, financial statements are presented for the funds administered by the ASRS. These fiduciary funds are held in trust for the benefit of the ASRS members.

- The Combined Statements of Fiduciary Net Position is presented as of June 30, 2014. This financial statement reflects the resources available to pay benefits to members, including retirees and beneficiaries, at the end of the fiscal year.
- The Combined Statements of Changes in Fiduciary Net Position is presented for the year ended June 30, 2014. This statement reflects the changes in resources available to pay benefits to retirees and other beneficiaries for the year.
- 2) Notes to the Basic Financial Statements The notes to the basic financial statements provide additional information, which is essential to a full understanding of the data provided in the basic financial statements. The notes to the basic financial statements can be found on pages 25-42 of this report.
- 3) Required Supplementary Information The required supplementary information consists of six schedules and related notes concerning, funded progress, required contributions, changes in the net pension liability, the net pension liability and investment returns of the defined benefit pension systems administered by the ASRS.
- 4) Additional Supplementary Schedules These schedules include Combining Schedules of Fiduciary Net Position and Changes in Fiduciary Net Position for the ASRS Plan and System retirement programs. Detailed information about administrative expenses, consultant fees and investment expenses by manager are also included in this section. The ASRS Plan, a defined benefit plan, and the System, a defined contribution plan with guaranteed benefits, are separate components administered within the same pension plan and trust.

# Financial Analysis of the ASRS Funds

The ASRS administers retirement, health and long term disability benefits for teachers, state, county and other public municipal employees. ASRS benefits are funded by member and employer contributions and by earnings on investments. The ASRS has three funds, Retirement, Health Benefit Supplement (HBS) and Long Term Disability (LTD), to which the contributions are distributed according to actuarially determined contribution rates.

**Fiduciary Net Position -** ASRS's total fiduciary net position held in trust for benefits at June 30, 2014 was \$35.5 billion, a 16.0% increase from \$30.6 billion at June 30, 2013. The retirement fund's fiduciary net position was \$33.7 billion compared to \$29.0 billion last year, a 16.1% increase. The HBS's fund net position was \$1.6 billion at year end compared to the same \$1.3 billion at fiscal year 2013, a 16.5% increase. The LTD fund's fiduciary net position was \$286 million at year end compared to \$263 million last year, an 8.7% increase. The increase in the ASRS' total fiduciary net position and the fiduciary net position of its individual funds is primarily due to investment returns of 18.6% for fiscal year 2014.

**Changes in Fiduciary Net Position -** For the 2014 fiscal year, contributions totaled \$2.1 billion, compared to the 2013 fiscal year contributions of \$2.0 billion. The increase is due to a 0.4% increase in contribution rates for retirement and HBS from 10.9% in fiscal year 2013 to 11.3% in fiscal year 2014. LTD contribution rates re-

mained the same. For employers, the alternate contribution rate increased from 8.64% in 2013 to 9.20% in 2014.

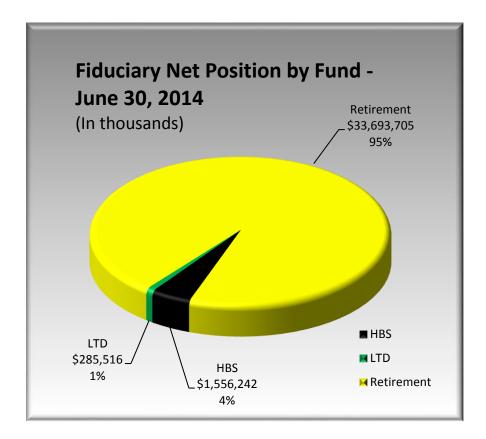
For fiscal year 2014, the ASRS recognized net investment income of \$5.8 billion, which compares to net investment income of \$3.6 billion in the previous year. This 62.5% increase is primarily due to strong performance in U.S. and international equities, as well as opportunistic, debt, equity, and real estate.

Deductions from the ASRS's net position held in trust for benefits consist primarily of pension, disability, health insurance, survivor benefits, member refunds and administrative expenses. For the 2014 fiscal year, pension, disability, health insurance and survivor benefits totaled \$2.7 billion, an increase of 4.8% over the \$2.6 billion paid during fiscal year 2013. The 4.8% increase is explained by an increase in total retirees from 122,257 in fiscal year 2013, to 127,881 in fiscal year 2014. Refunds and transfers to other plans totaled \$247 million in fiscal year 2014, a 12.7% increase from the \$219 million paid out in fiscal year 2013. In fiscal year 2014, the cost of administering the ASRS benefits totaled \$31 million, a decrease of 24.4% from the \$41 million paid in fiscal year 2013. Investment expenses totaling \$8.2 million are reported under investing activity expense, which were previously included in administrative expense.

The following tables show the principal ASRS net assets and changes in net assets for fiscal years 2014 and 2013, in thousands of dollars:

Fiduciary Net Position	2014	2013	Change	% Change
ASSETS				
Cash, receivables and prepaids	\$ 661,021	\$ 1,145,516 \$	(484,495)	-42.3%
Investments at fair value	35,636,475	30,779,999	4,856,476	15.8%
Securities lending	15,427	15,460	(33)	-0.2%
Total assets	36,312,923	31,940,975	4,371,948	13.7%
LIABILITIES				
Payables and other liabilities	762,033	1,302,131	(540,098)	-41.5%
Securities lending	15,427	15,460	(33)	-0.2%
Total Liabilities	777,460	1,317,591	(540,131)	-41.0%
NET POSITION RESTRICTED FOR PENSION/OPEB BENEFITS	\$35,535,463	\$30,623,384	\$ 4,912,079	16.0%

Change in Fiduciary Net Position		2014	2013		Change		% Change
ADDITIONS							
Member contributions	\$	1,016,435	\$	968,885	\$	47,550	4.9%
Employer contributions		1,041,002		989,790		51,212	5.2%
Other income		29,848		25,826		4,022	15.6%
Service credit purchase and transfers in		33,485		72,023		(38,538)	-53.5%
Investment and security lending income		5,949,616		3,748,774		2,200,842	58.7%
Investment and security lending expense		(149,882)		(178,898)		29,016	16.2%
Total additions		7,920,504	5	5,626,400		2,294,104	40.8%
DEDUCTIONS							
Retirement and disability benefits		2,690,828		2,566,275		124,553	4.9%
Survivor benefits		39,334		38,442		892	2.3%
Refunds and transfers		247,116		219,332		27,784	12.7%
Administration and other		31,147		41,203		(10,056)	-24.4%
Total deductions		3,008,425	2	2,865,252		143,173	5.0%
NET CHANGE		4,912,079		2,761,148		2,150,931	77.9%
NET POSITION RESTRICTED FOR PENSION/OPEB BENEFITS							
Net position beginning of year	3	80,623,384	27	7,862,236		2,761,148	9.9%
Net position end of year	\$3	85,535,463	\$30	0,623,384	\$	4,912,079	16.0%



Funded Status - The Governmental Accounting Standards Board (GASB) has issued Statement Number 67, Financial Reporting for Pension Plans (GASB 67), which amends GASB Statement No. 25. GASB 67 is effective for ASRS for the June 30, 2014 reporting period. Under GASB 67, the methodology for determining the net pension liability disclosed in the Notes to the Basic Financial Statements has shifted from a funding perspective to an accounting perspective. Under GASB 67, the actuarial costing methodology for financial reporting purposes specifies entry age normal; however, the actuarial costing methodology utilized by ASRS for funding purposes is the projected unit cost (PUC) method. In addition, under the accounting methodology plan assets are valued at fair market value, rather than actuarial value, which smooth investment gains and losses over a period of time.

Under the accounting methodology for determining the funded status, the ASRS uses the most recently available actuarial valuation, dated June 30, 2013, which was rolled forward to June 30, 2014. Total retirement plan assets

were \$33.7 billion and the total pension liability was \$48.5 billion, which results in a net pension liability of \$14.8 billion. The plan fiduciary net position as a percentage of the total pension liability was 69.5%. The fiduciary net position of the health benefit supplement was \$1.6 billion and the long term disability fiduciary net position was \$286 million.

Funding status and progress for the ASRS based on the most currently available valuation is presented in the Notes to the Basic Financial Statements. A detailed discussion of funding is provided in the Actuarial Section of this report.

**Investments -** During the fiscal year 2014, the ASRS investments were broadly diversified in domestic and international equities, domestic fixed income, real estate, private equity, opportunistic, commodities and cash equivalent instruments. A few highlights of the year are as follows:

- As of June 30, 2014, the fund held investments of \$35.6 billion, an increase of \$4.9 billion over prior year.
- The combined investment portfolio generated approximately \$5.8 billion in net investment earnings during the year.
- The combined investment portfolio experienced a return of 18.6% compared to the Interim Total Fund Benchmark return of 17.8%.
- The increase in investments during the year is primarily due to strong performance in U.S. and international equities, as well as opportunistic equity, opportunistic debt and real estate.

A detailed discussion of investments is provided in the Notes to the Basic Financial Statements and the Investment Section of this report.

Request for Information – This financial report is designed to provide a general overview of the system's finances. Questions concerning any of the information provided in this report or requests for additional information should be addressed to:

> ASRS Financial Services Division 3300 North Central Avenue Phoenix, AZ 85012

# **Combined Statements of Fiduciary Net Position**

As of June 30, 2014 (Dollars in Thousands)

	Retirement Fund	Sı	Health Benefit	Long Term Disability Fund	Combined
ASSETS					
Cash	\$ 2,365	\$	87	\$ 250	\$ 2,702
RECEIVABLES					
Accrued interest and dividends	60,474		2,641	-	63,115
Securities sold	40,792		1,731	-	42,523
Forward contracts	419,880		18,308	-	438,188
Contributions	69,136		1,087	869	71,092
Due from other funds	612		6,647	2,501	9,760
Other	 545		29,852	3,244	33,641
Total receivables	591,439		60,266	6,614	658,319
INVESTMENTS AT FAIR VALUE					
Short-term investments	1,621,617		125,339	2,835	1,749,791
Securities lending collateral	14,784		643	-	15,427
Equity	20,122,143		874,875	186,242	21,183,260
Fixed income	6,671,668		291,584	60,162	7,023,414
Real estate	1,985,698		87,405	22,382	2,095,485
Commodities	-		-	7,311	7,311
Global tactical asset allocation	3,327,760		143,613	-	3,471,373
Other	 101,399		4,442	-	105,841
Total investments	33,845,069		1,527,901	278,932	35,651,902
TOTAL ASSETS	 34,438,873		1,588,254	285,796	36,312,923
LIABILITIES					
Securities purchased	293,994		12,676	-	306,670
Securities lending collateral	14,784		643	-	15,427
Forward contracts	399,465		17,419	-	416,884
Due to other funds	9,760		-	-	9,760
Other	 27,165		1,274	280	28,719
TOTAL LIABILITIES	745,168		32,012	280	777,460
NET POSITION RESTRICTED					
FOR PENSION/OPEB BENEFITS	\$ 33,693,705	\$	1,556,242	\$ 285,516	\$ 35,535,463

The accompanying notes are an integral part of these statements.

# **Combined Statements of Changes in Fiduciary Net Position**

For the Year Ended June 30, 2014 (Dollars in Thousands)

		Retirement Fund		alth Benefit ment Fund	Long Term Disability Fund		Combined
ADDITIONS							
CONTRIBUTIONS							
Member contributions	\$	995,284	\$	-	\$ 21,151	\$	1,016,435
Employer contributions	Ŧ	965,969	Ŧ	53,405	21,628	Ŧ	1,041,002
Transfers from other plans		1,044		-	-		1,044
Purchased Service		32,441		-	-		32,441
Total Contributions		1,994,738		53,405	42,779		2,090,922
INVESTING ACTIVITY INCOME							
Net appreciation in fair value of investments		5,114,686		223,003	45,231		5,382,920
Interest		185,226		8,040	-		193,266
Dividends		338,194		14,703	-		352,897
Other income		17,949		779	-		18,728
Total investing activity income		5,656,055		246,525	45,231		5,947,811
INVESTMENT ACTIVITY EXPENSE							
Management fees		(135,748)		(5,844)	(281)		(141,873)
Custody fees		(1,160)		(50)	-		(1,210)
Consultant and legal fees		(3,664)		(39)	-		(3,703)
Internal investment activity expense		(3,159)		(138)	-		(3,297)
Total investment activity expenses		(143,731)		(6,071)	(281)		(150,083)
Net income from investing activities		5,512,324		240,454	44,950		5,797,728
FROM SECURITIES LENDING ACTIVITIES							
Securities lending income		1,644		71	-		1,715
Unrealized gain on securities lending		86		4	-		90
Total securities lending activity income		1,730		75	-		1,805
Security lending expense:		100		20			400
Interest rebate		466		20	-		486
Management fees Total securities lending activity expense		<u>(274)</u> 192		<u>(11)</u> 9			<u>(285)</u> 201
Net income from securities lending activities		1,922					2,006
Total net investment income		5,514,246		240,538	44,950		5,799,734
Other Income				29,848	-		29,848
TOTAL ADDITIONS		7,508,984		323,791	87,729		7,920,504
		, ,		, -			11
DEDUCTIONS					~ ~ ~ ~ ~ ~		
Retirement and disability benefits		2,527,038		101,746	62,044		2,690,828
Survivor benefits		39,334		-	-		39,334
Refunds to withdrawing members, including interest Administrative expenses		246,201 26,107		- 1 1 2 7	- 2,542		246,201 29,786
Transfers to other plans		20,107 915		1,137	2,342		29,780 915
Other		1,114		-	247		1,361
TOTAL DEDUCTIONS		2,840,709		102,883	64,833		3,008,425
NET INCREASE IN NET POSITION		4,668,275		220,908	22,896		4,912,079
NET POSITION RESTRICTED				-	-		- •
FOR PENSION/OPEB BENEFITS							
Beginning of year End of year	¢	29,025,430 33,693,705		1,335,334	262,620 \$ 285,516	\$	30,623,384
	_₹	33,093,703	Ţ	1,556,242	<del>7</del> 203,310	P	35,535,463

The accompanying notes are an integral part of these statements.

## 1. Plan Description

**Organization** – The Arizona State Retirement System (ASRS) is a component unit of the State of Arizona. The ASRS is a cost-sharing, multiple-employer, pension plan established by the State of Arizona to provide pension benefits for employees of the State and employees of participating political subdivisions and school districts. The ASRS is administered in accordance with Title 38, Chapter 5, Article 2 of the Arizona Revised Statutes (A.R.S.). The Long Term Disability Program is administered in accordance with Title 38, Chapter 5, Article 2.1.

The ASRS is a qualified governmental pension plan pursuant to I.R.C. §414. The ASRS plan has two components, the Plan and the System (closed plan). The ASRS's accumulated plan assets are utilized to pay benefits to members of either component. The Plan is a defined benefit plan and the System is a defined contribution plan, with guaranteed benefits. These plans are administered through a trust. The System was established by the Arizona Legislature in 1953 to provide retirement and other benefits for state employees, teachers, and employees of political subdivisions that elected coverage. In 1943, the Legislature established the Arizona Teachers' Retirement System (the Teachers' System) to provide benefits for teachers. After the establishment of the ASRS, teachers who were, or later became, eligible through employment covered by the ASRS were transferred to the System. The Teachers' System then became inactive, except for continuation of retirement benefits already being paid and obligations to teacher members who did not become eligible for the ASRS.

The Plan, enacted by the Legislature in 1970, became effective July 1, 1971. Effective July 1, 1981, all non-retired members of the System became members of the Plan, as prescribed by Laws of 1980, Chapter 238.

A.R.S. §38-783 and A.R.S. §38-797 require separate accounts be established for health insurance premium benefits and long term disability benefits, respectively. Effective July 1, 1995, the ASRS established an account for each benefit program and has reported those funds in the basic financial statements. Both the Health Benefit Supplement Fund (HBS) and the Long Term Disability Fund (LTD) are cost-sharing, multiple-employer post-

employment benefit plans. Although the investments of the HBS Fund are commingled with investments of the Retirement Fund, the HBS Fund's assets may be utilized solely for the payment of HBS eligible member benefits. The LTD fund is administered in through a trust separate from the trust related to the administration of the pension funds.

**Plan Administration** - The operation and administration of the ASRS is vested with the ASRS Board of Trustees, which is comprised of nine members, whom are appointed by the Governor and confirmed by the Arizona Senate pursuant to A.R.S. §38-211. The Board of Trustees is responsible for establishing and maintaining the funding policy. The composition of the ASRS Board, their qualifications and term are defined in A.R.S. §38-713. Five of the trustees must be ASRS members each representing one of the following member groups; an educator, an employee of a political subdivision, a retired member, an employee of the State and an at large member who may represent any ASRS member group. Each trustee representing an ASRS member group must have no less than five years of administrative management experience. Additionally, four trustees, who are not ASRS members are appointed to represent the public. Four trustees of the ASRS Board must have a minimum of 10 years of investment experience. There is no limit on the number of terms an ASRS Board trustee may serve.

**Reporting Entity** – The financial statements of the ASRS include the financial activities of all the above funds. The ASRS is considered a component unit of the State of Arizona reporting entity and is included in the State's financial reports as a pension trust fund.

Plan Membership - at June 30, 2014 pension plan membership and employer units consisted of the following:

Employee Members	
Inactive plan members or beneficiaries currently receiving benefits	127,881
Inactive plan members entitled to, but not yet receiving benefits	215,859
Active plan members	207,556
Total membership	551,296
Employer Units	
School districts	242
Charter schools	141
Cities and towns	78
Counties	15
Special districts	95
Community college districts	10
Universities	3
State government	1
Total employer units	585 3

<sup>1</sup> 71,288 of the inactive plan members or beneficiaries currently receiving benefits are receiving health insurance premium benefits. <sup>2</sup> Includes 4,313 members currently receiving long-term disability benefits. <sup>3</sup> The 585 employer units represent 690 total employers.

**Benefits** – The ASRS provides benefits under formulas and provisions described in Arizona State law. Benefits and administrative expenses are paid from funds contributed by members and employers and from earnings on investments. The ASRS provides for retirement, disability, health insurance premium supplemental benefits and survivor benefits.

Retirement benefits are calculated on the basis of age, total credited service and average monthly compensation, which is established on a fiscal year basis (July 1 to June 30).

Members with an initial membership date before July 1, 2011, are eligible for full retirement benefits upon the earliest of attaining:

- Age 65;
- Age 62 with 10 years of credited service;
- Age plus credited service equaling 80 or more

Members with initial membership dates on or after July 1, 2011, are eligible for full retirement benefits upon the earliest of attaining:

- Age 65;
- Age 62 with 10 years of credited service;
- Age 60 with 25 years of credited service;
- Age 55 with 30 years of credited service

Average monthly compensation is determined by a 60month or 36-month calculation depending on when a member began contributing to the ASRS.

The 60-month calculation is an option for members who began contributing to the ASRS before January, 1, 1984. To determine a member's benefit using this formula, the ASRS averages the highest 60 consecutive months of salary within the last 120 months of service. This calculation includes base salary, additional contracts, overtime and any other form of compensation. Termination payments may include sick pay (except for state and county employees), vacation pay, compensation time pay, retirement incentive pay (excludes payments made after retirement begins, such as VIP or ESP), or any other payments paid at the time of retirement. The average monthly compensation for members who began contributing before January 1, 1984 is automatically based on whichever calculation provides the greater benefit.

The 36-month calculation is required for members who began contributing to the ASRS on or after January 1, 1984. To determine a member's benefit using this formula, the ASRS averages the highest 36 consecutive months of salary within the last 120 months of service. This calculation excludes any termination payments the member received upon retirement.

For members who began contributing to the ASRS on or after July 1, 2011, the average monthly compensation used in a retiring member's retirement benefit calculation is the average of the highest consecutive 60 months in the last 120 months. Unlike the pre-1984 60 month calculation, the 60 month calculation enacted in 2011 does not include termination pay such as sick leave, annual leave etc.

The graded multiplier is a percentage set by Arizona State statute. It is the percentage of the average monthly compensation members will receive for each year of credited service they have accrued at retirement. This percentage is based on their total years of service at retirement based on the following graded multiplier schedule:

Years of Service	Multiplier
0.00-19.99 years	2.10%
20.00-24.99 years	2.15%
25.00-29.99 years	2.20%
30.00 or more years	2.30%

**Permanent Benefit Increase (PBI)** – Retired members who have been retired one year and members receiving LTD benefits are eligible for a benefit increase adjustment up to a maximum of 4%.

Retired members with at least 10 years of service who have been retired five or more years are eligible for an enhanced permanent benefit increase (EPBI). For each complete five-year period the member has been retired, an incremental benefit is paid if monies to pay the benefit are available. This benefit is funded by an interest credit of 8% of the reserve for future PBIs.

The PBI is paid from a reserve of excess investment earn-

ings. Funds are reserved when total actuarial investment returns for each fiscal year are 8% or greater. If there are no excess investment earnings in the reserve, then no additional benefit increase is paid. As of June 30, 2014, there is a zero balance in the reserve for future PBIs.

Due to legislation enacted in the 2013 legislative session, PBIs and EPBIs will not be awarded to members hired after September 13, 2013.

For a more detailed summary of benefits, refer to the Summary of Plan Provisions in the Actuarial Section of this report.

**Contributions** – Per Arizona Revised Statutes, contribution requirements for active plan members and their participating employers are established and may be amended by the ASRS Board. Contribution rates are actuarially determined and are expected to finance the costs of benefits earned by plan members during the year and any unfunded accrued liability. Cost of administering the plan is financed through employer contributions, member contributions and investment earnings.

Employers are also required to pay an Alternate Contribution Rate (ACR), for retired members who return to work. ACR contributions totaling \$24.4 million were received in FY14 and are included in Employer Contributions on the Statement of Changes in Fiduciary Net Position.

Employers' contractually required contribution rates as a percentage of covered payroll and the employees' matching contributions were as follows for fiscal year 2014:

Contribution Rates	Employer	Member
Retirement	10.70%	11.30%
Health benefit supplement	0.60%	0.00%
Long-term disability	0.24%	0.24%
Total required	11.54%	11.54%
Alternate contribution rate	9.20%	0.00%

State statutes allow the purchase of eligible service credit for which no benefit can be paid by another qualified plan. Purchasable services include leave of absence, military service, other public service employment and previously forfeited service under the ASRS. Statutes also allow purchase of military service regardless of whether a benefit may be paid.

**Termination of Employment** – Upon termination of employment, members may elect to receive their contributions made to the Plan, plus accrued interest.

Members with an initial membership date before July 1, 2011, may receive a percentage of employer contributions to the plan based on years of service as follows:

Years of Service	Vesting
5 to 5.9	25%
6 to 6.9	40%
7 to 7.9	55%
8 to 8.9	70%
9 to 9.9	85%
10 or more	100%

Members with an initial membership date on or after July 1, 2011 will not receive any portion of the employer contributions if they withdraw their account balance prior to retirement. This does not apply to terminations due to an employer reduction in force or position elimination, in which case the above ASRS vesting schedule will apply.

Withdrawal of accumulated contributions results in forfeiture of the member's accrued benefits in the Plan; however, state law provides for reinstatement of a member's forfeited service upon repayment of the accumulated contributions, plus interest if a former member returns to covered service.

## 2. Summary of Significant Accounting Policies

**Basis of Accounting** – The financial statements of the Arizona State Retirement System are prepared using the accrual basis of accounting. The accompanying financial statements are prepared in accordance with accounting principles generally accepted in the United States of America that apply to government accounting of fiduciary funds including the Governmental Accounting Standards Board (GASB) Statements 28, 34, 37, 40, 43, 53, 63 and 67.

Contributions are recognized as revenues when due, pursuant to statutory and contractual requirements. Benefits and refunds are recognized when due and payable and expenses are recorded when the corresponding liabilities are incurred, regardless of when contributions are received or payment is made. Investment income derived from publicly traded investments is recognized when earned. Investment and other administrative expenses are recognized when incurred.

**New Accounting Pronouncements** – GASB Statement No. 67, *Financial Reporting for Pension Plans*, was issued and is effective for periods beginning after June 15, 2013. This Statement establishes standards of financial reporting for separately issued financial reports and specifies the required approach to measuring the pension liability of employers and non-employer contributing entities for benefits provided through the pension plan (the net pension liability). This Statement also details the note disclosure requirements. The ASRS implemented GASB 67 for fiscal year ended June 30, 2014.

**Investments** – Publicly traded investments are reported at fair values determined by the custodial agent. The agents' determination of fair values includes, among other things, utilization of pricing services or prices quoted by independent brokers at current exchange rates.

ASRS' derivative instruments which consist of futures, forward contracts, options, swaps, rights and warrants, are measured at fair value and reported on the Statement of Fiduciary Net Position. Changes in fair values of derivative instruments are reported as net appreciation of fair value on the Statement of Changes in Fiduciary Net Position.

The fair value of limited partnership investments are based on estimated current values and accepted industry practice. Fair value is based on estimates and assumptions from information and representations provided by the respective general partners, in the absence of readily ascertainable market values.

Short-term investments are reported at cost plus accrued interest, which approximates fair value. For investments where no readily ascertainable fair value exists, management, in consultation with their investment advisors, has determined the fair values for the individual investments based on anticipated maturity dates and current interest rates commensurate with the investment's degree of risk.

Net appreciation (depreciation) in the fair value of investment assets is determined by calculating the change in the fair value of investments between the end of the year and the beginning of the year, less purchases of investments at cost, plus sales of investments at fair value. Interest income is recorded on the accrual basis and dividends are recorded on the ex-dividend date.

Security transactions and any resulting gains or losses are accounted for on a trade date basis.

Retirement and HBS investments are pooled. However, investments for each fund are allocated daily via a fluctuating dollar unitization methodology. Realized and unrealized gains are allocated daily using the same methodology.

**Capital Assets** – Capitalization thresholds have been established as follows:

Capitalizable Assets	Threshold			
Furniture and fixtures	\$ 1,000,000			
Computers and other equipment	\$ 1,000,000			
Internally developed computer software	\$10,000,000			
Externally purchased software	\$ 1,000,000			
Websites	\$ 1,000,000			

As of June 30, 2014, there were no capitalizable expenditures at or above the stated thresholds.

**Federal Income Tax Status** – During the year ended June 30, 2014, the ASRS qualified under Section 401(a) of the Internal Revenue Code (IRC) and was exempt from federal income taxes under Section 501(a) of the IRC.

Actuarial Valuation – The information included in the required supplemental schedules is based on the actuarial valuations performed as of June 30, 2013, which is the latest available information for the HBS and LTD funds. The information presented for the retirement fund is based on the June 30, 2013 actuarial valuation, which was rolled

forward to June 30, 2014. Significant actuarial assumptions used in the valuations are included in the notes to the required supplemental schedules.

**Use of Estimates** – The preparation of financial statements in conformity with accounting principles generally accepted in the United States of America requires management to make estimates and assumptions that affect the reported amounts of assets and liabilities and changes therein, disclosure of contingent assets and liabilities at the date of the financial statements and the reported amounts of revenues and expenses during the reporting period. Actual results could differ from those estimates.

## 3. Cash and Investments

**Cash** – Cash deposits are subject to custodial risk. Custodial risk is the risk that in the event of a bank failure, ASRS' deposits may not be returned to it. Arizona State statutes do not require ASRS deposits to be collateralized. The board has not adopted a more restrictive policy. In addition, the FDIC insures ASRS cash deposits up to \$250,000 per member based on the ratio of the member's account balance to the ASRS net assets.

Investments – Statutes enacted by the Arizona State Legislature (the Statutes) authorize the ASRS to make investments in accordance with the "Prudent Person" rule. Section 38-718 (E) of the Arizona Revised Statutes interprets the rule to be that investment management shall discharge the duties of their position with the care, skill, prudence and diligence, under the circumstances then prevailing, that a prudent person acting in a like capacity and familiar with the same matters would use in the conduct of an enterprise of a like character and with like aims as that of ASRS. Within this broad framework, the ASRS has chosen to invest in short-term securities, obligations of the U.S. government or agencies of the U.S. government, corporate bonds, common and preferred stocks (domestic and foreign), mortgages, derivatives, commodities, real estate, private equity and opportunistic debt and equity investments.

The Statutes place the following restrictions on the ASRS' investment fund portfolio:

1. No more than 80% of the ASRS' assets may be in-

vested at any given time in equities, measured at market value.

- 2. No more than 5% of the ASRS' assets may be invested in securities issued by any one institution, agency or corporation, other than securities issued as direct obligations of or fully guaranteed by the U.S. government or mortgage backed securities and agency debentures issued by federal agencies, measured at market value.
- 3. No more than 40% of the ASRS' assets may be invested in non-U.S. public investments, measured at market value.
- 4. No more than 60% of the ASRS' assets may be invested internally, measured at market value.
- 5. No more than 10% of the ASRS' assets may be invested in bonds or other evidences of indebtedness of those multinational development banks in which the U.S. is a member nation, including the International Bank for Reconstruction and Development, the African Development Bank, the Asian Development Bank, and the Inter-American Development Bank, measured at market value.

Subject to the limitations noted above, the Board may authorize the Director to make investments that are designated by the Board and that do not exceed 60% of the assets of the investment account measured at cost.

The Board has not formally adopted more restrictive policies than required by State Statute for the various types of risks. The management of ASRS believes it has complied with the above guidelines. Management does expect the money managers to abide by contract requirements, which are considerably more restrictive than the statute. Due to the flow of securities to and from transfer agents and the security lending program, securities occasionally cannot be delivered for a sale or received for a purchase, resulting in a "failed" transaction. Securities with trade dates in June and settlement dates in July result in "outstanding" transactions. Since these securities have contractually changed ownership, receivables and payables result from these transactions. Such transactions resulted in a receivable for securities sold of \$42.5 million and a payable for securities purchased of \$306.7 million at June 30, 2014.

**Investment Policy** – The plan's policy in regard to the allocation of invested assets is established and may be amended by the ASRS Board. Plan assets are managed on a total return basis with a long-term objective of achieving and maintain a fully funded status for the benefits provided through the pension plan. The following was the ASRS Board's adopted asset allocation policy as of June 30, 2014:

Asset Class	<b>Target Allocation</b>
Equity	63%
Fixed income	25%
Commodities	4%
Real estate	8%
Total	100%

**Rate of Return** – For the year ended June 30, 2014, the annual money-weighted rate of return on pension plan investments, net of pension plan investment expense, was 17.78%. The money-weighted rate of return expresses investment performance, net of investment expense, adjusted for the changing amounts actually invested.

# Investments by Investment Type

At June 30, 2014 (Dollars in Thousands)

Investment Type	Retirement HBS		2014 Fair Value
SHORT-TERM INVESTMENTS			
Cash and Cash Equivalents	\$ 678,061	\$ 2,835	\$ 680,896
Foreign Currency	188,287	-	188,287
Short-term Investments including U.S. Tbills	880,608	-	880,608
Total Short-Term Investments	1,746,956	2,835	1,749,791
SECURITIES LENDING COLLATERAL			
Domestic Equity	13,122	-	13,122
Non-U.S. Equity	2,305	-	2,305
Total Securities Lending Collateral	15,427	-	15,427
EQUITY SECURITIES			
Large Cap	8,036,836	100,987	8,137,823
Mid Cap	1,593,263	-	1,593,263
Small Cap	1,487,508	19,617	1,507,125
Total U.S. Equity	11,117,607	120,604	11,238,211
Developed Large Cap	4,013,006	39,620	4,052,626
Developed Small Cap	1,301,642	9,615	1,311,257
Emerging Markets	2,005,045	16,403	2,021,448
Total Non-U.S. Equity	7,319,693	65,638	7,385,331
Private Equity	2,204,231	-	2,204,231
Opportunistic Equity	355,487	-	355,487
Total Other Equity	2,559,718	-	2,559,718
Total Equity Securities	20,997,018	186,242	21,183,260
FIXED INCOME SECURITIES	2 001 001		2 112 450
Core	3,081,901	31,557	3,113,458
High Yield Total U.S. Fixed Income	1,037,422	18,378	1,055,800
	4,119,323	49,935	4,169,258
Emerging Market Debt	711,515	10,227	721,742
Opportunistic Debt	930,906	-	930,906
Private Debt	1,201,508	-	1,201,508
Total Other Debt	2,843,929	10,227	2,854,156
Total Fixed Income Securities	6,963,252	60,162	7,023,414
	2 072 4 02	22.222	
Real Estate	2,073,103	22,382	2,095,485
Commodities	-	7,311	7,311
Global Tactical Asset Allocation	3,471,373	-	3,471,373
Farmland and Timber Total Other Investments	<u>105,841</u> <b>5,650,317</b>	29,693	<u>105,841</u> <b>5,680,010</b>
TOTAL INVESTMENTS AT FAIR VALUE	\$ 35,372,970	\$ 278,932	\$ 35,651,902
IVIAL INVESTIGATION AT FAIR VALUE	φ <u>33</u> ,372,370	Ψ 2/0 <sub>1</sub> 932	Ψ 33,031,902

# NOTES TO THE BASIC FINANCIAL STATEMENTS (CONTINUED)

Investments are subject to a number of risks including custodial credit risk, concentration of credit risk, credit quality risk, interest rate risk and foreign currency risk.

**Custodial Credit Risk** – For an investment, custodial credit risk is the risk that, in the event of a failure of a counter party, the ASRS will not be able to recover the value of its investment or the collateral securities that are in the possession of an outside party. Publicly traded securities are registered in the name of the ASRS including loaned securities.

**Credit Quality Risk** – Credit quality risk is the risk that the issuer will not fulfill its obligations to the purchaser of its debt instruments. Arizona State statutes are not specific as to the credit ratings of the investments of the ASRS. The statutes require the Prudent Person Rule. The Board has not adopted a formal policy on credit ratings. The present management policy is to set standards for each portfolio manager based on an assessment of their expertise.

**Concentration of Credit Risk** – Concentration of credit risk is the risk of substantial loss if investments are concentrated in one issuer. Arizona state statute requires that no more than 5% of the assets can be invested in one issuer, except for the U.S. government and its agencies. The Board has not adopted a more restrictive policy.

The following table presents the fixed income investments at June 30, 2014 categorized to give an indication of the level of credit quality risk assumed by ASRS:

# Debt Securities Credit Quality Risk (Fixed Income Securities)

At June 30, 2014 (Dollars in Thousands)

Moody's Credit Rating	Fair	Value	Fair Value as Percent of Total Debt Securities Investments
Ааа	\$ 87	76,069	11.08%
Aa1-Aa3	1,88	80,633	23.79%
A1-A3	28	87,614	3.64%
Baa1-Baa3	46	53,694	5.87%
Ba1-Ba3	32	21,174	4.06%
B1-B3	51	18,298	6.56%
Са	21	10,921	2.67%
NA <sup>1</sup>	3,34	45,619	42.33%
Total <sup>2</sup>	\$ 7,90	4,022	100.00%

<sup>1</sup> NA represents those securities in which the rating is not readily available. The fair value of \$3,345,619 is classified as Corporate Bonds of \$18,378, Government Bonds of \$41,784, Emerging Market Debt of \$417,186, Opportunistic Debt of \$930,906, Private Debt of \$1,201,508 and Commingled Funds of \$735,857.

<sup>2</sup> Total of \$7,904,022 represents the total Fixed Income of \$7,023,414 and Short-term Investments of \$880,608.

**Interest Rate Risk** – Interest rate risk is the risk that debt securities will lose value due to rising interest rates. Arizona State statutes are silent regarding interest rate risk. The Board has not adopted a specific formal policy for interest rate risk. It does set more restrictive requirements in its contracts with money managers. The ASRS utilizes

effective duration to identify and manage its interest rate risk. Effective duration measures the expected change in value of a fixed income security for a given change in interest rate. The method takes into account the likely timing and amounts of variable cash flows for bonds with call options and prepayment provisions.

The following table shows the effective duration by investment type:

## **Interest Rate Risk**

At June 30, 2014 (Dollars in Thousands)

		<b>Effective Duration</b>
Fixed Income Security Type	Fair Value	(in years)
U.S. Treasury Bills	\$ 760,704	0.3
Asset Backed Securities	5,363	1.6
Commercial Mortgage Backed	67,075	1.5
Corporate Bonds	1,563,343	4.6
Government Related	256,568	5.4
Government Agencies CMO's	785,487	2.8
Government Bonds	1,103,905	6.3
Government Mortgage Backed	76,120	3.8
Duration Not Available <sup>1</sup>	 3,285,457	
Total	\$ 7,904,022	

<sup>1</sup> Represents Fixed Income in which the duration is not available. The fair value of \$3,285,457 is comprised of Emerging Market Debt of \$417,186, Opportunistic Debt of \$930,906, Private Debt of \$1,201,508 and Commingled Funds of \$735,857.

**Foreign Currency Risk** – Foreign currency risk is the risk that changes in the foreign exchange rate will adversely impact the fair value of an investment. The ASRS is authorized to invest part of its assets in foreign investments. According to Arizona State statutes, no more than 40% of ASRS assets may be invested in foreign securities

and the investments must be made by investment managers with expertise in those investments. The Board has not adopted a formal policy that is more restrictive. Management does have certain policies in the contracts with the money managers permitted to invest in foreign denominated securities. The following table shows exposure to foreign currency risk (U.S. dollars):

# **Foreign Currency Risk**

At June 30, 2014 (Dollars in Thousands)

Currency Type	Short-term Investments	Fixed Income		Equity Securities		Private Equity	Real Estate	Total
Australian Dollar	\$ (48)		\$	26,958	\$	Equity	\$ -	\$ 26,910
Brazilian Real	178	53,587	т	4,872	т	-	-	58,637
Canadian Dollar	(5,789)	, _		44,755		-	-	38,966
Columbian Peso	67	17,951		, _		-	-	18,018
Danish Krone	157	-		19,693		-	-	19,850
Euro Currency	58,103	-		420,041		173,122	32,926	684,192
Hong Kong Dollar	405	-		25,542		-	-	25,947
Hungarian Forint	-	6,421		-		-	-	6,421
Indonesian Rupiah	126	22,071		-		-	-	22,197
Israeli Shekel	27	-		4,289		-	-	4,316
Japanese Yen	2,705	-		294,691		-	-	297,396
Mexican Peso	-	30,504		-		-	104,057	134,561
Malaysian Ringgit	8	23,344		-		-	-	23,352
New Romaian Leu	79	4,337		-		-	-	4,416
New Russian Ruble	-	26,409		-		-	-	26,409
New Zealand Dollar	5	-		2,309		-	-	2,314
Nigerian Naira	228	6,192		-		-	-	6,420
Norwegian Krone	179	-		5,440		-	-	5,619
Peruvian Nouveau Sol	-	5,609		-		-	-	5,609
Philippine Peso	-	1,991		-		-	-	1,991
Polish Zloty	-	25,507		-		-	-	25,507
Pound Sterling	1,223	-		381,957		-	-	383,180
Singapore Dollar	402	-		16,126		-	-	16,528
South African Rand	-	36,909		-		-	-	36,909
South Korean WON	-	-		13,794		-	-	13,794
Swedish Krone	91	-		23,073		-	-	23,164
Swiss Franc	269	-		98,137		-	-	98,406
Taiwan Dollar	351	-		-		-	-	351
Thailand Baht	-	6,873		-		-	-	6,873
Turkish Lira	1	27,436		-		-	-	27,437
Total	\$ 58,767	\$ 295,141	\$	1,381,677	\$	173,122	\$ 136,983	\$ 2,045,690

## 4. Securities Lending Program

Arizona Revised Statutes Section 38-718(G) allows the ASRS to participate in a securities lending program. The ASRS' custodial bank enters into agreements with borrowers to loan securities and have the same securities redelivered at a later date. Securities eligible for loan include U.S. fixed income securities, U.S. and international equities.

The ASRS currently receives as collateral at least 102% of the market value of the loaned securities and maintains collateral at no less than 100% for the duration of the loan. At year-end, the ASRS had limited counter party risk to borrowers because the amount the ASRS owed to each borrower exceeded the amount each borrower owed the ASRS. Securities loaned are initially fully collateralized by cash (USD and Euro), U.S. Government or Agency securities, sovereign debt, corporate bonds and equities. Cash collateral may be reinvested (under certain constraints) in:

- a) Instruments issued or fully guaranteed by the U.S. Government, Federal agencies, or sponsored agencies or sponsored corporations,
- b) Instruments issued by domestic corporations including corporate notes and floating rate notes,
- c) Obligations of approved domestic and foreign banks,
- d) U.S. dollar-denominated instruments issued by sovereigns, sovereign supported credits, and instruments of foreign banks and corporations,
- e) Repurchase agreements,
- f) Insurance company funding agreements, guaranteed investment contracts and bank investment contracts,
- g) Money market mutual funds.

The ASRS records the cash collateral received and the same amount as an obligation for securities on loan. The maturities of the investments are closely matched to those of the security loans to avoid interest rate exposure. The ASRS receives a spread for its lending activities. Investments made with cash collateral are classified as an asset on the Statement of Combined Fiduciary Net Position. A corresponding liability is recorded as the ASRS must return the cash collateral to the borrower upon expiration of the loan. At June 30, 2014, the fair value of securities on

loan was \$95.8 million; of which \$15.0 million were cash collateralized loans. Cash of \$15.4 million received as collateral for securities loaned was reinvested and had a net asset value of \$15.0 million as of June 30, 2014. The securities lending payable at June 30, 2014, was \$15.4 million. The ASRS does not have the ability to pledge or sell the collateral unless there is a borrower default. There are no restrictions on the dollar amount of security loans that may be made by the ASRS. The ASRS is indemnified against gross negligence and borrower default by the lending agents, but is not indemnified against cash collateral reinvestment risk.

## 5. Derivatives

A derivative instrument is a financial instrument or other contract with all three of the following characteristics:

- a) Settlement Factors: It has one or more reference rates and one or more notional amounts or payment provisions or both. Those terms determine the amount of the settlement or settlements, and, in some cases whether or not a settlement is required,
- b) Leverage: It requires no initial net investment or an initial net investment that is smaller than would be required for other types of contracts that would be expected to have a similar response to changes in market factors,
- c) Net Settlement: Its terms require or permit net settlement, it can readily be settled net by means outside the contract, or it provides for delivery of an asset that puts the recipient in a position not substantially different from net settlement.

ASRS' derivatives are considered "Investment Derivative Instruments" as defined in GASB 53 "Accounting and Financial Reporting for Derivative Instruments". All funds are considered fiduciary funds.

ASRS' derivative instruments, which consist of futures contracts, forward contracts, options, swaps, rights and warrants are measured at fair value and reported on the Statement of Combined Fiduciary Net Position. Changes in fair value of derivative instruments are reported as net appreciation of fair value on the Combined Statement of Changes in Fiduciary Net Position. The fair value balances and notional amounts of derivative instruments outstanding at June 30, 2014, classified by type, and the changes in fair value of derivative

instruments for the year then ended as reported in the June 30, 2014 financial statements are as follows:

# **Investment Derivatives by Type**

(Dollars in Thousands)

	Changes in Fair	Fair Value at June 30, 2014				
Investment Derivatives	Classification	Amount <sup>2</sup>	Classification	Amount <sup>3</sup>		Notional <sup>4</sup>
Commodity Futures Long	Net Appreciation in Fair Value	\$ 83,877	Not Applicable	\$ -		262,560
Commodity Futures Short	Net Appreciation in Fair Value	(1,924)	Not Applicable	-		(50)
Credit Default Swaps Bought	Net Appreciation in Fair Value	(993)	Not Applicable	-	\$	-
Credit Default Swaps Written	Net Appreciation in Fair Value	70	Not Applicable	-		-
Fixed Income Futures Long	Net Appreciation in Fair Value	602	Not Applicable	-		-
Fixed Income Futures Short	Net Appreciation in Fair Value	(926)	Not Applicable	-		(11,300)
Fixed Income Options Written	Net Appreciation in Fair Value	629	Not Applicable	-		-
Foreign Currency Options Bought	Net Appreciation in Fair Value	25	Fixed Income Securities	-		650
Foreign Currency Options Written	Net Appreciation in Fair Value	241	Fixed Income Securities	(29)		(10,678)
Foreign Currency Forwards	Net Appreciation in Fair Value	(3,176)	Forward Contracts Receivable	857	\$	239,400
Futures Options Written	Net Appreciation in Fair Value	72	Not Applicable	-		-
Index Futures Long	Net Appreciation in Fair Value	6,314	Not Applicable	-		11
Pay Fixed Interest Rate Swaps	Net Appreciation in Fair Value	(419)	Not Applicable	-	\$	-
Receive Fixed Interest Rate Swaps	Net Appreciation in Fair Value	(406)	Fixed Income Securities	(62)	\$	9,645
Rights	Net Appreciation in Fair Value	556	Equity Securities	-	\$	-
Warrants	Net Appreciation in Fair Value	2,061	Equity Securities	-	\$	-
Total		\$ 86,603		\$ 766		

<sup>1</sup> Excludes futures margin payments.

<sup>2</sup> Brackets refer to losses.

<sup>3</sup> Brackets refer to liabilities.

<sup>4</sup> Notional may be a dollar amount or size of underlying futures and options; brackets refer to short positions.

The fair value of derivative instruments reported by ASRS is based on quoted market prices off national exchanges. The fair value of foreign currency forward contracts are based on mathematical models and are valued using a pricing service, which uses published Reuter's foreign currency rates as the primary source for the calculation. **Credit Risk** – The credit quality ratings of counterparties as described by nationally recognized statistical rating organizations and the counterparties related risk concentration as of the end of the reporting period are as follows:

# **Counterparty Risk and Ratings**

(Dollars in Thousands)

	Total Net	Risk		RATING	GS
Counterparty Name	Exposure	Concentration	S&P	Fitch	Moody's
Barclay's Bank	\$ 188	8.08%	А	А	A2
BNP Paribas, S.A.	18	0.76%	A+	A+	A1
Citibank N.A.	58	2.47%	А	А	A2
Credit Suisse	351	15.09%	А	А	A1
Deutsche Bank London	71	3.03%	А	A+	A3
Goldman Sachs	4	0.19%	A-	А	Baa1
HSBC Bank USA	51	2.18%	AA-	AA-	A1
JP Morgan Chase Bank N.A.	927	39.84%	A+	A+	Aa3
Morgan Stanely and Co. Inc.	27	1.17%	А	А	A3
Societe Generale	27	1.16%	А	A+	A2
Standard Chartered Bank	279	11.99%	AA-	AA-	A1
USB AG	327	14.04%	А	А	A2
Total	\$ 2,328	100.00%	_		

The maximum amount of loss due to credit risk that the ASRS would incur if the counterparties to the derivative instrument failed to perform according to the terms of the contract, without respect to any collateral or other security or netting arrangement, is the total unrealized gain of derivatives at the end of the reporting period.

ASRS has no general investment policy requiring collateral or other security to support derivative instruments. Each investment manager hired has discretion with respect to derivative investments and risk control. Each investment manager is governed by its Investment Manager Agreement. ASRS has no general investment policy with respect to netting arrangements. ASRS' investment managers have master netting arrangements to allow net settlement with the same counterparty in the event the counterparty defaults on its obligations.

The aggregate fair value of investment derivative instruments in asset positions at June 30, 2014 was \$2.3 million. This represents the maximum amount of loss in case of default of all counterparties of over-the-counter positions as of June 30, 2014. There was no collateral received or netting arrangements in place as of June 30, 2014 with counterparties that would reduce this exposure. **Interest Rate Risk** – The ASRS has exposure to interest rate risk due to the investment in an interest rate swap agreement. The required risk disclosures are included in the Interest Rate Risk schedule in Note 3.

The fair value balance and notional amount of the interest rate swap outstanding at June 30, 2014, for the year then ended as reported in the June 30, 2014 financial statements are as follows:

# **Derivative Instruments Subject to Interest Rate Risk Investment Maturities**

(In Thousands)

		_	Investment Maturities (in years)							
Investment Type	Fair	Value <sup>1</sup>	Less	Than 1	1-5			6-10	10+	
Receive Fixed Interest Rate Swaps	\$	(62)	\$	- \$		(41)	\$	(21) \$		-
Total	\$	(62)	\$	- \$		(41)	\$	(21) \$		-

## **Derivative Instruments Highly Sensitive to Interest Rate Changes**

(In Thousands)

Asset ID	Asset Description	Interest Rate	Fair Value <sup>1</sup>	Notional <sup>2</sup>
FIXED INCOM	1E FUTURES SHORT			
ADI07VSP2	US 10YR NOTE (CBT) SEP 14	0.00%	\$ -	(11,300)
Total Pay Fix	ed Interest Rate Swaps		\$ -	(11,300)
RECEIVE FIX	ED INTEREST RATE SWAPS			
99S0EIJN8/ 99S0EIJO6	SWU002S11 IRS ZAR R F 6.50000 / SWU002S11 IRS ZAR P V 03MJHBRG	6.50%	\$ (51) \$	931
99S0EM2K3/ 99S0EM2L1	SWU023WC8 IRS BRL R F 8.65000 / SWU023WC8 IRS BRL P V 00MCETIP	8.65%	(46)	817
99S0FZ5T1/ 99S0FZ5U8	SWU004PQ5 IRS BRL R F 10.91000 / SWU004PQ5 IRS BRL P V 00MBRCDI	10.91%	(4)	4,356
99S0HFQQ6/ 99S0HFQR4	SWU005W76 IRS BRL R F 11.32000 / SWU005W76 IRS BRL P V 00MCETIP	11.32%	6	544
99S0HQRT5/ 99S0HQRU2	SWU006FE8 IRS THB R F 3.34000 / SWU006FE8 IRS THB P V 06MLIBOR	3.34%	3	123
99S0IA423/ 99S0IA431	SWU006VU4 IRS THB R F 3.41000 / SWU006VU4 IRS THB P V 06MTHFX	3.41%	3	259
99S0IAEK2/ 99S0IAEL0	SWU006X81 IRS THB R F 3.42000 / SWU006X81 IRS THB P V 06MTHFX	3.42%	10	759
99S0IAWE6/ 99S0IAWF3	SWU006XQ1 IRS THB R F 3.41500 / SWU006XQ1 IRS THB P V 06MTHFX	3.42%	5	381
99S0IAWN6/ 99S0IAWO4	SWU006XR9 IRS THB R F 3.41000 / SWU006XR9 IRS THB P V 06MTHFX	3.41%	5	380
99S0IXAH3/ 99S0IXAI1	SWU007VO6 IRS COP R F 6.20000 / SWU007VO6 IRS COP P V 00MC00VI	6.20%	4	558
99S0IXAT7/ 99S0IXAU4	SWU007VN8 IRS COP R F 6.20000 / SWU007VN8 IRS COP P V 00MCOOVI	6.20%	 3	537
Total Receive	e Fixed Interest Rate Swaps		\$ (62) \$	9,645

<sup>1</sup> Brackets refer to liabilities.

<sup>2</sup> Brackets refer to short positions.

**Foreign Currency Risk** – ASRS is exposed to foreign currency risk on its foreign currency forward contracts and future contracts. The required risk disclosures are included in the Foreign Currency Risk schedule in Note 3.

## 6. Net Pension Liability of Employers

The components of the net pension liability of the participating employers' at June 30, 2014 (in thousands), was as follows:

Net Pension Liability of Employers						
Total pension liability	\$	48,490,307				
Retirement fiduciary net position		(33,693,705)				
Employers' net pension liability	\$	14,796,602				
Retirement fiduciary net position as a percentage of total pension liability 69.49%						

Actuarial Assumptions – The total pension liability was determined by an actuarial valuation as of June 30, 2013, and rolled forward using generally accepted actuarial procedures to June 30, 2014:

#### Actuarial Assumptions - Retirement Plan

Actuarial valuation date	June 30, 2013
Actuarial roll forward date	June 30, 2014
Actuarial cost method	Entry age normal
Amortization Method:	
Plan amendments	Immediate
Investment gain/loss	5 years
Assumption gain/loss	Avg future serv lives
Experience gain/loss	Avg future serv lives
Asset valuation	Fair value
Discount rate	8%
Projected salary increases	3 - 6.75%
Inflation	3%
Permanent benefit increase	Included
Mortality rates	1994 GAM Scale BB

The above actuarial assumptions pertain to assumptions utilized for financial reporting requirements and differ from the assumptions utilized for funding purposes. The principal differences between the actuarial assumptions for financial reporting purposes and those utilized for funding purposes are the, actuarial cost methodology, amortization methodology, valuation of the plan assets and the inclusion of the permanent benefit increase. The actuarial assumptions related to funding appear in the Actuarial Section. The actuarial assumptions related to funding were selected on the basis of an experience study which was performed for the five-year period ending June 30, 2012. The ASRS Board adopted the experience study recommended changes and those changes were effective for the June 30, 2013 actuarial valuation. Details of the assumptions resulting from the experience study performed as of June 30, 2013 appear in the Actuarial Section beginning on page 90.

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 for each major asset class included in the pension plan's target asset allocation as of June 30, 2014 (see the discussion on the pension plan's investment policy) are summarized in the following table:

Expected Return Arithmetic Basis						
Asset Class	Target Asset Allocation	Real Return Arithmetic Basis	Long-term Expected Portfolio Real Rate of Return			
Equity	63%	7.03%	4.43%			
Fixed income	25%	3.20%	0.80%			
Commodities	4%	4.50%	0.18%			
Real estate	8%	4.75%	0.38%			
Total	100%		5.79%			
Inflation			3.00%			
Expected arithr	8.79%					

Actual returns may be lower due to volatility of returns. The long-term expected rate of return of 8.79% differs from the 8% utilized to discount the net pension liability. Details' regarding the discount rate for actuarial purposes follows. **Discount rate** – The discount rate used to measure the total pension liability was 8%. The projection of cash flows used to determine the discount rate assumed that contributions from participating employers will be made based on the actuarially determined rates based on the Boards' funding policy, which establishes the contractually required rate under Arizona statute. Based on those assumptions, the Plan's fiduciary net position was projected to be available to make all the 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 to changes

**in the discount rate** – The table below presents the net pension liability of the participating employers calculated using the discount rate of 8%, as well as what the employers' net pension liability would be if it were calculated using the discount rate that is 1.00% lower (7.00%) or 1.00% higher (9.00%) than the current rate at June 30, 2014 (in thousands):

1% Decrease (7.00%)	Current Discount Rate (8.00%)	1% Increase (9.00%)
\$ 18,702,146	\$ 14,796,602	\$ 12,677,648

## 7. Other Postemployment Benefits

In addition to retirement benefits, ASRS provides retired members access to health insurance and a health insurance premium supplement benefit. Active contributing members are eligible for long-term disability benefits.

Per Arizona Revised Statutes, contribution requirements for active plan members and their participating employers are established and may be amended by the ASRS Board. Contribution rates are actuarially determined and are expected to finance the costs of benefits earned by plan members during the year and any unfunded accrued liability. Cost of administering the plan is financed through employer contributions, member contributions and investment earnings. **Health Insurance** – Pursuant to A.R.S. §38-782, the Retiree Group Insurance Program makes available group health insurance coverage to eligible retired and disabled members and their dependents. Retired and disabled members of the ASRS, University Optional Retirement Plans, the Public Safety Personnel Retirement System, the Elected Officials' Retirement Plan and the Corrections Officer Retirement Plan are eligible for health insurance benefits through the ASRS.

The ASRS and eligible retirees pay premiums on a monthly basis to a contracted health insurance provider as consideration for health insurance coverage provided. The ASRS contract with the insurance provider allows for a portion of the difference between the total revenues and total claims expenses incurred by the provider to be distributed back to the ASRS in the form of a retrospective rate adjustment refund. The amount is calculated based on targeted retention ratio as agreed upon per the contract and may fluctuate from year-to-year. ASRS received \$29.8 million in retrospective rate adjustment refunds for revenue and claims expense activity during fiscal year 2014 and is presented as other income on the Statement of Changes in Fiduciary Net Position.

**Health Insurance Premium Supplement** – Pursuant to A.R.S. §38-783, retired and disabled members with at least five years of credited service are eligible to participate in the Health Insurance Premium Benefit Program (HBS). This assistance is provided to those members who elect group coverage through either the ASRS Retiree Group Insurance Program or their former member employer. For a more detailed summary of benefits, refer to the Summary of Plan Provisions in the Actuarial Section of this report.

In accordance with the funding policy as of June 30, 2014, the required contribution rate for employers for their active members was .60% of covered payroll. There were 71,288 retired members or their beneficiaries are receiving benefits as of June 30, 2014.

The funded status for the HBS fund as of the most recent actuarial valuation date is as follows (dollar amounts in millions):

#### **Funded Status - HBS**

June 30, 2013
\$ 1,325
1,485
\$ 160
89.2%
\$ 8,753
1.8%
\$

**Long-term Disability** – Pursuant to A.R.S. §38-797, members of the ASRS are eligible for a Long Term Disability (LTD) benefits in the event they become unable to perform their work. The monthly benefit is equal to twothirds of their monthly earnings. Participants continue to earn service credit up to their normal retirement dates. Members with LTD commencement dates after June 30, 1999 are limited to 30 years of service or the service on record as of the effective disability date, if their service is greater than 30 years.

In accordance with the funding policy as of June 30, 2014, the required contribution rate for employers and active members was .24% of covered payroll. There were 4,313 disabled members receiving long-term disability benefits as of June 30, 2014.

The funded status for the LTD fund as of the most recent actuarial valuation date is as follows (dollar amounts in millions):

Funded Status - LTD		
Actuarial valuation date		June 30, 2013
Actuarial value of assets (a)	\$	285
Actuarial Accrued Liability-PUC (b)	)	333
Unfunded AAL (UAAL) (b-a)	\$	48
Percent funded (a/b)		85.6%
Annual covered payroll (c)	\$	8,753
UAAL percentage of covered		
payroll [(b-a)/c]		0.5%

Actuarial valuations of an ongoing plan involve estimates of the value of reported amounts and assumptions about the probability of occurrence of events far into the future. Examples include assumptions about future employment and mortality. Actuarially determined amounts are subject to continual revision as actual results are compared with past expectations and new estimates are made about the future. The schedules of funding progress, presented as required supplementary information following the notes to the financial statements, present multi-year trend information about whether the actuarial values of plan assets are increasing or decreasing over time relative to the actuarial accrued liabilities for benefits.

The accompanying schedules of employer contributions, present trend information about the amounts contributed to the HBS and LTD funds by employers in comparison to the annual required contribution (ARC), an amount that is actuarially determined in accordance with the parameters of GASB Statement 43. The ARC represents a level of funding that, if paid on an ongoing basis, is projected to cover normal cost for each year and amortize any unfunded actuarial liabilities (or funding excess) in level dollars over a fifteen-year closed period.

Projections of benefits for financial reporting purposes are based on the substantive fund and include the types of benefit provided at the time of each valuation and the historical pattern of sharing costs between the employer and plan members to that point. The actuarial methods and assumptions used include techniques that are designed to reduce the effects of short-term volatility in actuarial accrued liabilities and the actuarial value of assets, consistent with the long-term perspective of the calculations. Additional information as of the latest actuarial valuation follows:

## Actuarial Assumptions - HBS

Actuarial valuation date	June 30, 2013
Actuarial cost method	Projected unit credit
Amortization method	Level \$ of pay
	15 year closed
Asset valuation	10 year smoothed
Heathcare cost trend	n/a
Discount rate	8%
Inflation	3%
Mortality rates	1994 GAM Scale BB

#### **Actuarial Assumptions - LTD**

Actuarial valuation date	June 30, 2013
Actuarial cost method	Projected unit credit
Amortization method	Level \$ of pay
	15 year closed
Asset valuation	10 year smoothed
Discount rate	8%
Rates of termination	150% of 1987 CGDT
Disability incidence rates	Age -based unisex
Offsets for disabled members	90% after 3 years
Offsets for active members	55% of benefits
Incurred but not reported liability	20%

The assumptions were selected on the basis of an experience study which was performed for the five-year period ending June 30, 2012. The ASRS Board adopted the experience study recommended changes and those changes were effective for the June 30, 2013 actuarial valuation. Details of the assumptions resulting from the experience study performed as of June 30, 2013 appear in the Actuarial Section beginning on page 90.

For a more detailed summary of benefits, refer to the Summary of Plan Provisions in the Actuarial Section of this report.

## 8. Contingent Liabilities

The ASRS is also a party in various litigation matters. While the final outcome cannot be determined at this time, management is of the opinion that the final obligation, if any, for these legal actions will not have a material adverse effect on the ASRS' financial position or results of operations.

## 9. Commitments

In connection with the purchase of various limited partnership interests in private equity, opportunistic equity, private debt, opportunistic debt, real estate, infrastructure and farmland and timber portfolios, the ASRS has commitments totaling \$11.6 billion. Remaining unfunded commitments as of June 30, 2014 are as follows: private equity \$3.9 billion; opportunistic equity \$0.3 billion; private debt \$1.9 billion; opportunistic debt \$1.8 billion; real estate \$3.3 billion; infrastructure \$0.3 billion and farmland and timber \$0.1 billion.

## **10.** Due To and From Other Funds

Due to/from other funds includes amounts that need to be transferred after the year end resulting from allocations of contribution revenue as well as allocations of pooled cash, and pre-paid benefits.

## **11. Required Supplementary** Schedules

Historical trend information designed to provide information about the ASRS' progress in accumulating sufficient assets to pay benefits when due is required supplementary information with respect to the HBS and LTD funds. Required supplementary information prepared in accordance with the parameters of GASB Statement No. 43 and GASB Statement No. 67 is included immediately following the Notes to the Financial Statements.

## **12. Subsequent Events**

The ASRS has evaluated subsequent events through November 7, 2014, the date the financial statements were available to be issued. Events or transactions occurring after June 30, 2014, but prior to November 7, 2014 that provided additional evidence about conditions that existed at June 30, 2014 have been recognized in the financial statements for the year ended June 30, 2014. Events or transactions that provided evidence about conditions that did not exist at June 30, 2014, but arose before the financial statements were available to be issued have not been recognized in the financial statements for the year ended June 30, 2014.

## Schedule of Funding Progress – HBS and LTD

Last Three Years (Dollars in Millions)

Actuarial Valuation Date June 30	Va	tuarial alue of ssets a	Ac Li Pro	tuarial ccrued ability ojected t-Credit b	Act Ac Lia	funded tuarial crued ability o - a)	Funded Ratio (a/b)	 overed ayroll	Unfunded Actua Accrued Liabilit a Percentage Covered Payr [(b-a)/c]	y as of
HEALTH BENEFIT SU	JPPLEI	MENT FUI	ND							
2011	\$	1,247	\$	1,504	\$	257	82.9 %	\$ 9,061		2.8 %
2012		1,282		1,502		220	85.3	8,869		2.5
2013		1,325		1,485		160	89.2	8,753		1.8
LONG TERM DISABI	LITY F	UND								
2011	\$	308	\$	456	\$	148	67.5 %	\$ 9,061		1.6 %
2012		296		440		144	67.3	8,869		1.6
2013		285		333		48	85.6	8,753		0.5

# Schedule of Contributions from Employer and Other Contributing Entities – HBS and LTD

Last Three Years (Dollars in Thousands)

	Annual	Required Contribution	Percentage Contributed	Othe	er Contributions <sup>1</sup>
HEALTH B	ENEFIT SU	JPPLEMENT FUND			
2012	\$	54,463	100 %	\$	35,473
2013 <sup>2</sup>		56,573	100		25,826
2014 <sup>3</sup>		52,874	100		29,848
LONG TER	M DISABIL	ITY FUND			
2012	\$	20,998	100	\$	-
2013		20,881	100		-
2014		21,628	100		-

<sup>1</sup> Other contributions represent Federal Government reimbursements from the rate adjustment reimbursements from the insurance carrier.

<sup>2</sup> The 2013 required contributions from the employer for the HBS fund reflect total employer contributions of \$57,153,530 less \$580,684 in ACR contributions. ACR is not part of the required contribution rate.

<sup>3</sup> The 2014 required contributions from the employer for the HBS fund reflect total employer contributions of \$53,405,674 less \$532,115 in ACR contributions. ACR is not part of the required contribution rate.

See Notes to Required Supplementary Information.

## Schedule of Changes in the Net Pension Liability

For Year Ended June 30, 2014 (Dollars in Thousands)

Total pension liability		
Service cost	\$	966,705
Interest		3,607,440
Changes of benefit terms		-
Differences between expected and actual experience <sup>1</sup>		1,078,966
Changes of assumptions		-
Benefit payments		(2,812,573)
Net change in total pension liability		2,840,538
Total pension liability-beginning		45,649,769
Total pension liability-ending (a)	\$	48,490,307
Retirement fiduciary net pension		
Contributions - employers	\$	965,969
Contributions – members		995,284
Net investment income		5,514,246
Benefit payments, including refunds of member contributions		(2,812,573)
Administrative expenses		(26,107)
Other		31,456
Net change in Retirement fiduciary net position		4,668,275
Retirement fiduciary net position-beginning	_	29,025,430
Retirement fiduciary net position-ending (b)		33,693,705
Retirement's net pension liability-ending (a)-(b)	\$	14,796,602

<sup>1</sup> Measures the increased likelihood of future PBIs based on FY 2014 asset experience. The 6/30/13 TPL reflects the potential for future PBIs based on asset returns through FY 2013, whereas the 6/30/14 TPL reflects the potential for future PBIs based on asset returns through FY 2014.

Note: Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

## **Schedule of Net Pension Liability**

For Year Ended June 30, 2014 (Dollars in Thousands)

Net Pension Liability	
Total pension liability-ending (a)	\$ 48,490,307
Retirement fiduciary net position-ending (b)	 33,693,705
Retirement's net pension liability-ending (a)-(b)	\$ 14,796,602
Retirement fiduciary net position as a percentage of the total pension liability	69.49%
Covered payroll	\$ 8,752,783
Net pension liability as a percentage of covered payroll	169.05%

See Notes to Required Supplementary Information.

Note: Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

## Schedule of Contributions from the Employer - Retirement

Last 10 Fiscal Years (Dollars in Thousands)

	De	Actuarial etermined ontribution	F	ontributions In Relation To The Actuarially Determined Contributions	Contribution Deficiency (Excess)		Covered Employee Payroll	Contributions As A Percentage Of Covered Employee Payroll	
RETIREMEN	T FUND								
2005	\$	318,311	\$	318,311	\$	-	\$ 7,458,590	5.20	%
2006		477,472		477,472		-	8,032,458	6.90	
2007		663,544		663,544		-	8,311,870	8.60	
2008		759,482		759,482		-	9,161,804	9.10	
2009		754,044		754,044		-	9,708,353	8.95	
2010 <sup>5</sup>		749,636		749,636		-	9,834,810	9.00	
2011 <sup>6</sup>		782,347		782,347		-	9,419,952	9.60	
2012 7		850,456		850,456		-	9,060,631	9.87	
2013 <sup>8</sup>		889,580		889,580		-	8,868,678	10.25	
2014		965,969		965,969		-	8,752,783	10.70	

<sup>5</sup> The 2010 required contributions from the employer for the retirement fund reflect total employer contributions of \$763,099,507 less \$13,463,483 of unfunded employer liabilities.

<sup>6</sup> The 2011 required contributions from the employer for the retirement fund reflect total employer contributions of \$786,661,694 less \$4,314,379 of unfunded employer liabilities.

<sup>7</sup> The 2012 required contributions from the employer for the retirement fund reflect total employer contributions of \$852,167,123 less \$1,711,105 of unfunded employer liabilities.

<sup>8</sup> The 2013 required contributions from the employer for the retirement fund reflect total employer contributions of 911,299,680 less \$931,385 of unfunded employer liability.

## **Schedule of Investment Returns**

For Year Ended June 30, 2014

#### Annual money-weighted rate of return, net of investment expenses

17.78%

Note: Schedule is intended to show information for 10 years. Additional years will be displayed as they become available.

See Notes to Required Supplementary Information.

## Actuarial Methods and Assumptions for Valuations Performed

The information presented in the required supplementary schedules was determined as part of the actuarial valuations at the dates indicated, which is the most recent actuarial valuation.

#### **Actuarial Assumptions - Retirement Plan**

Actuarial valuation date	June 30, 2013
Actuarial roll forward date	June 30, 2014
Actuarial cost method	Entry age normal
Amortization Method:	
Plan amendments	Immediate
Investment gain/loss	5 years
Assumption gain/loss	Avg future serv lives
Experience gain/loss	Avg future serv lives
Asset valuation	Fair value
Discount rate	8%
Projected salary increases	3 - 6.75%
Inflation	3%
Permanent benefit increase	Included
Mortality rates	1994 GAM Scale BB

#### **Actuarial Assumptions - HBS**

Actuarial valuation date	June 30, 2013
Actuarial cost method	Projected unit credit
Amortization method	Level \$ of pay
	15 year closed
Asset valuation	10 year smoothed
Heathcare cost trend	n/a
Discount rate	8%
Inflation	3%
Mortality rates	1994 GAM Scale BB

#### **Actuarial Assumptions - LTD**

Actuarial valuation date	June 30, 2013
Actuarial cost method	Projected unit credit
Amortization method	Level \$ of pay
	15 year closed
Asset valuation	10 year smoothed
Discount rate	8%
Rates of termination	150% of 1987 CGDT
Disability incidence rates	Age -based unisex
Offsets for disabled members	90% after 3 years
Offsets for active members	55% of benefits
Incurred but not reported liability	20%

## Significant Factors Affecting Identification of Trends

The following information is an executive summary of the "2012 Experience Study" conducted by Buck Consultants, the Plan's actuary. The purpose of this experience study is to review actual experience in relation to the actuarial assumptions currently in effect. This Study covers the experience of active, inactive, and retired members for the period July 1, 2007, through June 30, 2012. The five-year period under study is an atypical period that includes the financial panic of 2008 and subsequent "Great Recession," it is important to use judgment regarding the extent to which future experience is expected to be like the experience for this period.

The ASRS Board adopted all of the proposed assumptions at its meeting on May 24, 2013. The Study does not include an analysis of the assumed investment rate of return. The assumptions adopted by the ASRS Board were included in the June 30, 2013 valuation. With respect to the retirement fund, the June 30, 2013 values were rolled forward to June 30, 2014 for implementation of GASB 67.

The actual-to-expected ratios developed in this study are weighted by the accrued liabilities of each member under the Projected Unit Credit method. In this way, the ratios give more weight to members with large liabilities (generally the longest-serviced and highest-paid members).

## **Experience Analysis Purpose**

To carry out an actuarial valuation of the assets and liabilities of ASRS, the actuary must use assumptions for each of the following items:

## **Demographic assumptions**

- The probabilities of members separating from active service on account of withdrawal, retirement, death, and disability.
- The probabilities of retirement and death for members who have separated from service, but have not yet retired
- The mortality rates to be experienced among retired persons
- Health plan coverage elections
- Optional forms elected
- Alternate contribution amounts
- Timing of contributions

## **Economic assumptions**

- Investment returns to be realized on the funds over many years.
- The relative increases in a member's salary from the date of the valuation to the date of assumed separation from active status.

# Summary of Results for Assumptions – Plan and LTD

The results of the 2012 Experience Study may be summarized as follows:

## **Mortality for Active Members**

- Number of deaths among active members (weighted by liability) is much lower than expected under current assumptions.
- We propose 50% of the 1994 GAM, sex-distinct, projected to 2015 using Scale BB.
- Actual-to-Expected ratios on the proposed table are 91% for males and 103% for females.

## Disability

• Actual liability-weighted disabilities are less than those expected under current assumptions.

- We propose unisex rates, reduced at higher ages from the current rates, to reflect the actual experience.
- Actual-to-Expected ratios on the proposed table are 81% for males and 89% for females.

## Withdrawal

- Liability-weighted withdrawals are higher than our assumptions predict and correlate more closely with service than age throughout members' careers.
- We propose new service-based rates for both male and female members to reflect the actual experience.
- Actual-to-Expected ratios on the proposed table are 106% for males and 105% for females.

#### Retirement

- Retirement rates are slightly lower than our assumptions predict.
- In our study of the retirement decrement, we excluded members who retired as a result of an early termination incentive offer. In that way, our proposed rates represent anticipated retirement experience in the absence of such offers.
- We propose new unisex rates to reflect the actual experience.
- Adjusted rates are applied for members hired on or after July 1, 2011 to reflect the new tier of re-tirement eligibilities.
- Actual-to-Expected ratio on the proposed tables is 95% for males and 95% for females.

## Salary Experience

- Salary increases have varied greatly from year to year and, in aggregate, have been significantly lower than expected for the five-year period.
- We propose using 75% of the current rates.
- Proposed assumption increases Actual-to-Expected ratio to 97%.

## **Mortality for Retired Members**

- Liability-weighted number of deaths among retired members is lower than expected.
- We propose updating the mortality assumption to the 1994 GAM, sex-distinct, projected to 2015

using Scale BB with adjustments for small and large benefit amounts. The previous table was projected to 2010 using Scale AA. The Retirement Plans Experience Committee of the Society of Actuaries promulgated Scale BB in 2012 as an interim table to be used until a new table and a new projection scale are completed. Scale AA had underestimated the rate of longevity improvement, and the Society developed Scale BB to incorporate the actual rate of improvement. By adjusting for large and small benefit amounts, the new assumption follows the analysis of the RP-2000 mortality study. Since longevity is greater for retirees with large incomes than for others, it is important to increase the liability for highincome retirees.

• Actual-to-Expected ratios on the proposed tables are 117% for males and 116% for females.

## **Mortality for Inactive Members**

- Mortality experience for inactive non-retired members during 2007-2012 was not analyzed for this period. Due to a data clean-up on inactive members, reported deaths included many deaths that occurred before the experience period.
- We propose the 1994 GAM, sex-distinct, projected to 2015 using Scale BB – the same table that we propose for retired members, absent the adjustment for the size of the benefit.

## **Mortality for Disabled Members**

- Number of deaths among disabled members is lower than expected.
- We propose returning to the mortality table used prior to 2008 with lower mortality rates for disabled members.
- Actual-to-Expected ratios on the proposed tables are 108% for males and 103% for females.

## Health Insurance Benefit (HIB) Elections

• Actual number of retirees electing coverage is less than our current assumption predicts. However, among members who elected coverage, the actual number of retirees electing dependent coverage is greater than our current assumption predicts. In addition, the proportion of retirees electing coverage is significantly different during the first year of retirement than in later years.

• We propose changing the proportion of future retiring members who get the health insurance premium supplement from 70% to 60% and the proportion of those retirees getting the dependent premium supplement from 35% to 40%. We also propose using those assumptions for members who have been retired less than one year and continuing to use actual elections for members who have been retired for at least one year.

#### **Optional Form Load**

- Optional form election experience has changed slightly since the optional form load was implemented.
- We propose changing the optional form load from 0.087% to 0.174%.

## **Alternate Contribution Rate**

- Payment of the unfunded liability will be reduced by the alternate contribution rates the Plan is receiving.
- We propose using the total payroll for those paying the alternate contribution to adjust the calculated past service cost contribution rates.

## **Mid-Year Contributions**

- Contribution rates are currently being calculated assuming contributions are paid at the beginning of the fiscal year, but they are actually paid with each payroll throughout the fiscal year.
- We propose that contribution rates be calculated assuming contributions are paid in the middle of the fiscal year.
- The proposed assumption will minimize losses experienced each year due to timing of contribution payments.

## SUMMARY OF RESULTS FOR ASSUMP-TIONS - LTD ONLY

#### LTD Rates of Termination of Claims due to Death or Recovery

• Recoveries among LTD members are higher than expected.

- We recommend using 150% of the current rates.
- Actual-to-Expected ratios on the proposed tables are 88% for males and 109% for females.

## **Offsets for Disabled and Active Members**

- Offsets for current LTD members reduce their benefits by more than expected.
- We propose changing the percentage that offsets reduce LTD benefits to 45%.
- We also propose keeping the assumption that 90% of disabled members will have offsets to LTD benefits after 3 years.
- For active members, offsets are assumed to reduce the gross benefits by 45%.

## **Pre-existing Condition Period**

- Current assumption is to reduce liabilities to account for the extension of the pre-existing condition period from 3 to 6 months.
- We propose removing the 3% reduction in liabilities because all experience data used to set the other LTD assumptions occurred under the 6month pre-existing condition period.

# Incurred but Not Reported (IBNR) Load Assumption

- No adjustment for IBNR is currently being made. Based on experience from 2007-2012, IBNR equals 20.25% of the liability for new LTD members.
- We propose adding a 20% load to the liability for new LTD recipients.

## SUMMARY OF RESULTS FOR ASSUMP-TIONS – SYSTEM

## **Mortality for All Members**

• We propose continuing to use a generational mortality table with mortality rates adjusted for members with annual benefits greater than \$14,400, but adding an adjustment for members with annual benefits less than \$6,000 and switching to Projection Scale BB. We also recommend setting male rates back 1 year and female rates back 2 years to better match experience. On the proposed table, Actual-to-Expected ratios become 150% for males and 134% for females with annual benefits less than \$6,000, 91% for males and 171% for females with annual benefits between \$6,000 and \$14,400, and 105% for males and 97% for females with annual benefits over \$14,400. Note that 90% of the liability for retired members is for members with annual benefits over \$14,400.

## FINANCIAL IMPACT OF ASSUMPTION CHANGES - PLAN, LTD PROGRAM, AND SYSTEM

- Our proposed assumptions would result in slightly higher Plan contribution rates in the near future.
- Current Plan contribution rate would have been 23.07% under our proposed assumptions, rather than the current rate of 22.55%, if these assumption changes had been incorporated in the June 30, 2012 valuation.
- Overall change in total Plan actuarial liabilities is 0.73% under our proposed assumptions.
- Total Plan normal cost changes from 13.53% to 13.52% under our proposed assumptions.
- The Plan's Unfunded Liability changes from \$9.723 billion to \$10.015 billion under our proposed assumptions.
- The current LTD contribution rate would have been 0.23% under our proposed assumptions, rather than the current rate of 0.47%, if these assumption changes had been incorporated in the June 30, 2012 valuation.
- The System deficit would have increased from \$70.810 million to \$92.559 million based on the proposed mortality assumption if it had been incorporated in the June 30, 2012 valuation.

## **Combining Schedule of Retirement Fiduciary Net Position**

As of June 30, 2014 (Dollars in Thousands)

		Retirement Plan	Retirement System	Total
ASSETS			-	
Cash	\$	2,347	\$ 18	\$ 2,365
RECEIVABLES				
Accrued interest and dividends		59,851	623	60,474
Securities sold		40,322	470	40,792
Forward contracts		415,314	4,566	419,880
Contributions		69,136	-	69,136
Due from other funds		612	-	612
Other		536	9	545
Total receivables		585,771	5,668	591,439
INVESTMENTS AT FAIR VALUE				
Short-term investments		1,602,958	18,659	1,621,617
Securities lending collateral		14,623	161	14,784
Equity		19,926,128	196,015	20,122,143
Fixed income		6,577,035	94,633	6,671,668
Real estate		1,963,216	22,482	1,985,698
Commodities		-	-	-
Global tactical asset allocation		3,292,293	35,467	3,327,760
Other		100,189	1,210	101,399
Total investments	3	3,476,442	368,627	33,845,069
TOTAL ASSETS		84,064,560	374,313	34,438,873
LIABILITIES				
Securities purchased		290,834	3,160	293,994
Securities lending collateral		14,623	161	14,784
Forward contracts		395,115	4,350	399,465
Due to other funds		-	9,760	9,760
Other		26,842	323	27,165
TOTAL LIABILITIES		727,414	17,754	745,168
RETIREMENT FIDUCIARY NET POSITION	\$ 3	3,337,146	\$ 356,559	\$ 33,693,705

In accordance with GASB 34, for financial reporting purposes the Retirement Plan and the Retirement System are presented in one column, Retirement Fund, in the ASRS Basic Financial Statements because they are administered within a single pension plan within a trust. The Combining Schedule of Retirement Fiduciary Net Position and Changes in Retirement Fiduciary Net Position are presented here to provide members with more detailed information about the two plan components.

## **Combining Schedule of Changes in Retirement Fiduciary Net Position**

For the Year Ended June 30, 2014

(Dollars in Thousands)

	Retirement	Retirement	
	Plan	System	Total
ADDITIONS			
CONTRIBUTIONS			
Member contributions	\$ 995,245	\$ 39	\$ 995,284
Employer contributions	965,930	39	965,969
Transfers from other plans	1,044	-	1,044
Purchased Service	 32,441	-	32,441
Total Contributions	1,994,660	78	1,994,738
INVESTING ACTIVITY INCOME			
Net appreciation in fair value of investments	5,065,574	49,112	5,114,686
Interest	183,153	2,073	185,226
Dividends	334,479	3,715	338,194
Other income	 17,750	199	17,949
Total investing activity income	 5,600,956	55,099	5,656,055
INVESTMENT ACTIVITY EXPENSE			
Management fees	(134,621)	(1,127)	(135,748)
Custody fees	(1,147)	(13)	(1,160)
Consultant and legal fees	(3,654)	(10)	(3,664)
Internal investment activity expense	 (3,125)	(34)	(3,159)
Total investment activity expenses	 (142,547)	(1,184)	(143,731)
Net income from investing activities	 5,458,409	53,915	5,512,324
FROM SECURITIES LENDING ACTIVITIES			
Securities lending income	1,626	18	1,644
Unrealized gain on securities lending	 85	1	86
Total securities lending activity income	1,711	19	1,730
Security lending expense:			
Interest rebate	461	5	466
Management fees	 (271)	(3)	(274)
Total securities lending activity expense	 190	2	192
Net income from securities lending activities	 1,901	21	 1,922
Total net investment income	 5,460,310	53,936	5,514,246
Other Income	-	-	-
TOTAL ADDITIONS	 7,454,970	54,014	7,508,984
DEDUCTIONS			
Retirement and disability benefits	2,481,587	45,451	2,527,038
Survivor benefits	39,275	59	39,334
Refunds to withdrawing members, including interest	246,163	38	246,201
Administrative expenses	25,822	285	26,107
Transfers to other plans	915	-	915
Other	 1,105	9	1,114
TOTAL DEDUCTIONS	2,794,867	45,842	2,840,709
NET INCREASE IN FIDUCIARY NET POSITION	 4,660,103	8,172	4,668,275
RETIREMENT FIDUCIARY NET POSITION			
Beginning of year	28,677,043	348,387	29,025,430
End of year	\$ 33,337,146	\$ 356,559	33,693,705

In accordance with GASB 34, for financial reporting purposes the Retirement Plan and The Retirement System are presented in one column, Retirement Fund, in the ASRS basic financial statements because they are administered within a single pension plan within a trust. The Combining Schedule of Retirement Fiduciary Net Position and Changes in Retirement Fiduciary Net Position are presented here to provide members with more detailed information about the two plan components.

# Schedule of Administrative Expenses

For Year Ended June 30, 2014 (Dollars in Thousands)

Administrative Expenses	Amount
Salaries	\$ 12,376
Retirement contributions	1,266
Other employee related expenses	3,511
Total personnel services	17,153
Actuarial services	1,236
Attorney services	324
Auditing services	65
Banking services	1,426
Staffing services	2,709
LTD administrative services	2,532
Other professional services	151
Total professional services	8,443
Telephone	316
Printing	9
Postage and mailing	226
Total communications	551
Lease expense	1,440
Total facilities	1,440
Computer supplies and software	1,374
Maintenance agreements	83
Equipment and equipment rental	285
Total software and equipment	1,742
Professional development	62
Travel	64
Tuition reimbursement	12
Total education, meetings, and travel	138
Advertising	19
Insurance	152
Membership dues	22
Office supplies	50
Periodicals and publications	55
Miscellaneous	21
Total general	319
Total administrative expenses	\$ 29,786

## **Schedule of Professional Consultant Fees**

For Year Ended June 30, 2014 (Dollars in Thousands)

Mercer Health & Benefits LLC     1       Gabriel Roeder Smith & Company     1,2       Total actuarial services     1,2       Arizona Office of the Attorney General     2       Charles W Whetstine, P.C.     2       Arizona Office of Administrative Hearings     3       Atkinson-Baker, Inc.     3       Arizona Rules LLC     Peter Gold       Total attorney services     3       CliftonLarsonAllen, LLP     3       Total auditing services     1,4       BNY Mellon Asset Services, Inc.     2,6       Perfect Placement Services, Inc.     2,6       Professional Search Associates     2,5       Total staffing services     2,5       Arizona Deparment of Administration, State Procurement Office     2,5       CenturyLink     2,5       Facilitic, Inc.     2,5       Certory & Milligian Associates, Inc.     2,5       Total staffing services     2,5       Arizona Deparment of Administration, State Procurement Office     2,5       CenturyLink     2,5       Facilitic, Inc.     2,5       Lecroy & Milligian Associates, Inc.     2,5       Tom Auntain, Inc.     1       The Centers for Habilitation     1       Horn Interpreting Services, Inc.     2,5       Catholic Community Services of Southern Arizo	Professional/Consultant	Amount
Gabriel Roeder Smith & Company1,2Total actuarial services1,2Arizona Office of the Attorney General2Charles W Whetstine, P.C.2Arizona Office of Administrative Hearings3Atkinson-Baker, Inc.3CliftonLarsonAllen, LLP3Total auditing services3State Street Bank And Trust Company1,4BNY Mellon Asset Services, Inc.4,4Guidesoft Inc.2,6Perfect Placement Services, Inc.2,6Perfect Placement Services2,7Sedgwick Claims Management Services2,7Sedgwick Claims Management Services2,5Arizona Department of Administration, State Procurement Office2,5CenturyLink4Faciliter, Inc.2Lecroy & Miligian Associates, Inc.2Ton Mountain, Inc.1The Centers for Habilitation4Horn Interpreting Services, Inc.2,5Arizona Department of Administration, State Procurement Office2,5CenturyLink2,5Faciliec, Inc.2,5Lecroy & Miligian Associates, Inc.4Horn Interpreting Services, Inc.4Catolic Community Services, Inc.5Catolic Community Services, Inc.	Buck Consultants, LLC	\$ 1,053
Total actuarial services1,2Arizona Office of the Attorney General2Charles W Whetstine, P.C.Arizona Office of Administrative HearingsAtkinson-Baker, Inc.Arizona Rules LLCPeter GoldTotal attorney services3CliftonLarsonAllen, LLPTotal auditing services3State Street Bank And Trust Company1,4BNY Mellon Asset Services, Inc.2,6Perfect Placement Services, Inc.2,6Perfect Placement Services, Inc.2,7Sedgwick Claims Management Services2,5Total LTD administrative services2,5Arizona Deparment of Administration, State Procurement Office2CenturyLink2Facilitec, Inc.2Lecroy & Hilligian Associates, Inc.2Iron Mountain, Inc.1The Centers for Habilitation1Horn Interpreting Services, Inc.2Catholic Community Services, Inc.2Catholic Community Services, Inc.2Total conduction, Inc.2The Centers for Habilitation3Horn Interpreting Services, Inc.3Catholic Community Services, Inc.3Catholic Community Services, Inc.3Catholic Community Services, Inc.3Beacon Group SW, Inc.3Total other profe	Mercer Health & Benefits LLC	122
Arizona Office of the Attorney General       2         Charles W Whetstine, P.C.       Arizona Office of Administrative Hearings         Atkinson-Baker, Inc.       Arizona Rules LLC         Peter Gold       3         Total attorney services       3         CiftonLarsonAllen, LLP       4         Total auditing services       4         State Street Bank And Trust Company       1,4         BNY Mellon Asset Services, Inc.       2,6         Perfect Placement Services, Inc.       2,6         Corporate Job Bank Personnel Services       2,7         Sedgwick Claims Management Services       2,5         Total LTD administrative services       2,5         Arizona Deparment of Administration, State Procurement Office       2,5         CenturyLink       2         Facilitic, Inc.       2         Lecroy & Milligian Associates, Inc.       2,5         Iron Mountain, Inc.       1         The Centers for Habilitation       4         Hor Interpreting Services, Inc.       2,5         Catholic Community Services, Inc.       2,5         Cotal LTD administration, State Procurement Office       2,5         Arizona Departer of Administration, State Procurement Office       2,5         CenturyLink       4 <td>Gabriel Roeder Smith &amp; Company</td> <td>61</td>	Gabriel Roeder Smith & Company	61
Charles W Whetstine, P.C. Arizona Office of Administrative Hearings Atkinson-Baker, Inc. Arizona Rules LLC Peter Gold Total autorney services CliftonLarsonAllen, LLP Total auditing services State Street Bank And Trust Company 1,4 BNY Mellon Asset Services, Inc. Total banking services Corporate Job Bank Personnel Services Professional Search Associates Total staffing services 2,5 Total LTD administrative services Arizona Deparment of Administration, State Procurement Office CEM Benchmarking, Inc. CenturyLink Facilitec, Inc. Lecroy & Milligian Associates, Inc. Tron Mountain, Inc. The Centers for Habilitation Horn Interpreting Services, Inc. Catholic Community Services, Inc. Catholic Community Services, Inc. Catholic Community Services, Inc. Catholic Community Services, Inc. Total other professional services 1 Total other professional services 1 Total other professional services 1 Catal other professional services		1,236
Arizona Office of Administrative Hearings Atkinson-Baker, Inc. Arizona Rules LLC Peter Gold Total attorney services CliftonLarsonAllen, LLP Total auditing services State Street Bank And Trust Company State Street Bank And Trust Company State Street Bank And Trust Company MI Mellon Asset Services, Inc. Total banking services Total banking services, Inc. Corporate Job Bank Personnel Services Professional Search Associates Total staffing services Arizona Deparment of Administration, State Procurement Office CEM Benchmarking, Inc. CenturyLink Facilitec, Inc. Lecroy & Milligian Associates, Inc. Tota Mountain, Inc. The Centers for Habilitation Horn Interpreting Services, Inc. Catholic Community Services of Southern Arizona, Inc. Marin-Garcia Reporting, Inc. Beacon Group SW, Inc. Total other professional services 1		222
Atkinson-Baker, Inc. Arizona Rules LLC Peter Gold 3 CliftonLarsonAllen, LLP 3 Total auditing services 3 State Street Bank And Trust Company 1,4 BNY Mellon Asset Services, Inc. 4 Total banking services 4 Guidesoft Inc. 2,6 Perfect Placement Services, Inc. 2,6 Perfect Placement Services 5 Professional Search Associates 2,5 Total staffing services 2,5 Total staffing services 2,5 Total staffing services 2,5 Total LTD administrative services 2,5 Arizona Deparment of Administration, State Procurement Office 2,5 Arizona Deparment of Administration, State Procurement Office 2,5 CenturyLink 7 Facilitec, Inc. 2 Lecroy & Milligian Associates, Inc. 7 Tot Mountain, Inc. 7 The Centers for Habilitation 7 Horn Interpreting Services, Inc. 2 Catholic Community Services of Southern Arizona, Inc. 4 Marin-Garcia Reporting, Inc. 8 Beacon Group SW, Inc. 1 Total other professional services 1 Total Se		85
Arizona Rules LLC Peter Gold Total attorney services CliftonLarsonAllen, LLP Total auditing services State Street Bank And Trust Company It,4 BNY Mellon Asset Services, Inc. Total banking services Corporate Job Bank Personnel Services Professional Search Associates Total staffing services Cotal Search Associates Cotal staffing services Cotal services Cotal staffing services Cotal services Cotal staffing service	-	11
Peter Gold       3         Total attorney services       3         CliftonLarsonAllen, LLP       1         Total auditing services       1,4         BNY Mellon Asset Services, Inc.       1,4         Guidesoft Inc.       2,6         Perfect Placement Services, Inc.       2,6         Corporate Job Bank Personnel Services       2,7         Sedgwick Claims Management Services       2,5         Total LTD administrative services       2,5         Arizona Deparment of Administration, State Procurement Office       2         CerturyLink       2         Facilitec, Inc.       2         Lecroy & Milligian Associates, Inc.       1         Iron Mountain, Inc.       1         The Centers for Habilitation       1         Horn Interpreting Services, Inc.       2         Catholic Community Services of Southern Arizona, Inc.       2         Marin-Garcia Reporting, Inc.       2         Beacon Group SW, Inc.       1         Total other professional services       1		3
Total attorney services3CliftonLarsonAllen, LLP		2
CliftonLarsonAllen, LLP Total auditing services State Street Bank And Trust Company It,4 BNY Mellon Asset Services, Inc. Total banking services Corporate Job Bank Personnel Services Professional Search Associates Total staffing services Cotal sta		1
Total auditing services1State Street Bank And Trust Company1,4BNY Mellon Asset Services, Inc.1,4Guidesoft Inc.2,6Perfect Placement Services, Inc.2,6Corporate Job Bank Personnel Services2,7Professional Search Associates2,7Sedgwick Claims Management Services2,5Total LTD administrative services2,5Arizona Deparment of Administration, State Procurement Office2,5CenturyLink5Facilitec, Inc.2Lecroy & Miligian Associates, Inc.1The Centers for Habilitation1Horn Interpreting Services, Inc.1Catholic Community Services of Southern Arizona, Inc.1Marin-Garcia Reporting, Inc.1Beacon Group SW, Inc.1Total other professional services1		<b>324</b> 65
State Street Bank And Trust Company1,4BNY Mellon Asset Services, Inc.1,4Guidesoft Inc.2,6Perfect Placement Services, Inc.2,6Corporate Job Bank Personnel Services2,7Professional Search Associates2,7Sedgwick Claims Management Services2,5Total LTD administrative services2,5Arizona Deparment of Administration, State Procurement Office2,5CenturyLink5Facilitec, Inc.1Lecroy & Milligian Associates, Inc.1The Centers for Habilitation1Horn Interpreting Services, Inc.1Catholic Community Services of Southern Arizona, Inc.1Marin-Garcia Reporting, Inc.1Beacon Group SW, Inc.1Total other professional services1		<u> </u>
BNY Mellon Asset Services, Inc.       1,4         Guidesoft Inc.       2,6         Perfect Placement Services, Inc.       2,6         Corporate Job Bank Personnel Services       2,7         Professional Search Associates       2,7         Sedgwick Claims Management Services       2,5         Total staffing services       2,5         Arizona Deparment of Administration, State Procurement Office       2,5         CenturyLink       2,5         Facilitec, Inc.       2         Lecroy & Milligian Associates, Inc.       2         Iron Mountain, Inc.       1         The Centers for Habilitation       4         Horn Interpreting Services, Inc.       2         Catholic Community Services of Southern Arizona, Inc.       4         Marin-Garcia Reporting, Inc.       2         Beacon Group SW, Inc.       1         Total other professional services       1	-	1,424
Guidesoft Inc.2,6Perfect Placement Services, Inc.Corporate Job Bank Personnel ServicesProfessional Search Associates2,7Total staffing services2,7Sedgwick Claims Management Services2,5Total LTD administrative services2,5Arizona Deparment of Administration, State Procurement Office2,5CEM Benchmarking, Inc.2CenturyLink2Facilitec, Inc.2Lecroy & Milligian Associates, Inc.1Iron Mountain, Inc.1The Centers for Habilitation4Horn Interpreting Services, Inc.2Catholic Community Services of Southern Arizona, Inc.4Marin-Garcia Reporting, Inc.2Beacon Group SW, Inc.1Total other professional services1		2
Perfect Placement Services, Inc. Corporate Job Bank Personnel Services Professional Search Associates Total staffing services Total staffing services Catal LTD administrative services Arizona Deparment of Administration, State Procurement Office CEM Benchmarking, Inc. CenturyLink Facilitec, Inc. Lecroy & Milligian Associates, Inc. Iron Mountain, Inc. The Centers for Habilitation Horn Interpreting Services, Inc. Catholic Community Services of Southern Arizona, Inc. Marin-Garcia Reporting, Inc. Beacon Group SW, Inc. Total other professional services 1	Total banking services	1,426
Corporate Job Bank Personnel ServicesProfessional Search AssociatesTotal staffing services2,7Sedgwick Claims Management Services2,5Total LTD administrative services2,5Arizona Deparment of Administration, State Procurement Office2,5CEM Benchmarking, Inc.2,5CenturyLink2Facilitec, Inc.2Lecroy & Milligian Associates, Inc.2Iron Mountain, Inc.1The Centers for Habilitation4Horn Interpreting Services, Inc.4Catholic Community Services of Southern Arizona, Inc.4Marin-Garcia Reporting, Inc.5Beacon Group SW, Inc.1Total other professional services1	Guidesoft Inc.	2,687
Professional Search Associates2,7Total staffing services2,7Sedgwick Claims Management Services2,5Total LTD administrative services2,5Arizona Deparment of Administration, State Procurement Office2,5CEM Benchmarking, Inc.2,5CenturyLink5Facilitec, Inc.5Lecroy & Milligian Associates, Inc.5Iron Mountain, Inc.5The Centers for Habilitation5Horn Interpreting Services, Inc.5Catholic Community Services of Southern Arizona, Inc.5Marin-Garcia Reporting, Inc.5Beacon Group SW, Inc.5Total other professional services1	Perfect Placement Services, Inc.	20
Total staffing services2,7Sedgwick Claims Management Services2,5Total LTD administrative services2,5Arizona Deparment of Administration, State Procurement Office2,5CEM Benchmarking, Inc.2,5CenturyLink2Facilitec, Inc.2Lecroy & Milligian Associates, Inc.2Iron Mountain, Inc.2The Centers for Habilitation2Horn Interpreting Services, Inc.2Catholic Community Services of Southern Arizona, Inc.2Marin-Garcia Reporting, Inc.2Total other professional services1	Corporate Job Bank Personnel Services	1
Sedgwick Claims Management Services2,5Total LTD administrative services2,5Arizona Deparment of Administration, State Procurement Office2,5CEM Benchmarking, Inc.2CenturyLink2Facilitec, Inc.2Lecroy & Milligian Associates, Inc.2Iron Mountain, Inc.2The Centers for Habilitation2Horn Interpreting Services, Inc.2Catholic Community Services of Southern Arizona, Inc.2Marin-Garcia Reporting, Inc.2Beacon Group SW, Inc.1Total other professional services1	Professional Search Associates	1
Total LTD administrative services2,5Arizona Deparment of Administration, State Procurement OfficeCEM Benchmarking, Inc.CenturyLinkFacilitec, Inc.Lecroy & Milligian Associates, Inc.Iron Mountain, Inc.The Centers for HabilitationHorn Interpreting Services, Inc.Catholic Community Services of Southern Arizona, Inc.Marin-Garcia Reporting, Inc.Beacon Group SW, Inc.Total other professional services1	Total staffing services	2,709
Arizona Deparment of Administration, State Procurement Office         CEM Benchmarking, Inc.         CenturyLink         Facilitec, Inc.         Lecroy & Milligian Associates, Inc.         Iron Mountain, Inc.         The Centers for Habilitation         Horn Interpreting Services, Inc.         Catholic Community Services of Southern Arizona, Inc.         Marin-Garcia Reporting, Inc.         Beacon Group SW, Inc.         Total other professional services	Sedgwick Claims Management Services	2,532
CEM Benchmarking, Inc. CenturyLink Facilitec, Inc. Lecroy & Milligian Associates, Inc. Iron Mountain, Inc. The Centers for Habilitation Horn Interpreting Services, Inc. Catholic Community Services of Southern Arizona, Inc. Marin-Garcia Reporting, Inc. Beacon Group SW, Inc. Total other professional services	Total LTD administrative services	2,532
CenturyLinkFacilitec, Inc.Lecroy & Milligian Associates, Inc.Iron Mountain, Inc.The Centers for HabilitationHorn Interpreting Services, Inc.Catholic Community Services of Southern Arizona, Inc.Marin-Garcia Reporting, Inc.Beacon Group SW, Inc.Total other professional services1	Arizona Deparment of Administration, State Procurement Office	60
Facilitec, Inc.Lecroy & Milligian Associates, Inc.Iron Mountain, Inc.The Centers for HabilitationHorn Interpreting Services, Inc.Catholic Community Services of Southern Arizona, Inc.Marin-Garcia Reporting, Inc.Beacon Group SW, Inc.Total other professional services1	CEM Benchmarking, Inc.	40
Lecroy & Milligian Associates, Inc.Iron Mountain, Inc.The Centers for HabilitationHorn Interpreting Services, Inc.Catholic Community Services of Southern Arizona, Inc.Marin-Garcia Reporting, Inc.Beacon Group SW, Inc.Total other professional services1	CenturyLink	25
Iron Mountain, Inc. The Centers for Habilitation Horn Interpreting Services, Inc. Catholic Community Services of Southern Arizona, Inc. Marin-Garcia Reporting, Inc. Beacon Group SW, Inc. Total other professional services 1	Facilitec, Inc.	9
The Centers for Habilitation         Horn Interpreting Services, Inc.         Catholic Community Services of Southern Arizona, Inc.         Marin-Garcia Reporting, Inc.         Beacon Group SW, Inc.         Total other professional services	Lecroy & Milligian Associates, Inc.	7
Horn Interpreting Services, Inc.Catholic Community Services of Southern Arizona, Inc.Marin-Garcia Reporting, Inc.Beacon Group SW, Inc.Total other professional services1	Iron Mountain, Inc.	5
Catholic Community Services of Southern Arizona, Inc. Marin-Garcia Reporting, Inc. Beacon Group SW, Inc. Total other professional services	The Centers for Habilitation	1
Marin-Garcia Reporting, Inc. Beacon Group SW, Inc. Total other professional services	Horn Interpreting Services, Inc.	1
Beacon Group SW, Inc. Total other professional services 1	Catholic Community Services of Southern Arizona, Inc.	1
Beacon Group SW, Inc. Total other professional services 1	•	1
Total other professional services 1		1
		151
Iotal professional and consulting services \$ 8,4	Total professional and consulting services	\$ 8,443

Information on investment management and consulting fees can be found in the Schedule of Investment Expenses on pages 54-57. Investment management fees also appear on pages 81-87.

# Schedule of Investment Expenses

For Year Ended June 30, 2014 (Dollars in Thousands)

Management Fees <sup>1</sup>	Amount
Public Equity Managers	
Aberdeen Asset Management	\$ 2,337
American Century Investments	36
AQR Capital Management	1,175
Blackrock EAFE Country Fund U/A	1,367
Blackrock MSCI EAFE Small Cap	521
Blackrock MSCI Emerging Markets Free B	802
Blackrock Russell 1000 Index Fund B	40
Blackrock Russell 2000 Index Fund B	15
Brandes Investment Partners International Equity	1,851
Champlain Investment Partners	1,087
CRM Funds Mid Cap Value	639
Dimensional Fund Advisors Equity Fund	805
Dimensional Fund Advisors International Small Cap	1,389
Eaton Vance Investment Managers	4,540
Franklin Templeton Investments	2,865
Hansberger Global Investors, LC	1,118
Intech Large Capital	1,984
LSV Asset Management - Emerging Markets Equity Fund LP	2,679
LSV Asset Management - US Large Cap Value Account	1,860
Thompson, Siegel & Walmsley LLC Investment Management	17
Timessquare Capital Management	4,384
Trinity Street Asset Management	32
Walter Scott & Partners	1,273
Wellington Management Co Mid Cap Opportunities	2,231
William Blair & Company	 2,328
Total Public Equity Management Fees	 37,375
Public Fixed Income Managers	
Ashmore Investment Management	(903)
Blackrock Custom US Debt Fund	30
Blackrock Intermediate Govt/Credit Bond Index Fund	6
Blackrock Local Bond Index Fund B	29
Blackrock US High Yield Bond Index Fund B	35
Blackrock US Debt Index Fund B	22
Columbia Management Investment Advisors, LLC	2,463
J.P. Morgan Asset Management	1,158
Pacific Investment Management Company	2,467
Shenkman Capital Management	 523
Total Public Fixed Income Management Fees	 5,830
Global Tactical Asset Allocation Managers	
Bridgewater Associates Global Tactical Asset Allocation	17,130
Windham Capital Management	2,324
Total Global Tactical Asset Allocation Management Fees	 19,454
Commodities Managers	
Blackrock Dow Jones/UBS	29
Gresham Investment Management	 3,023
Total Commodities Management Fees	 3,052

## ADDITIONAL SUPPLEMENTARY INFORMATION (CONTINUED)

Management Fees <sup>1</sup>	Amount
Private Equity Managers	Amount
Accel-KKR Capital Partners III, LP	600
Apollo Investment Fund VII, LP	82
Apollo Investment Fund VIII, LP	599
Apollo Natural Resources Partners, LP	975
Arlington Capital Partners III, LP	589
Atlas Venture Fund VIII, LP	291
Audax Private Equity Fund IV, LP	264
Baird Capital Partners V Limited Partnership	763
Blackrock Private Opportunities Fund, LP	42
Blackstone Capital Partners VI, LP	868
Blackstone Energy Partners, LP	542
Bridgepoint Europe IV 'D', LP	293
Brookfield Special Situations Fund III (NR A), LP	927
Catalyst Fund Limited Partnership III	939
Catalyst Fund Limited Partnership IV	2,169
Catterton Partners VII, LP	1,072
Centerbridge Capital Partners II, LP	445
CMEA Ventures VII, LP	56
Crown European Buyout Opportunities II, Plc	162
CVC European Equity Partners V (C), LP	375 334
Edgewater Growth Capital Partners III, LP EnCap Energy Capital Fund IX, LP	525
Energy Capital Partners II-A, LP	713
First Reserve Fund XII, LP	982
IDG Ventures SF, LP	223
JLL Partners Fund VI, LP	424
Khosla Ventures IV, LP	129
Kinderhook Capital Fund III, LP	229
Levine Leichtman Capital Partners Private Capital Solutions, LP	1,422
Levine Leichtman Capital Partners IV, LP	822
Levine Leichtman Capital Partners V, LP	1,328
Linconshire Equity Fund IV-A, LP	(71)
Littlejohn Fund IV-A, LP	514
LLR Equity Partners III, LP	350
LLR Equity Partners IV, LP	1,014
Maranon Mezzanine Fund, LP	530
Montreux Equity Partners IV, LP	192
Nautic Partners VI, LP	189
New Atlantic Ventures Fund III, LP	165
New Mountain Partners III, LP Oakhill Capital Partners III, LP	60 1 280
Oaktree European Principal Fund III, LP	1,289 664
Olympus Growth Fund VI, LP	122
Onex Partners III, LP	985
Partners Group Secondary 2008, LP	846
Partners Group Secondary 2011 (USD), LP, Inc	624
Paul Capital Partners IX, LP	469
Peninsula Technology Ventures, LP	75
Pine Brook Capital Partners, LP	719
Pine Brook Capital Partners II, LP	1,001
Quantum Energy Partners V, LP	1,084
Saybrook Corporate Opportunity Fund, LP	180
Seidler Equity Partners IV, LP	600
Silver Lake Partners III, LP	161
TCW/Crescent Mezzanine Partners V, LP	515
Tenex Capital Partners, LP	755
The Resolute Fund II, LP	263
The Veritas Capital Fund IV, LP	543
<sup>1</sup> Negative amounts represent instances in which performance incentive fees received in excess of investment fees charged.	

Management Fees <sup>1</sup>	Amount
Thomas H Lee Equity Fund VI, LP	68
Trilantic Capital Partners V (North America), LP Vista Equity Partners Fund IV, LP	1,375 530
Warburg Pincus Private Equity X, LP	437
Waud Capital Partners QP III, LP	706
Wayzata Opportunities Fund II, LP	108
White Deer Energy, LP	646
White Deer Energy, LP II	999 582
Yucaipa American Alliance Fund II, LP Total Private Equity Management Fees	38,473
Opportunistic Equity Managers	
56th and Park (NY) Holdings, LLC	94
OCM STR Co-Invest 1, LP Total Opportunistic Equity Management Fees	750
Total opportunistic equity Management rees	044
Opportunistic Debt Managers	
Avenue Europe Special Situations Fund II (US), LP	2,977
Blackrock Credit Investors II, LP	1
Blackrock Mortgage Investors, LP Fortress MSR Opportunities Fund II A LP	315 38
Guggenheim Partners Management	1,594
Oaktree Opportunities Fund VIII, LP	429
Oaktree Opportunities Fund VIIIb, LP	2,179
OZ Credit Opportunities Domestic Partners, LP	432
TCW Capital Trust	2,617
Total Opportunistic Debt Management Fees	10,582
Private Debt Managers	
Blackstone/GSO Capital Solutions Fund, LP	470
Cerberus ASRS Credit Opportunities Fund, LP	417
H/2 Core Real Estate Debt Fund, LP Highbridge Principal Strategies - Mezzanine Partners II, LP	417 523
RFM Cactus Holding Company, LLC	718
White Oak Global Advisors Private Debt	2,495
Total Private Debt Management Fees	5,040
Drivate Deal Estate Managers	
Private Real Estate Managers AEW Core Property Trust (U.S.), Inc.	1,132
AEW Value Investors Fund II, LP	327
Alcion Real Estate Partners Tax-Exempt Parallel Fund II, LP	708
Almanac Realty Securities IV, LP	413
Almanac Realty Securities V, LP	528
Blackrock US Real Estate Securities Fund B Blackstone Real Estate Partners VI, LP	29 535
Blackstone Real Estate Partners VII, LP	747
Cactus Mulit-Asset Investor, LLC	542
Carlyle Realty Partners V, LP	412
CB Richard Ellis Strategic Partners US Opportunity 5, LP	407
CB Richard Ellis Strategic Partners US Value 5, LP	45
CIM Fund III, LP CIM Fund VIII, LP	700 972
CIM Urban REIT, LLC	693
CIM VI (Urban REIT), LLC	290
Colony Investors VIII, LP	347
Dune Real Estate Fund, LP	515
Dune Real Estate Fund II, LP Five Mile Capital Partners II, LP	530 491
	+91

Management Fees <sup>1</sup>	
	Amount
H/2 Special Opportunities II, LP	1,002
Harrison Street Real Estate Partners III, LP Heitman Value Partners II, LP	613 164
Hunt Commercial Realty Partners III, LP	368
Invesco Asian Real Estate Partners II (USD), LP	163
Lone Star Fund VI (US), LP	79
Lone Star Real Estate Fund (US), LP	74
M&G Real Estate Debt Fund, LP	171
Oaktree Real Estate Opportunities Fund V, LP	653
Oaktree Real Estate Opportunities Fund VI, LP	748
PLA Residential III, LP	748
PLA Retail Fund I, LP	892
PRISA II RREEF Global Opportunities Fund II, LLC	629 (751)
Tishman Speyer Real Estate Venture VI, LP	132
Tishman Speyer Real Estate Venture VII, LP	494
US Cactus Industrial/Logistics Fund LP	215
VTRAZ Holdings, LLC	1,323
Waterton Residential Property Venture XI, LP	406
Westbrook Real Estate Fund VII, LP	394
Westbrook Real Estate Fund VIII, LP	 614
Total Private Real Estate Management Fees	 19,494
Farmland and Timber Manager	
U.S. Farming Realty Trust II, LP	1,729
Total Farmland and Timber Management Fees	 1,729
Total Management Fees	\$ 141,873
Other Investment Fees	Amount
Investment Custodial Fees	Amount
State Street Bank and Trust Company	
	\$ 1,210
Investment Consultant Fees	\$ 1,210
	\$ 1,210 701
Investment Consultant Fees	\$ 701 113
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP	\$ 701 113 92
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group	\$ 701 113 92 528
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc	\$ 701 113 92 528 35
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants	\$ 701 113 92 528 35 523
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC	\$ 701 113 92 528 35 523 781
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC	\$ 701 113 92 528 35 523
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC	\$ 701 113 92 528 35 523 781
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC Investment Legal Fees	\$ 701 113 92 528 35 523 781 1
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC Investment Legal Fees Cox Castle and Nicholson	\$ 701 113 92 528 35 523 781 1 66
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC Investment Legal Fees Cox Castle and Nicholson Foley and Lardner, LLP Morrison & Foester, LLP Subtotal Investment and Legal Fees	\$ 701 113 92 528 35 523 781 1 66 862
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC Investment Legal Fees Cox Castle and Nicholson Foley and Lardner, LLP Morrison & Foester, LLP	\$ 701 113 92 528 35 523 781 1 66 862 1
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC Investment Legal Fees Cox Castle and Nicholson Foley and Lardner, LLP Morrison & Foester, LLP Subtotal Investment and Legal Fees	\$ 701 113 92 528 35 523 781 1 66 862 1 <b>3,703</b>
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC Investment Legal Fees Cox Castle and Nicholson Foley and Lardner, LLP Morrison & Foester, LLP Subtotal Investment and Legal Fees Internal Investment Activity Expenses - see detailed schedule Total Investing Activity Expense	\$ 701 113 92 528 35 523 781 1 1 66 862 1 <b>3,703</b> <b>3,297</b>
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC Investment Legal Fees Cox Castle and Nicholson Foley and Lardner, LLP Morrison & Foester, LLP Subtotal Investment and Legal Fees Internal Investment Activity Expenses - see detailed schedule	\$ 701 113 92 528 35 523 781 1 1 66 862 1 <b>3,703</b> <b>3,297</b>
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC Investment Legal Fees Cox Castle and Nicholson Foley and Lardner, LLP Morrison & Foester, LLP Subtotal Investment and Legal Fees Internal Investment Activity Expenses - see detailed schedule Total Investing Activity Expense	\$ 701 113 92 528 35 523 781 1 1 66 862 1 <b>3,703</b> <b>3,297</b> <b>150,083</b>
Investment Consultant Fees CGM Grovsner Institutional Shareholder Services KPMG LLP Meketa Investment Group Mercer Investment Consulting Inc New England Pension Consultants Robert Charles Lesser and Co, LLC Woodsedge Consulting LLC Investment Legal Fees Cox Castle and Nicholson Foley and Lardner, LLP Morrison & Foester, LLP Subtotal Investment and Legal Fees Internal Investment Activity Expenses - see detailed schedule Total Investing Activity Expense Securities Lending Activity Securities Lending Borrower Rebates	\$ 701 113 92 528 35 523 781 1 1 66 862 1 <b>3,703</b> <b>3,297</b> <b>150,083</b>

# Schedule of Internal Investment Activity Expenses

For Year Ended June 30, 2014 (Dollars in Thousands)

Internal Investment Activity Expense	Amount
Salaries	\$ 1,342
Employee Insurance	118
Retirement Contributions - ASRS	148
Other Personnel Expense	 130
Total personnel services	1,738
Lease expense	 43
Total facilities	43
Professional development	5
Travel	17
Tuition reimbursement	 3
Total education, meetings and travel	25
Research and information services	1,480
Membership dues	8
Supplies	1
Telephone	1
Periodicals and publications	 1
Total general administrative expense	1,491
Total internal investment activity expense	\$ 3,297



## YOUR CAREER: MID - FIVE PLUS YEARS



Check out the additional benefits and opportunities for you to explore.

- ✓ Service Center: Time for a tune up and come back at least annually
- Money Mart: ASRS Investments & Financial Planning

See you at the next highway marker!

# INVESTMENT

# SECTION

## **III. Investment Section**

Chief Investment Officer's Report	60
Asset Allocation	67
Investment Results	
Performance Accounting / Computation Standards	68
Annualized Rates of Return	68
Historical Rates of Return	69
Ten Year Review of Investment Income	70
Net Income from Investments	
Asset Allocation	
Schedule of Investment Portfolios by Asset Class	71
Equity Portfolio Profile	
Equity Sub-Sector Allocation	72
Ten Largest Domestic Equity Holdings	72
Distribution by Market Sector	73
Ten Largest International Equity Holdings	
Summary of Broker Commissions	73
Fixed Income Portfolio Profile	
Distribution by Sector	74
Distribution by Maturity	74
Distribution by Coupon	74
Ten Largest Domestic Fixed Income Holdings	74
Private Investment Portfolio Profile	
Ten Largest Real Estate Managers	75
Ten Largest Private Equity Managers	76
Opportunistic Equity Managers	76
Opportunistic Debt Managers	77
Private Debt Managers	77
Farmland and Timber Manager	77
Schedule of Broker Commissions	
Domestic Equity Trades	78
Foreign Equity Trades	80
Schedule of Investment Fees	
Equity	81
Fixed Income	84
Real Estate	85
Commodities	
Global Tactical Asset Allocation	87
Other Investments	87

#### Dear Members:

Following is the *Investment Section* of the *ASRS Comprehensive Annual Financial Report* for the fiscal year ended June 30, 2014. A few highlights of the year are as follows:

- As of June 30, 2014, the fair market value of total fund assets was \$36.3 billion, an increase of approximately \$7.5 billion over the prior year.
- The investment portfolio generated approximately \$5.8 billion in net investment earnings during the year.
- The combined investment portfolio experienced a net return of 18.6% compared to the Interim Total Fund Benchmark return of 17.8%.
- The increase in net investments during the year is primarily due to strong performance in U.S. and international equities, as well as opportunistic debt, real estate and opportunistic equity.

#### A Review – Fiscal Year 2014

During the fiscal year, the ASRS investments were broadly diversified in domestic and international equities, domestic fixed income, real estate, private equity, opportunistic, commodities and cash equivalent instruments.

The ASRS held \$11.2 billion in domestic equities and \$7.4 billion in international equities at June 30, 2014, a decrease of 0.8% in domestic equities and a 13.9% increase in international equities from fiscal year 2013. Market performance and the reallocation of assets account for the change in value. The fiscal year 2014 rate of return for ASRS domestic equities was 24.7% compared to 22.2% in fiscal year 2013. By comparison, the ASRS domestic equities benchmark, comprised of a combination of S&P 400, S&P 500 and the S&P 600 indices, had a return of 24.9% for fiscal year 2014. The fiscal year 2014 rate of return for ASRS international equities was 21.3% compared to 14.0% in fiscal year 2013. Comparatively, the ASRS international equities benchmark, comprised of the MSCI EAFE, MCSI EAFE Small Cap and the MSCI EM indices, had a rate of return of 22.0% for fiscal year 2014. The underperformance of the Fund's international equities class was largely a result of the stock and country selections made by external portfolio managers.

Total public fixed income securities held by the Fund were \$4.9 billion at June 30, 2014, which is a slight decrease from prior year. The rate of return was 6.0% for domestic fixed income compared to (0.3%) in the previous year which is the result of lower long-term interest rates and the narrowing of credit spreads during fiscal year 2014. The Private Debt program has made substantial progress towards being fully funded at the Strategic Asset Allocation Policy (SAAP) target of 3.0% of the Total Fund. At June 30, 2014, \$1.2 billion was invested in various strategies with a since inception IRR of 15.7%. Our Opportunistic Debt program continues to add value to the fixed income asset class with current investments totaling \$930.9 million and since inception IRR of 12.2%.

At June 30, 2014, the ASRS held \$856 million in commodities exposure, of which \$849 million is reported in Short-Term Investments and \$7.3 million is reported in Commodities on the Statement of Fiduciary Net Position. The TWO managers experienced a return of 10.1% and 7.9%, respectively, compared to the DJUBS Commodity Index, which returned 8.2% during fiscal year 2014.

At June 30, 2014, the ASRS held \$2.1 billion in real estate assets, an increase of \$372.3 million from fiscal year 2013. The one year and three year time weighted returns for the real estate program are 13.7% and 12.9%, respectively. This compares to the NFI-ODCE Index of 12.7% and 12.0% for the one and three year periods. The NFI-ODCE Index is comprised of core institutional quality real estate with moderate leverage and reported net of fees. Approximately 79%

of the real estate program assets are invested in opportunity fund style investments, which can differ substantially from core style investments. The recent performance of the real estate investments reflects an improving economy and property markets. The difference in performance compared to the benchmark reflects primarily a divergence in the type of assets owned. During fiscal year 2014, the ASRS initiated investments in Farmland and Timber currently valued at \$105.8 million and a since inception IRR of 1.3% which modestly lagged the CPI ex-Food and Energy +350 bps benchmark of 2.7%.

At June 30, 2014, the ASRS held \$2.2 billion in private equity investments, an increase of \$499.1 million from fiscal year 2013. On a relative basis over the long-term (10 years or longer), the ASRS Strategic Investment Policy benchmarks the private equity program against and expects the program's performance to generate a minimum internal rate of return equal to the Russell 2000 Index, net of all investment management fees and expenses. For the year ending June 30, 2014, the one year and three year net-of-fees rate of return was 17.8% and 15.3%, respectively. For the same periods, the Russell 2000 Index returned 24.9% and 13.2%, respectively. Mid-teen returns for the private equity portfolio since 2009 reflect improvements in the economy since the low point of the recent recession and have been accretive to total fund returns. The comparison to the Russell 2000 reflects composition differences between the public market benchmark and the private market holdings, as well as volatility in the public market compared to private market appraisal valuations. Our Opportunistic Equity program continues to add value to the equity asset class with current investments totaling \$355.5 million and since inception IRR of 37.3%.

#### U.S. Economy and Capital Markets

The U.S. economy has picked up speed throughout fiscal year 2014 notwithstanding the slowdown in the first quarter which has prompted the Federal Reserve to steadily decrease the Quantitative Easing program. Generally speaking, the global macroeconomic picture has stabilized throughout the year, led by the U.S., as reflected in the double digit gains across equity markets. U.S. GDP expanded by 4.2% for the latest quarter. The unemployment rate has declined from 7.5% as of June 30, 2013 to 6.2% as of June 30, 2014. The CPI Index has generally remained stable and stands at 2.1% year-over-year as of June 30, 2104. The Federal Funds rate remained unchanged during the fiscal year with a range of 0.00% to 0.25%.

Equity markets across the board rose during the fiscal year. The S&P 500 Index was up 24.6% with returns marginally lagging mid-caps and small-caps. The S&P 400 Index and the S&P 600 Index increased 25.2% and 25.5% during the fiscal year. Growth significantly outperformed value in the large cap space while value modestly outperformed growth in the mid cap space. Interestingly, growth and value performed equally among small-caps. International equity markets marginally lagged domestic markets. The MSCI EAFE Index increased 24.4% during the fiscal year. The MSCI ACWI ex U.S. Index rose 22.5% during the fiscal year. Europe (ex-United Kingdom) was the best performing developed market as it increased 31.8%. Emerging markets were slightly hindered by Indonesia, Ukraine, Chile, and Hungary, causing emerging markets to significantly underperform their developed market counterparts. The MSCI EM Index increased 14.7%.

The Barclays Aggregate Fixed Income Index significantly underperformed the equity markets increasing 4.4% during the fiscal year. High Yield was the top performer within fixed income, increasing 11.7% while Financial Institutions was the top performing sector in the Barclays Aggregate Index as investors exhibited an increased appetite for risk and preferred longer durations. Long duration bonds outperformed short term issues. Lower-quality issues outperformed higher-quality issues in the investment credit space. Mortgages increased 4.7% and Treasuries increased 2.0% during the fiscal year. Emerging market debt produced a positive return for the fiscal year of 3.9%, but experienced significant volatility throughout the year.

REITs exhibited modestly positive performance for the fiscal year; the FTSE NAREIT Index rose 13.4%. Private real estate fared well; the NCREIF Property Index was up 12.7% (on a quarterly lag) for the fiscal year.

Commodities also contributed positive returns for the fiscal year with the Dow Jones-UBS Commodity Index increasing 8.2% during the fiscal year. Industrial metals were the major detractor while energy, precious metals, agriculture, and livestock were positive.

#### **Our Beliefs**

The following *Investment Beliefs* have been established to ensure the development of congruent and synergistic investment strategies, and to ensure the effective and efficient allocation of resources. These *Investment Beliefs* determine the general paradigm within which investment strategies are developed, investment ideas are reviewed, and investment decisions are implemented.

Modifications to these *Investment Beliefs* will occur if experiential, academic, conceptual, and/or practical perspectives suggest that a superior belief system exists.

#### Investment Beliefs

• Asset Class Decisions are Key

In general, decisions with respect to which asset classes and sub-asset classes to invest in, and the allocations to these asset classes and sub-asset classes, have a greater impact on total fund investment returns than decisions in which specific securities to invest.

• Theories and Concepts Must be Sound

Over longer periods of time, investment outcomes (e.g. rates of return, volatility) conform to logical theories and concepts. Significant deviations (e.g. internet bubble, pre-subprime erosion of risk premiums) from theoretically and conceptually sound investment constructs are usually not sustainable and are typically self-reverting.

• House Capital Market Views are Imperative

The development and articulation of sound *House Views* (e.g. views on interest rates, corporate spreads, asset valuations) will ensure consistency among investment decisions, clarity of investment direction, baselines for debates, and conformity of understanding.

• Investment Strategies Must be Forward Looking

Investment strategies will be developed based on forward-looking insights, rather than simply on successful strategies in the past.

Asset class valuations and security valuations are significantly affected by endogenous outcomes (e.g. earnings, GDP growth rates, competitive barriers) that are probabilistic, and these outcomes are typically well analyzed by the investment industry.

Asset class valuations and security valuations are also significantly affected by random outcomes (e.g. natural disasters, certain supply and demand shocks) that are virtually unpredictable, and these outcomes are typically not analyzed directly by the investment industry.

Asset class valuations and security valuations are also significantly affected by exogenous outcomes (e.g. foreign policies, global cultural interactions) that can possibly be modeled, and these outcomes are typically not analyzed by the investment industry.

• Public Markets are Generally Informationally Efficient

Asset Class Valuations – Asset class valuations (e.g. stock market levels versus interest rate levels) are often in equilibrium with one another, but anomalous situations do occur which result in disequilibria between asset class

valuations. These disequilibria offer valuable investment opportunities which we will proactively seek and capitalize on.

Security Valuations – Security valuations (e.g. IBM versus Cisco) are often in equilibrium with one another, but private markets and anomalous public market situations do occur which result in disequilibria between security valuations. These disequilibria offer investment opportunities which we will proactively seek and capitalize on.

The extent of informational efficiency varies across asset classes.

Private markets offer significant opportunities for asset mispricing and manager excellence which we will proactively seek and capitalize on.

• Market Frictions are Highly Relevant

Market frictions (e.g. management fees, carried interest, revenue sharing, expenses, costs, transaction spreads, market impacts, taxes, commissions) can be significantly detrimental to investment performance and as a result will be initiated only to the extent where there is a strong level of conviction that they will result in increased investment returns or decreased risks net of all market frictions.

• Internal Investment Professionals are the Foundation of a Successful Investment Program

In-house investment management capability engaged in direct portfolio management results in superior investment decision-making.

In-house investment management proactively monitors capital markets in order to determine mispricing opportunities and allocate capital and will successfully increase risk adjusted returns.

In-house professionals are more closely aligned with, and have a better understanding of, the purpose and risk and reward tolerance of the ASRS than external parties.

In-house investment professionals will impact direct investment negotiations, better align economic interests, and influence investment industry conditions (e.g. private deal structures, fee levels, introduction of innovation products and strategies).

• External Investment Management is Beneficial

External investment management organizations can offer greater expertise, resources, and/or flexibility than internal personnel for various investment strategies.

• Investment Consultants

Investment consultants will be effectively utilized in the following four general categories, and utilization of consultants will be focused on situations where there is a demonstrable need in at least one of the four areas:

- Independence: When oversight or controls should be enhanced.
- Perspective: When internal perspectives are not broad enough.
- Special Skills: When internal skills are not deep enough.
- Resource Allocation: When internal resources are not broad enough.
- Trustee Experience

Trustees often have expertise in various areas of investment management, and this experience should be utilized while ensuring separation between Board oversight and staff management.

#### **Our Goals and Objectives**

The ASRS has developed and established a set of *Investment Goals and Objectives* that describe the macro-level outcomes that the ASRS seeks to achieve.

#### Goals

#### • Maximize Fund Rates of Return for Acceptable Levels of Fund Risk

This goal has an asset oriented focus. Here, the returns generated and earned by the investment Fund should be considered in conjunction with the risk or volatility that the Fund will support, where risk is essentially the possibility of a change in the value of the ASRS Fund attributed to changes in economic conditions, interest rates, dividend policy and other variables in any given year.

• Achieve 75<sup>th</sup> Percentile Rates of Return Compared to Peers

This goal compares the performance of ASRS' aggregate investment portfolio to other public pension funds with over \$1 billion of assets under management. Though ASRS' asset allocation policy will differ from other public pension funds given its risk return profile and investment beliefs, it is common practice to compare returns between comparable public pension funds.

• Achieve Long-term Fund Rates of Return Equal to or Greater than the Actuarial Assumed Interest Rate

This goal has a liability oriented focus. Here, the returns generated or earned by the investment Fund should be considered in conjunction with the actuarial assumed interest rate, where this interest rate is essentially an estimate of the long-term average of the combined expected inflation rates and expected real rates of return. The actuarial assumed interest rate is also the discount rate used to calculate the present value of liabilities.

• Achieve Long-Term Economic and Actuarial Funded Statuses of 100%

This goal has a funded status oriented focus. Here, the structuring of the investment Fund should be considered in conjunction with the level, volatility, and direction of the economic and actuarial funded status of the Fund. Although both actuarial and economic funded status levels are valuable for discussion and decision-making, economic-funded status is more reflective of financial condition and long-term policy implications. Economic-funded status is defined as the actual or market value of investments as a percentage of the actual or market value of liabilities and excludes such accounting constructs as smoothing and amortization.

• Mitigate Contribution Rate Volatility

This goal has a contribution rate orientation focus. Here, the structuring of the investment Fund should be considered in conjunction with the level, volatility, and direction of the contribution rates that will need to be paid by both employees and employers in the Fund. In general, lower levels and volatility in contribution rates are preferred.

Collectively, the above goals incorporate the following elements that are important for a fund's comprehensive investment structure:

- Complementary use of absolute and relative rates-of-return perspectives.
- Complementary use of asset-only and asset-liability perspectives.
- Complementary use of economic and actuarial perspectives.

See below for the fiscal year 2014 investment goals and results.

#### **Objectives**

- Total Fund Performance
  - Achieve a 20-year rolling annual total fund net rate of return equal to or greater than the actuarial assumed interest rate.
  - Achieve one-year and three-year rolling annual total fund net rates of return equal to or greater than the return of the ASRS asset allocation policy (SAAP) Benchmark.
- Asset Class Performance
  - Achieve one-year and three-year rolling annual net rates of return for ASRS strategic asset classes that are equal to or greater than their respective strategic asset class benchmarks.
- Cash Flow Performance
  - Ensure sufficient monies are available to meet pension benefits, health insurance, member refunds, administrative payments, and other cash flow requirements.

#### **Investment Objectives and Results**

1. Achieve a twenty-year rolling annual total fund net rate of return equal to or greater than the actuarial assumed interest rate.

Benchmark:8.0% (over twenty years)Actual:8.9% (over twenty years)

2. Achieve one and three-year rolling annual total fund net rates of return equal to or greater than the return of the ASRS SAAP Benchmark.

Benchmark:17.8% (one year) and 10.4% (three year)Actual:18.6% (one year) and 10.8% (three year)

3. Achieve one and three-year rolling annual net rates of return for ASRS strategic asset classes that are equal to or greater than their respective asset class benchmarks.

Total Domestic and International Equity:

Benchmark:	23.7% (one year) and 13.0% (three year)
Actual:	23.3% (one year) and 12.8% (three year)

#### Domestic Equity:

Benchmark:	24.9% (one year) and 16.5% (three year)
Actual:	24.7% (one year) and 16.1% (three year)

#### International Equity:

Benchmark:22.0% (one year) and 6.6% (three year)Actual:21.3% (one year) and 6.4% (three year)

Public Markets Fixed Income:

Benchmark:	6.0% (one year) and 4.4% (three year)
Actual:	6.0% (one year) and 4.5% (three year)

#### Inflation-Linked:

Benchmark:	8.2% (one year) and -5.2% (three year)
Actual:	10.1% (one year) and -3.3% (three year)

Global	Tactical	Asset	Allocation:
--------	----------	-------	-------------

Benchmark:	17.9% (one year) and 10.7% (three year)
Actual:	21.2% (one year) and 11.8% (three year)

#### Private Equity:

Benchmark:	24.9% (one year) and 13.2% (three year)
Actual:	17.8% (one year) and 15.3% (three year)

#### **Opportunistic Equity\*:**

\*Net absolute rate of return expectations range from 10-14% per annum.

Actual: 37.9% (one year) and 24.7% (three year)

#### Private Debt\*:

\*Three-year not applicable

Benchmark:	6.9% (one year)
Actual:	15.0% (one year)

#### Opportunistic Debt\*:

\* Net absolute rate of return expectations range from 10-14% per annum.

Benchmark:	9.6% (one year) and 8.2% (three-year)
Real Estate:	
Benchmark:	12.7% (one year) and 12.0% (three year)

- Actual: 13.7% (one year) and 12.9% (three year)
- 4. Ensure sufficient monies are available to meet pension benefits, health insurance, member refunds, administrative payments, and other cash flow requirements.

Achieved this goal.

#### **Investment Policies**

An integral part of the overall investment policy is the SAAP, which is designed to optimize returns while minimizing risk. The ASRS maintains its investment assets in accordance with Board approved Strategic Asset Allocation Policy. Investment assets are managed in 186 externally managed and 8 internally managed portfolios, which are diversified in U.S. equities, U.S. fixed income, international equities, real estate, private equity, opportunistic investments and commodity investments.

The ASRS adheres to all statutory requirements set by Arizona State law. In addition the ASRS established investment guidelines for its internal and external investment managers and a complete set of policies, procedures, compliance requirements, and oversight of internal investment management to ensure that investment assets are prudently managed. Both internal and external compliance procedures are in place. Oversight responsibilities reside with the ASRS Board. Details of investments are located at the end of this report.

Please refer to the continuing pages of the Investment Section for more in-depth details of ASRS' investment activities.

Best regards,

Gary R. Dokes, Chief Investment Officer

#### **Asset Allocation Targets**

During fiscal year 2014, the ASRS asset allocation policy targets and ranges were as follows:

Asset Class	Policy	Range	Benchmark		
Large Cap	23%		S&P 500		
Mid Cap	5%		S&P 400		
Small Cap	5%		S&P 600		
US Equity	33%	(26 - 38%)			
Developed Large Cap	14%		MSCI EAFE		
Developed Small Cap	3%		MSCE EAFE Small Cap		
Emerging Markets	6%		MSCI EM		
Non-US Equity	23%	(16 - 28%)			
Private Equity	7%	(5 - 9%)	Russell 2000		
Opportunistic Equity*	0%	(0 - 3%)	Investment Specific		
Other Equity	7%				
Total Equity	63%	(53 - 70%)			
Core	13%		Barclays Aggregate		
High Yield	5%		Barclays HY		
US Fixed Income	18%	(8 - 28%)			
Emerging Market Debt	4%		JP Morgan GBI-EM Global Diversified		
Private Debt	3%		S&P/LSTA Leveraged Loan Index + 2.5%		
Opportunistic Debt*	0%	(0 - 10%)	Investment Specific		
Other Debt	7%				
Total Fixed Income	25%	(15 - 35%)			
Commodities	4%	(1 - 7%)	DJ UBS Total Return		
Real Estate	8%	(6 - 10%)	NCREIF ODCE		
Infrastructure	0%	(0 - 3%)	CPI (ex food and energy) + 3.5%		
Farmland and Timber	0%	(0 - 3%)	CPI (ex food and energy) + 3.5%		
Opportunistic Inflation Linked*	0%	(0 - 3%)	Investment Specific		
Total Inflation Linked Assets	12%	(8 - 16%)			
TOTAL	100%				
Global Tactical Asset Allocation (GTAA)	10%	(5 - 15%)	Total Fund Benchmark		

\* Note: Aggregate Opportunistic asset classes not to exceed 10%.

#### Performance Accounting/ Computation Standards

The ASRS investment performance rates of return are calculated on a total return basis, using time-weighted rates of return, based upon market values. The fair value of real estate, private equity and opportunistic investments are based on estimated values. Fair value is based on estimates and assumptions from information and representations provided by the respective general partners, in the absence of readily ascertainable market values. Performance is calculated on an accrual basis provided that the accrual information is available from the custodian or record-keeper. The rates of return are generated by asset class and include cash holdings.

Below are the rates of return on the overall portfolio, as well as specific asset classes, along with the benchmark used to compare performance.

### Annualized Rates of Return (Net of Fees)

(Retirement & HBS)

Time Weighted Returns	1 Year	3 Year	5 Year	10 Year	Inception
Total Fund	18.6%	10.8%	14.2%	7.5%	10.1%
Interim SAA Policy Benchmark	17.8%	10.4%	13.6%	7.2%	9.8%
Domestic Equity	24.7%	16.1%	19.8%	8.7%	11.4%
S&P Custom Index	24.9%	16.5%	19.7%	8.3%	11.5%
Domestic Fixed Income	6.0%	4.5%	5.9%	5.4%	8.6%
Custom Fixed Income Index	6.0%	4.4%	5.3%	5.2%	n/a
International Equity	21.3%	6.4%	11.1%	6.7%	6.6%
MSCI Custom Index	22.0%	6.6%	11.9%	8.0%	6.3%
Commodities	10.1%	-3.3%	n/a	n/a	2.7%
DJUBS Commodity Index	8.2%	-5.2%	n/a	n/a	0.8%
Global Tactical Asset Allocation	21.2%	11.8%	16.2%	8.8%	8.5%
Custom Global Tactical Asset Allocation	17.9%	10.7%	13.3%	6.9%	6.9%
Real Estate	13.7%	12.9%	11.2%	n/a	5.8%
NFI-ODCE Index	12.7%	12.0%	6.3%	n/a	5.0%
Private Equity	17.8%	15.3%	16.2%	n/a	12.9%
Russell 2000	24.9%	13.2%	24.3%	n/a	16.3%
Private Debt	15.0%	n/a	n/a	n/a	15.7%
S&P Loan Syndications and Trading Association Leveraged Loan Index	6.9%	n/a	n/a	n/a	8.2%
Opportunistic Debt	9.6%	8.2%	n/a	n/a	12.2%
Opportunistic Equity	37.9%	24.7%	n/a	n/a	37.3%

## Historical Rates of Return<sup>1</sup> (Net of Fees)

(Retirement & HBS)

Fiscal Year	Return	<b>Fiscal Year</b>	Return	<b>Fiscal Year</b>	Return
2013-14	18.6%	2005-06	9.8%	1997-98	21.3%
2012-13	13.1%	2004-05	8.5%	1996-97	20.6%
2011-12	1.3%	2003-04	17.5%	1995-96	16.7%
2010-11	24.6%	2002-03	2.4%	1994-95	17.8%
2009-10	14.9%	2001-02	-8.2%	1993-94	1.9%
2008-09	-18.1%	2000-01	-6.7%	1992-93	16.7%
2007-08	-7.6%	1999-00	10.0%	1991-92	14.6%
2006-07	17.8%	1998-99	16.8%	1990-91	8.0%

<sup>1</sup> Return on Private Equity Investments have not been included in Total Fund Performance for FY 2008 or 2009.

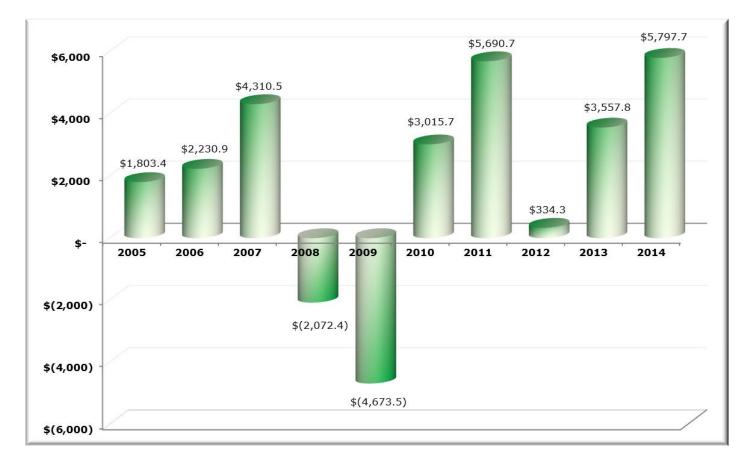
## **Ten Year Review of Investment Income**

(Dollars in Thousands)

<b>Fiscal Year</b>	In	come	+	Net	t Apprec/(Depr)	-	Expense	=	Ne	t Income
2004-2005	\$	454,389		\$	1,382,587		\$ 33,584		\$	1,803,392
2005-2006		523,997			1,758,899		51,957			2,230,939
2006-2007		604,320			3,766,089		59,891			4,310,518
2007-2008		654,878			(2,645,900)		81,419			(2,072,441)
2008-2009		285,665			(4,855,030)		104,125			(4,673,490)
2009-2010		647,859			2,484,029		116,170			3,015,718
2010-2011		925,578			4,893,382		128,281			5,690,679
2011-2012		891,210			(419,010)		137,905			334,295
2012-2013		1,167,263			2,579,350		188,770			3,557,843
2013-2014		564,891			5,382,920		150,083			5,797,728

#### **Net Income from Investments**

(Dollars in Millions)



## Schedule of Investment Portfolios by Asset Class

(Dollars in Thousands)

	Fair Value	Percentage of Investments at Fair Value
Equity		
U.S. Equity <sup>1</sup>	\$ 11,251,333	3 31.6%
Non-U.S. Equity <sup>1</sup>	7,387,636	5 20.7%
Private Equity	2,204,231	6.2%
Opportunistic Equity	355,487	1.0%
Total Equity	21,198,687	7 59.5%
Fixed Income		
U.S. Fixed Income	4,169,258	3 11.7%
Emerging Market Debt	721,742	2 2.0%
Opportunistic Debt	930,906	5 2.6%
Private Debt	1,201,508	3 3.4%
Total Fixed Income	7,023,414	19.7%
Other Investments		
Commodities	7,311	0.0%
Real Estate	2,095,485	5 5.9%
Farmland and Timber	105,841	0.3%
Global Tactical Asset Allocation	3,471,373	9.7%
Total Other Investments	5,680,010	) 15.9%
Short-Term Investments	1,749,791	4.9%
Total Investments	\$ 35,651,902	100.0%
Add Receivables:		
Accrued Interest and Dividends	63,115	5
Securities Sold	42,523	
Forward Contracts Total Receivables	438,188	
	543,826	<u>)</u>
Less Payables:		
Securities Purchased Forward Contracts	306,670 416,884	
Securities Lending Collateral	15,427	
Other Payables	5,633	3
Total Payables	744,614	<u>1</u>
Total Net Total Investments	\$ 35,451,114	

<sup>1</sup> Includes Securities Lending Collateral investments.

#### **Equity Sub-Sector Allocation**

(Dollars in Thousands)

	% of Equity	
	Portfolio	Fair Value
US Large Cap Equity	38.42%	\$ 8,137,823
US Mid Cap Equity	7.52	1,593,263
US Small Cap Equity	7.11	1,507,125
Total US Equity	53.05	11,238,211
Non US Equity	34.86	7,385,331
Private Equity	10.41	2,204,231
Opportunistic Equity	1.68	355,487
TOTAL EQUITY SECURITIES	100.00%	\$ 21,183,260

Note: Above schedule does not include Securities Lending Collateral investments.

#### **Ten Largest Domestic Equity Holdings**

	% of Domestic Equity Portfolio
SPDR S+P 500 ETF Trust	11.75%
Apple, Inc.	1.95
Exxon Mobil, Corp.	1.68
Microsoft Corp.	1.39
Johnson & Johnson	1.24
Vanguard Total Stock Market ET	1.18
ISHARES MSCI USA Value Factor	1.14
ISHARES MSCI USA Momentum Factor	1.13
Chevron Corp.	1.13
ISHARES MSCI USA Quality Factor	1.13
Total	23.72%

### **Distribution by Market Sector**

	ASRS Domestic		
	Equity	S&P 500 Index	
Consumer Discretionary	11.50%	12.50%	
Consumer Staples	8.20	7.90	
Energy	9.40	9.30	
Financials	17.30	17.60	
Healthcare	13.00	12.50	
Industrials	13.10	12.30	
Information Technology	17.70	18.00	
Materials	4.20	4.30	
Telecommunication Services	1.90	2.00	
Utilities	3.70	3.60	
Total	100.00%	100.00%	

## **Ten Largest International Equity Holdings**

	% of International Equity Portfolio
Nestle SA Reg	0.38%
Roche Holding AG Genusschein	0.37
Novartis AG Reg	0.34
Grafton Group, PLC	0.32
UBS AG Reg	0.30
Saint-Gobain SA	0.30
LM Ericsson	0.29
Kennedy Wilson Real Estate Europe, PLC	0.28
Lloyds Banking Group, PLC	0.27
GDF Suez SA	0.26
Total	3.11%

#### **Summary of Broker Commissions**

(Dollars in Thousands)

Summary of Broker Commissions	Com	mission
Domestic Equity	\$	2,880
International Equity	\$	1,717

#### **Distribution by Sector**

-		-	_
	Percent		Percent
Short-Term Investments	9.62%	0 - 2 years	30.15%
Asset Backed Securities	0.07	2 to 3 years	9.07
Commercial Mortgage Backed	0.85	3 to 4 years	7.59
Corporate Bonds	19.78	4 to 5 years	18.36
Government Related	3.25	5 to 6 years	12.34
Government Agencies CMO's	9.94	6 to 8 years	9.28
Government Bonds (Treasury)	13.97	> 8 years	13.21
Government Mortgage Backed	0.96	Total	100.00%
Other <sup>1</sup>	41.56		
Total	100.00%		

<sup>1</sup> Other includes Emerging Market Debt, Opportunistic Debt and Private Debt.

#### **Distribution by Coupon**

	Percent
0.00% - 6.5%	80.28%
6.51% - 7.50%	7.32
7.51% - 9.0%	8.36
> 9.00%	4.04
Total	100.00%

## **Ten Largest Domestic Fixed Income Holdings**

(Dollars in Thousands)

	Coupon	Maturity	Par Value	Fair Value	Percent
US TREASURY NOTE	0.75%	6/30/2017	\$ 56,000	\$ 55,776	0.79%
FANNIE MAE	4.00%	12/1/2043	51,885	55,102	0.78
US TREASURY NOTE	3.12%	4/30/2017	48,000	51,108	0.73
US TREASURY NOTE	4.62%	2/15/2040	40,700	50,619	0.72
US TREASURY NOTE	2.75%	11/15/2023	48,000	49,197	0.70
US TREASURY NOTE	2.12%	2/29/2016	45,600	46,970	0.67
US TREASURY NOTE	4.12%	5/15/2015	37,000	38,289	0.55
US TREASURY NOTE	0.75%	1/15/2017	35,000	35,057	0.50
FEDERAL HOME LOAN BANK	5.00%	11/17/2017	30,000	33,849	0.48
US TREASURY NOTE	2.00%	1/31/2016	32,500	33,379	0.48
Total			\$ 424,685	\$ 449,346	6.40%

Note: A detailed listing of investments is available upon request. Direct inquiries to: ASRS, 3300 North Central Avenue, Phoenix, AZ 85012

### **Distribution by Maturity**

#### **Ten Largest Real Estate Managers**

(Dollars in Thousands)

	Fair Value	% of Real Estate Portfolio
AEW Core Property Trust (U.S.), Inc.	\$ 237,303	11.60%
H/2 Special Opportunities II, LP	140,121	6.85
Cactus Mulit-Asset Investor, LLC	97,845	4.78
CIM Urban REIT, LLC	87,559	4.28
CIM Fund VIII, LP	85,214	4.17
FC Cactus Residential Development Fund, LLC	75,705	3.70
CIM Fund III, LP	72,501	3.54
PRISA II	71,883	3.51
Blackstone Real Estate Partners VI, LP	67,816	3.32
PLA Retail Fund I, LP	65,471	3.20
Total	\$ 1,001,418	48.95%

#### **Ten Largest Private Equity Managers**

(Dollars in Thousands)

	Fa	ir Value	% of Private Equity Portfolio
The Veritas Capital Fund IV, LP	\$	79,977	3.63%
Onex Partners III, LP		74,840	3.40
Centerbridge Capital Partners, LP		73,469	3.33
First Reserve Fund XII, LP		64,933	2.95
Yucaipa American Alliance Fund II, LP		62,235	2.82
Oakhill Capital Partners III, LP		61,475	2.79
Levine Leichtman Capital Partners IV, LP		58,354	2.65
Levine Leichtman Capital Partners Private Capital Solutions, LP		57,333	2.60
Energy Capital Partners II-A, LP		56,306	2.55
Partners Group Secondary 2008, LP		53,436	2.42
Total	\$	642,358	29.14%

## **Opportunistic Equity Managers**

(Dollars in Thousands)

			% of Opportunistic
	Fa	ir Value	Equity Portfolio
OCM STR Co-Invest 1, LP	\$	181,220	50.98%
56th and Park (NY) Holdings, LLC		95,635	26.90
TPG Specialty Lending, Inc		48,431	13.62
Blackstone CPQ Co-Invest, LP		20,601	5.80
Athene Holding Ltd		9,600	2.70
Total	\$	355,487	100.00%

### **Opportunistic Debt Managers**

(Dollars in Thousands)

		O,	6 of Opportunistic
	Fa	air Value	Debt Portfolio
OZ Credit Opportunities Domestic Partners, LP	\$	312,703	33.59%
Avenue Europe Special Situations Fund II (US), LP		254,295	27.32
Oaktree Opportunities Fund VIIIb, LP		186,601	20.05
TCW Capital Trust		63,123	6.78
GSO Cactus Credit Opportunities Fund, LP		55,136	5.92
Oaktree Opportunities Fund VIII, LP		42,995	4.62
Fortress MSR Opportunities Fund II A LP		11,010	1.18
Blackrock Credit Investors II, LP		3,878	0.42
Blackrock Mortgage Investors, LP		962	0.10
Guggenheim Partners Management		203	0.02
Total	\$	930,906	100.00%

### **Private Debt Managers**

(Dollars in Thousands)

		% of Opportunistic	
	Fa	ir Value	Portfolio
Cerberus ASRS Credit Opportunities Fund, LP	\$	465,240	38.72%
H/2 Core Real Estate Debt Fund, LP		257,285	21.41
Blackstone/GSO Capital Solutions Fund, LP		158,930	13.23
RFM Cactus Holding Company, LLC		119,294	9.93
Highbridge Principal Strategies - Mezzanine Partners II, LP		118,320	9.85
White Oak Global Advisors Private Debt		82,439	6.86
Total	\$	1,201,508	100.00%

## Farmland and Timber Manager

(Dollars in Thousands)

			% of Farmland and Timber		
	Fa	ir Value	Portfolio		
U.S. Farming Realty Trust II, LP	\$	105,841	100.00%		
Total	\$	105,841	100.00%		

## **Domestic Equity Trades**

(Dollars in Thousands)

Broker Name	Dollar Amount of Trades	Number of Shares	Average Commission Per Share	Dollar Amount of Commission
Barclays Capital Inc./LE	\$ 342,874	8,654	\$ 0.0102	\$ 88
Barclays Capital LE	29,461	1,022	0.0342	35
BMO Capital Markets	10,720	301	0.0432	13
BNP Paribas Brokerage Securities, Inc.	22,828	405	0.0099	4
BNP Paribas Prime Brokerage, Inc.	14,648	235	0.0085	2
BNY Convergex LJR	49,178	1,248	0.0240	30
Broadcort Capital	38,135	906	0.0408	37
BTIG, LLC	25,644	701	0.0456	32
Cantor Fitzgerald & Co.	27,427	677	0.0310	21
Capital Institutional Svcs Inc. Equities	148,069	2,562	0.0293	75
Citigroup Global Markets, Inc.	359,551	9,562	0.0116	111
Convergex Execution Solutions, LLC	51,256	1,343	0.0253	34
Cowen & Company, LLC	22,237	473	0.0465	22
Credit Suisse Securities (USA) LLC	591,240	12,705	0.0142	180
Deutsche Bank Securities, Inc.	183,745	3,595	0.0273	98
Goldman Sachs & Co.	210,187	5,073	0.0148	75
Guzman & Co.	56,879	1,546	0.0181	28
Instinet, LLC	1,519,855	38,108	0.0116	441
Investment Technology Group, Inc.	444,286	12,035	0.0120	145
ISI Group, Inc.	12,075	231	0.0303	7
J.P. Morgan Securities, Inc.	209,798	4,731	0.0230	109
Jefferies & Company, Inc.	287,336	6,893	0.0203	140
Jones Trading Institutional Services, LLC	11,669	293	0.0307	9
Keefe Bruyette & Woods, Inc.	14,162	412	0.0437	18
Keybanc Capital Markets, Inc.	17,071	366	0.0464	17
Knight Equity Markets L.P.	48,624	1,169	0.0496	58
Liquidnet, Inc.	64,318	1,527	0.0216	33
Merrill Lynch Pierce Fenner & Smith, Inc.	292,500	6,613	0.0129	85
Mischler Financial Group, Inc.	13,332	161	0.0373	6
Morgan Stanley & Co., Inc.	130,515	4,886	0.0145	71
Morgan Stanley & Co. International, PLC	40,634	1,014	0.0089	9
Oppenheimer & Co., Inc.	19,377	399	0.0476	19

### **Domestic Equity Trades – continued**

(Dollars in Thousands)

	 		Average	
Broker Name	lar Amount of Trades	Number of Shares	mmission er Share	r Amount mmission
Pulse Trading, LLC	\$ 12,946	380	\$ 0.0158	\$ 6
Raymond James And Associates Inc.	27,908	713	0.0421	30
RBC Capital Markets	78,372	1,990	0.0246	49
Robert W. Baird Co. Inc.	37,498	795	0.0428	34
Rosenblatt Securities, LLC	88,425	1,435	0.0314	45
Sanford C Bernstein Co., LLC	134,151	2,572	0.0284	73
SG Americas, LLC	124,208	2,109	0.0294	62
Stifel Nicolaus & Co., Inc.	55,488	1,379	0.0392	54
Sungard Brokerage & Securities Svcs, LLC	12,047	297	0.0067	2
Suntrust Capital Markets, Inc.	14,878	338	0.0444	15
Tesley Advisory Group, LLC	18,749	289	0.0346	10
UBS Securities, LLC	379,165	6,710	0.0230	154
Wallachbeth Capital, LLC	441,243	8,587	0.0100	86
Weeden & Co.	62,163	1,305	0.0238	31
Wells Fargo Securities, LLC	13,938	470	0.0277	13
William Blair & Co., LLC	23,546	524	0.0439	23
Various Other Brokers	 150,898	4,225	0.0334	141
Total	\$ 6,985,254	163,964	\$ 0.0176	\$ 2,880

## **Foreign Equity Trades**

(Dollars in Thousands)

Broker Name	Dollar Amount of Trades	Number of Shares	Average Commission Per Share	Dollar Amount of Commission
Barclays Capital	\$ 35,924	3,502	\$ 0.0100	\$ 35
BNP Paribus Brokerage Securities, Inc.	17,552	568	0.0458	26
Citigroup Global Markets, Inc.	13,306	1,962	0.0036	7
Citigroup Global Markets Limited	32,240	3,702	0.0097	36
CLSA Singapore PTE, Ltd.	12,714	739	0.0271	20
Credit Suisse Securities (Europe) Ltd.	57,196	8,327	0.0055	46
Credit Suisse Securities (USA), LLC	20,881	1,430	0.0210	30
Daiwa Securities SB Capital Markets Co., Ltd.	10,930	290	0.0241	7
Davy Group	28,807	1,290	0.0333	43
Deutsche Bank AG, London	193,441	9,422	0.0093	88
Deutsche Bank Securities, Inc.	91,517	7,517	0.0124	93
Deutsche Morgan Grenfell Group, PLC	29,421	1,894	0.0063	12
Deutsche Securities Asia Limited	31,931	8,529	0.0015	13
Exane S.A.	25,299	693	0.0563	39
Goldman Sachs & Co.	111,517	58,969	0.0009	51
Goldman Sachs International	21,625	3,196	0.0041	13
Instinet U.K. Ltd.	80,731	17,106	0.0012	21
Investment Technology Group, Ltd.	33,558	3,524	0.0091	32
Jeffries & Company, Inc.	12,597	2,020	0.0069	14
JP Morgan Securities, PLC	18,288	1,598	0.0131	21
Macquarie Bank Limited	28,471	2,782	0.0065	18
Merrill Lynch International	749,209	67,600	0.0054	365
Merrill Lynch Pierce Fenner Smith, Inc. NY	37,940	3,308	0.0042	14
Morgan Stanley Co., Inc.	196,049	34,404	0.0031	107
Morgan Stanley & Co. International, PLC	26,184	3,390	0.0032	11
Morgan Stanley Securities Limited	237,198	31,180	0.0032	100
Pershing Securities Limited	32,222	5,612	0.0043	24
Sanford C. Bernstein, Ltd.	16,269	892	0.0258	23
Societe Generale Group	15,672	961	0.0250	24
Societe Generale London	17,721	1,836	0.0103	19
UBS AG	38,622	4,429	0.0115	51
UBS Warburg Securities, Ltd.	271,659	13,433	0.0090	121
Various Other Brokers	191,117	40,069	0.0048	193
Total	\$2,737,808	346,174	\$ 0.0050	\$ 1,717

## Equity

(Dollars in Thousands)

Manager	Assets Managed at Fair Value at June 30, 2014	Management Fees
Public U.S. Equity Managers		
ASRS Internal	\$ 8,271,338	\$ -
Blackrock Russell 1000 Index Fund B	100,988	40
Blackrock Russell 2000 Index Fund B	19,617	15
Champlain Investment Partners	96,922	1,087
CRM Funds Mid Cap Value	98,307	639
Dimensional Fund Advisors Equity Fund	428,233	805
Intech Large Capital	527,951	1,984
LSV Asset Management - US Large Cap Value Account	796,184	1,860
Timessquare Capital Management	464,150	4,384
Wellington Management Co Mid Cap Opportunities	434,521	2,231
Total Public U.S. Equity	11,238,211	13,045
Public Non-U.S. Equity Managers		
Aberdeen Asset Management	-	2,337
American Century Investments	526,731	36
AQR Capital Management	179,653	1,175
ASRS International Transition	6,127	-
Blackrock EAFE Country Fund U/A	2,482,428	1,367
Blackrock MSCI EAFE Small Cap	486,842	521
Blackrock MSCI Emerging Markets Free B	715,366	802
Brandes Investment Partners International Equity	553,636	1,851
Dimensional Fund Advisors International Small Cap	229,582	1,389
Eaton Vance Investment Managers	518,019	4,540
Franklin Templeton Investments	415,180	2,865
Hansberger Global Investors, LC	182	1,118
LSV Asset Management - Emerging Markets Equity Fund LP	316,111	2,679
QS Investors - EAFE	4	-
Thompson, Siegel & Walmsley LLC Investment Management	156,963	17
Trinity Street Asset Management	326,468	32
Walter Scott & Partners	87	1,273
William Blair & Company	471,952	2,328
Total Public Non-U.S. Equity	7,385,331	24,330
Private Equity Managers		
Accel-KKR Capital Partners III, LP	21,438	600
Altaris Health Partners III, LP	4,435	-
Apollo Investment Fund VII, LP	34,693	82
Apollo Investment Fund VIII, LP	2,781	599

## Equity – continued

(Dollars in Thousands)

Manager	Assets Managed at Fair Value at June 30, 2014	Management Fees <sup>1</sup>
Apollo Natural Resources Partners, LP	42,900	975
Arlington Capital Partners III, LP	16,653	589
Atlas Venture Fund VIII, LP	18,032	291
Audax Private Equity Fund IV, LP	18,778	264
Baird Capital Partners V Limited Partnership	37,654	763
Blackrock Private Opportunities Fund, LP	5,201	42
Blackstone Capital Partners VI, LP	45,209	868
Blackstone Energy Partners, LP	36,859	542
Bridgepoint Europe IV 'D', LP	38,583	293
Brookfield Special Situations Fund III (NR A), LP	30,632	927
Catalyst Fund Limited Partnership III	43,575	939
Catalyst Fund Limited Partnership IV	36,120	2,169
Catterton Partners VII, LP	11,074	1,072
CCMP Capital Investors III, LP	13,782	-
Centerbridge Capital Partners II, LP	73,469	445
Clear Channel Private Stock	1,362	-
CMEA Ventures VII, LP	6,602	56
Crown European Buyout Opportunities II, Plc	15,955	162
CVC European Equity Partners V (C), LP	49,206	375
Edgewater Growth Capital Partners III, LP	27,342	334
EnCap Energy Capital Fund IX, LP	9,255	525
Energy Capital Partners II-A, LP	56,306	713
First Reserve Fund XII, LP	64,933	982
IDG Ventures SF, LP	12,640	223
JLL Partners Fund VI, LP	36,896	424
Khosla Ventures IV, LP	18,597	129
Kinderhook Capital Fund III, LP	32,149	229
KPS Special Situations Fund IV, LP	4,061	-
Levine Leichtman Capital Partners Private Capital Solutions, LP	57,333	1,422
Levine Leichtman Capital Partners IV, LP	58,354	822
Levine Leichtman Capital Partners V, LP	8,815	1,328
Linconshire Equity Fund IV-A, LP	21,804	(71)
Linden Capital Partners II, LP	14,075	-
Littlejohn Fund IV-A, LP	36,625	514
LLR Equity Partners III, LP	27,451	350
LLR Equity Partners IV, LP	6,059	1,014
Maranon Mezzanine Fund, LP	12,235	530
Montreux Equity Partners IV, LP	9,760	192
Nautic Partners VI, LP	47,307	189
New Atlantic Ventures Fund III, LP	8,905	165
New Mountain Partners III, LP	38,282	60

<sup>1</sup>Negative amounts represent instances in which performance incentive fees received in excess of investment fees charged.

## Equity – continued

(Dollars in Thousands)

Manager	Assets Managed at Fair Value at June 30, 2014	Management Fees <sup>1</sup>
Oakhill Capital Partners III, LP	61,475	1,289
Oaktree European Principal Fund III, LP	26,946	664
Olympus Growth Fund VI, LP	2,673	122
Onex Partners III, LP	74,839	985
Partners Group Secondary 2008, LP	53,436	846
Partners Group Secondary 2011 (USD), LP, Inc	30,872	624
Paul Capital Partners IX, LP	21,945	469
Peninsula Technology Ventures, LP	7,244	75
Pine Brook Capital Partners, LP	43,318	719
Pine Brook Capital Partners II, LP	14,850	1,001
Platinum Equity Capital Partners II, LP	26,456	-
Quantum Energy Partners V, LP	46,137	1,084
Saybrook Corporate Opportunity Fund, LP	14,505	180
Seidler Equity Partners IV, LP	29,304	600
Silver Lake Partners III, LP	27,921	161
TCW/Crescent Mezzanine Partners V, LP	27,488	515
Tenex Capital Partners, LP	36,000	755
The Energy & Minerals Group Fund III, LP	8,562	-
The Resolute Fund II, LP	42,522	263
The Resolute Fund III, LP	(4)	-
The Veritas Capital Fund IV, LP	79,975	543
Thomas H Lee Equity Fund VI, LP	51,987	68
Trilantic Capital Partners V (North America), LP	8,615	1,375
Vista Equity Partners Fund IV, LP	48,747	530
Vista Equity Partners Fund V, LP	2,790	-
Warburg Pincus Private Equity X, LP	46,527	437
Waud Capital Partners QP III, LP	21,675	706
Wayzata Opportunities Fund II, LP	22,161	108
White Deer Energy, LP	44,305	646
White Deer Energy, LP II	4,548	999
Yucaipa American Alliance Fund II, LP	62,235	582
Total Private Equity	2,204,231	38,473
Opportunistic Equity Managers		
56th and Park (NY) Holdings, LLC	95,635	94
Athene Holding Ltd	9,600	-
Blackstone CPQ Co-Invest, LP	20,601	-
OCM STR Co-Invest 1, LP	181,220	750
TPG Specialty Lending, Inc	48,431	-
Total Opportunistic Equity	355,487	844
Total Equity	\$ 21,183,260	\$ 76,692

<sup>1</sup>Negative fair value amounts due to fees charged in excess of amounts contributed.

### **Fixed Income**

(Dollars in Thousands)

Manager	Assets Managed at Fair Value at Managemen June 30, 2014 Fees <sup>1</sup>		
Public U.S. Fixed Income Managers			
ASRS Internal	\$ 1,822,758	\$-	
Blackrock Custom US Debt Fund	711,972	30	
Blackrock Intermediate Govt/Credit Bond Index Fund	23,885	6	
Blackrock US High Yield Bond Index Fund B	18,378	35	
Blackrock US Debt Index Fund B	31,557	22	
Bridgewater Associates Global Tactical Asset Allocation <sup>2</sup>	523,286	-	
Columbia Management Investment Advisors, LLC	720,249	2,463	
J.P. Morgan Asset Management	317,173	1,158	
Shenkman Capital Management <sup>3</sup>	-	523	
Total Public U.S. Fixed Income	4,169,258	4,237	
Emerging Market Debt Managers			
Ashmore Investment Management	417,186	(903)	
Blackrock Local Bond Index Fund B	10,227	29	
Pacific Investment Management Company	294,329	2,467	
Total Emerging Market Debt	721,742	1,593	
Opportunistic Debt Managers			
Avenue Europe Special Situations Fund II (US), LP	254,295	2,977	
Blackrock Credit Investors II, LP	3,878	_,,,,	
Blackrock Mortgage Investors, LP	962	315	
Fortress MSR Opportunities Fund II A LP	11,010	38	
GSO Cactus Credit Opportunities Fund, LP	55,136	-	
Guggenheim Partners Management	203	1,594	
Oaktree Opportunities Fund VIII, LP	42,995	429	
Oaktree Opportunities Fund VIIIb, LP	186,601	2,179	
OZ Credit Opportunities Domestic Partners, LP	312,703	432	
TCW Capital Trust	63,123	2,617	
Total Opportunistic Debt	930,906	10,582	
Private Debt Managers			
Blackstone/GSO Capital Solutions Fund, LP	158,930	470	
Cerberus ASRS Credit Opportunities Fund, LP	465,240	417	
H/2 Core Real Estate Debt Fund, LP	257,285	417	
Highbridge Principal Strategies - Mezzanine Partners II, LP	118,320	523	
RFM Cactus Holding Company, LLC	119,294	718	
White Oak Global Advisors Private Debt	82,439	2,495	
Total Private Debt	1,201,508	5,040	
Total Fixed Income	\$ 7,023,414	\$ 21,452	

<sup>1</sup>Negative amounts represent instances in which performance incentive fees received in excess of investment fees charged.

<sup>2</sup> Management fees for Bridgewater Associates are reported in the Global Tactical Asset Allocation asset class.

<sup>3</sup> Assets under management with Shenkman Capital Management were liquidated during the fiscal year.

## **Real Estate**

(Dollars in Thousands)

Manager	Assets Managed at Fair Value at June 30, 2014	Management Fees
Private Real Estate Managers		
AEW Core Property Trust (U.S.), Inc.	\$ 237,301	\$ 1,132
AEW Value Investors Fund II, LP	21,030	327
Alcion Real Estate Partners Tax-Exempt Parallel Fund II, LP	30,442	708
Almanac Realty Securities IV, LP	39,021	413
Almanac Realty Securities V, LP	26,020	528
ASRS Internal	50,213	-
Blackrock US Real Estate Securities Fund B	22,381	29
Blackstone Real Estate Partners VI, LP	67,816	535
Blackstone Real Estate Partners VII, LP	40,319	747
Cactus Mulit-Asset Investor, LLC	97,845	542
Carlyle Realty Partners V, LP	17,327	412
CB Richard Ellis Strategic Partners US Opportunity 5, LP	37,310	407
CB Richard Ellis Strategic Partners US Value 5, LP	469	45
CIM Fund III, LP	72,501	700
CIM Fund VIII, LP	85,214	972
CIM Urban REIT, LLC	87,559	693
CIM VI (Urban REIT), LLC	51,391	290
Colony Investors VIII, LP	18,693	347
Dune Real Estate Fund, LP	31,780	515
Dune Real Estate Fund II, LP	36,978	530
FC Cactus Residential Development Fund, LLC	75,705	-
Five Mile Capital II LOPO Co-Investment, LP	24,852	-
Five Mile Capital Partners II, LP	41,333	491
Forum Securities , Ltd	13	-
H/2 Special Opportunities II, LP	140,121	1,002
Harrison Street Real Estate Partners III, LP	49,192	613
Heitman Value Partners II, LP	34,044	164
Hunt Commercial Realty Partners III, LP	26,811	368
Invesco Asian Real Estate Partners II (USD), LP	10,731	163
Lone Star Fund VI (US), LP	26,612	79
Lone Star Real Estate Fund (US), LP	8,000	74
M&G Real Estate Debt Fund, LP	30,083	171
Oaktree Real Estate Opportunities Fund V, LP	57,077	653
Oaktree Real Estate Opportunities Fund VI, LP	36,938	748
Pegasus Cactus Self Storage Fund, LLC	45,453	-
PEP-Cactus Student Housing, LLC	30,183	-
PLA Residential III, LP	40,755	748
PLA Retail Fund I, LP	65,471	892
PRISA II	71,883	629

## **Real Estate – continued**

(Dollars in Thousands)

Manager	Assets Managed at Fair Value at June 30, 2014	Management Fees <sup>1</sup>
RREEF Global Opportunities Fund II, LLC	3,468	(751)
Tishman Speyer Real Estate Venture VI, LP	11,178	132
Tishman Speyer Real Estate Venture VII, LP	30,131	494
US Cactus Industrial/Logistics Fund LP	44,541	215
VTRAZ Holdings, LLC	178	1,323
Waterton Residential Property Venture XI, LP	56,571	406
Westbrook Real Estate Fund VII, LP	25,568	394
Westbrook Real Estate Fund VIII, LP	36,983	614
Total	\$ 2,095,485	\$ 19,494

<sup>1</sup> Negative amounts represent instances in which performance incentive fees received in excess of investment fees charged.

## Commodities

(Dollars in Thousands)

Manager	at Fair	Managed Value at 30, 2014	nagement Fees
Commodities Managers			
Blackrock Dow Jones/UBS	\$	7,311	\$ 29
Gresham Investment Management <sup>1</sup>		-	3,023
Total	\$	7,311	\$ 3,052

<sup>1</sup> The fair value of assets managed by Gresham Investment Management are reported in Short-Term Investments on the Statement of Fiduciary Net Position.

#### **Global Tactical Asset Allocation**

(Dollars in Thousands)

Manager	at F	ets Managed Fair Value at Ne 30, 2014	Management Fees	
Global Tactical Asset Allocation Managers				
Bridgewater Associates Global Tactical Asset Allocation	\$	2,867,534	\$ 17,130	
Windham Capital Management		603,839	2,324	
Total	\$	3,471,373	\$ 19,454	

#### **Other Investments**

(Dollars in Thousands)

Manager	Assets Managed at Fair Value at June 30, 2014		Management Fees	
Farmland and Timber Manager U.S. Farming Realty Trust II, LP	\$	105,841	\$	1,729
Total	\$	105,841	\$	1,729

## RETRING WITHIN K NAVIGATE YOUR FUTURE

## YOUR CAREER: RETIRING - WITHIN FIVE YEARS



Welcome to the Retirement Mall. Here you will find everything you need to complete your journey.

 Check out the mall directory to find what you need from the 10 available stores.



Try on some ideas and find out what is best for you.

## ACTUARIAL

# SECTION

## **IV. Actuarial Section**

#### **RETIREMENT AND HBS**

Actuarial Certification Statement	
Independent Review of 2013 Actuarial Valuations	
General Actuarial Information	
Summary of the Benefit Provisions	101
Statement of Actuarial Methods and Assumptions	
Retirement and HBS Schedules	
Schedule of Active Member Valuation Data – Last 10 Years	113
Schedule of Retirement Retirees Added to and Removed from Rolls - Last 10 Years	113
Schedule of HBS Retirees Added to and Removed from Rolls – Last 5 Years	114
Schedule of Funding Progress – Retirement and HBS – Last 10 Years	114
Solvency Test – Retirement – Last 10 Years	115
Solvency Test – HBS – Last 10 Years	115
Analysis of Financial Experience for Retirement – Last 10 Years	116
Analysis of Financial Experience for HBS – Last 10 Years	116

#### LTD

Actuarial Certification Statement	
General Actuarial Information	120
Summary of Benefit Provisions	121
Statement of Actuarial Methods and Assumptions	123
LTD Schedules	
Schedule of Benefit Recipients Added to and Removed from Rolls - Last 10 Years	
Schedule of Funding Progress – Last 10 Years	126
Solvency Test – Last 10 Years	126
Analysis of Financial Experience for LTD	

## Legislative Plan Changes

Summary of Legislative Plan Changes130
--

Arizona State Retirement Plan Actuarial Valuation - June 30, 2013

#### Actuarial Certification ARIZONA STATE RETIREMENT PLAN <u>Actuarial Certification Statement</u>

This is to certify that Buck Consultants has prepared an actuarial valuation of the Arizona State Retirement Plan as of June 30, 2013. The Plan provisions are described in Title 38, Chapter 4, Article 2 of the Arizona Revised Statutes. All benefits described in the statutes are reflected in this valuation, except that future PBI and enhanced PBI awards are not valued.

Actuarial calculations have been made with respect to a total of 540,933 members – 202,693 active members, 213,058 inactive members, 120,875 retired members and beneficiaries, and 4,307 members on long term disability. In addition, there are 192 System retirees receiving only ad hoc benefits, 521 System retirees receiving only health insurance benefits, and 106 System retirees receiving both ad hoc benefits and health insurance benefits from the Plan.

The actuarial calculations establish a total benefit cost of 22.96% of the annual compensation of members. The total normal cost rate is 13.45% of compensation and the required amortization payment determined in accordance with Section 38-737 is 9.51% of compensation.

#### Actuarial Valuation of the Plan as of June 30, 2013

We have made all calculations for this report in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the report's results comply with the requirements of the Arizona Constitution and statutes and, where applicable, the Internal Revenue Code, the Employee Retirement Income Security Act of 1974 (ERISA), and the Statements of the Governmental Accounting Standards Board. The undersigned actuary is independent. He is an Enrolled Actuary, Fellow of the Society of Actuaries and Member of the American Academy of Actuaries and meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained in this report. He is experienced in performing valuations for large public retirement systems and fully qualified to provide actuarial services to the State of Arizona. This report has been prepared in accordance with all applicable Actuarial Standards of Practice.

#### Actuarial Valuations

The primary purpose of the valuation report is to determine the required member and employer contribution rates, to describe the current financial condition of the Plan, and to analyze changes in the Plan's condition. In addition, the report provides information that ASRS requires in connection with Governmental Accounting Standards Board Statement Numbers 25 and 43 (GASB Nos. 25 and 43) and it summarizes census data.

Valuations are performed annually as of June 30, the last day of both the Plan year and ASRS' fiscal year.

#### Funding Objectives

The actuarial valuation calculates the contribution rates payable by members and participating employers. These rates, when applied to payroll, yield contribution amounts sufficient to provide for the normal cost and to amortize the Unfunded Actuarial Accrued Liability (UAAL) over the period specified in the statutes. The rate calculated becomes effective for the next fiscal year. For example, the rate calculated in the June 30, 2013, valuation report 11.48% for each member and each employer is applicable for the fiscal year beginning July 1, 2014.



#### Funding Progress

The 2012 valuation determined the rate for fiscal 2014 as 11.30%. The 2013 valuation calculates a rate of 11.48% to become effective July 1, 2014. These rates do not include contributions to the LTD program. Actual contributions have matched the calculated contributions in recent years except for temporary differences, and we assume that members and employers will continue to contribute the actuarially determined amounts. Contributing these amounts ensures the realization of funding objectives.

The ASRS Board has elected to amortize the UAAL over a closed 30-year period for 401(a) unfunded actuarial accrued liability and a closed 15-year period for the 401(h) unfunded actuarial accrued liability.

#### Benefit Provisions

Our valuation will reflect the following changes in Plan provisions as they become effective:

- <u>Survivor Benefits</u>: The legislation removed the requirement that a survivor's benefit must exceed \$5,000 to qualify for an annuity election. It limits the annuity option for the survivor to the single-life option, provided the annuity amount is greater than an amount selected by the ASRS Board (presently \$100 per month). It eliminates the present value calculation previously available if the member had reached early retirement eligibility or had 15 years of service.
- <u>Permanent Benefit Increases</u>: The legislation eliminates Permanent Benefit Increases for members hired after September 13, 2013.
- <u>Health Insurance Program</u>: The legislation permits the ASRS Board to establish a selfinsured health insurance program and an account to administer such a program, provided the self-insured program offers all the benefits required by Title 20.
- <u>Interest on Contribution Balances</u>: Interest is credited at 2% from July 1, 2013 for return of contributions upon termination and withdrawal of account balance.

Section 11 gives details of benefit provisions.

#### Assumptions and Methods

We performed an experience study for the five-year period ended June 30, 2012, and recommended assumption changes based on the findings. On May 24, 2013, the Board adopted revised actuarial assumptions to be effective June 30, 2013.

On November 15, 2002, the Board adopted a change in the method of valuing actuarial assets. The Board removed the requirement that actuarial assets be within 20% of market value and prospectively changed the period for recognizing investment gains or losses from five to ten years. Section 9 of this report provides details of the assumptions and methods. The assumptions are internally consistent and are reasonably based on the actual experience of the Plan. These assumptions are in full compliance with GASB Statement Nos. 25 and 43.

On November 18, 2013, the Board adopted a change in the amortization method. The amortization method was previously a rolling 30-year period amortization. The new method amortizes the 401(a) unfunded actuarial accrued liability as of June 30, 2013 over a closed 30-year period and the 401(h) unfunded actuarial accrued liability as of June 30, 2013 over a closed 15-year period.



#### Data

ASRS staff supplied census data for retired, active, and inactive members as of June 30, 2013. We have not audited these data, but have examined them for reasonableness and consistency with the prior year's data. ASRS staff also supplied asset information.

#### Trend Data and Supporting Schedules

ASRS prepared all trend data schedules in the financial section of ASRS' Comprehensive Annual Financial Report (CAFR). ASRS also prepared all supporting schedules in the actuarial section of the CAFR.

The actuarial cost factors as of June 30, 2013, for the total Plan are as follows:

A. Liabilities due to member's benefits						
	6		¢	c	e	
	A	0/64,902,004,9/0	A	0	A	12,952,664,976
<ul> <li>b. Health insurance premium supplement</li> </ul>		0		699,070,334		699,070,334
<ul> <li>Disability deferred retirement benefits</li> </ul>		346,835,482		0		346,835,482
d. Pre-retirement death benefits		204,460,957		0		204,460,957
e. Withdrawal benefits	3	1,109,748,086		0		1,109,748,086
f. Total active members	\$	14,613,709,501	\$	699,070,334	Ś	15,312,779,835
2. Inactive members		1,613,619,133		47,018,704		1,660,637,837
3. Retired members and beneficiaries		22,398,414,156		694,187,656		23,092,601,812
4. Disabled members (deferred retirement)		871,779,172		38,925,197		910,704,369
5. Benefit increases for other-than-plan members		1,650,427		5,618,364		7,268,791
6. Post-1981 System members		412,582,843		0		412,582,843
7. Total present value of benefits	Ś	39,911,755,232	Ś	1,484,820,255	\$	41,396,575,487
<li>B. Other miscellaneous liabilities and reserves</li>		0		0		0
C. Reserve for future PBIs		0		0		0
D. Total actuarial accrued liability	\$	39,911,755,232	S	1,484,820,255	\$	41,396,575,487
Actuarial value of assets <sup>1</sup>		30,110,632,566		1,324,595,696		31,435,228,262
Unfunded actuarial accrued liability (Item I. – Item II.)		9,801,122,666		160,224,559		9,961,347,225
Amortization of unfunded actuarial accrued liability (per Section 38-737)						
<ul> <li>Base unfunded actuarial accrued liability amortization at beginning of year</li> </ul>	\$	806,122,737	S	17,332,452	Ś	823,455,189
<ol> <li>Expected alternate contributions at beginning of year</li> </ol>		(22, 595, 752)		(512, 375)		(23, 108, 127)
. Interest to middle of year on A and B		31,341,079		672,803		32,013,882
<ol> <li>Total unfunded actuarial accrued liability amortization (A+B+C)</li> </ol>	\$	814,868,064	S	17,492,880	\$	832,360,944
Normal cost for the year						
<ol> <li>Normal cost at beginning of year</li> </ol>	69	1,099,143,459	S	32,745,588	S	1,131,889,047
B. Interest to middle of year		43,965,738		1,309,824		45,275,562
<ol> <li>Total normal cost for the year (A+B)</li> </ol>	69	1,143,109,197	S	34,055,412	S	1,177,164,609
Total contribution for the year (Item IV. + Item V.)	69	1,957,977,261	S	51,548,292	\$	2,009,525,553
Total covered payroll (projected to 2013/2014 plan year)	\$	8,752,783,004	S	8,752,783,004	S	8,752,783,004
Total contribution for fiscal year 2015 as a percentage of covered payroll						
A. Member portion		11.48%		0.00%		11.48%
B. Employer portion		10.89%		0.59%		11.48%
Total Total		22.37%		0.59%		22.96%
Present value of future covered payroll	\$	61,038,369,832	S	0	\$	61,038,369,832
Present value of future benefits <sup>1</sup>	69	48,188,460,956	S	1,614,118,469	\$	49,802,579,425
Present value of future normal cost (Item X. – Item I.D.)	\$	8,276,705,724	\$	129,298,214	\$	8,406,003,938

# ACTUARIAL CERTIFICATION - RETIREMENT AND HBS (CONTINUED)

The Board adopted a new asset valuation method (described in Section 9B) on November 15, 2002, to be effective for valuations on and after June 30, 2002.

On May 24, 2013 the Board adopted assumptions to be effective for valuations on and after June 30, 2013. Assumptions that were changed or added are identified below. These assumptions are as follows:

- 1. Investment yield 8% per annum net of all expenses.
- 2. Salary increases changed

Years of Service	Merit Component	Total Salary Increase*
1	3.75%	6.75%
2	3.00	6.00
3	1.90	4.90
4	1.35	4.35
5	1.05	4.05
6	0.95	3.95
7	0.75	3.75
8	0.60	3.60
9	0.60	3.60
10	0.40	3.40
11 to 19	0.20	3.20
20 or more	0.00	3.00

\* Total salary increase rate = wage inflation (or growth) rate (3.00%) + merit component

3. Rates of disability - changed

Age	Unisex Rates
20	0.05%
30	0.07
40	0.16
50	0.36
60	0.47

4. Rates of withdrawal - changed

Years of Service	Males	Females
Service	Iviaics	1 ciliales
0	18.50%	21.75%
1	15.75	17.00
2	12.75	14.75
3	10.75	11.75
4	9.50	10.25
5	8.50	9.75
6	7.75	8.50
7	6.75	7.75
8	5.75	6.25
9	5.50	5.75
10	5.25	5.00
11	4.75	4.50
12	4.25	4.10
13	3.50	3.80
14	3.25	3.50
15	3.00	3.25
16	2.75	3.00
17	2.75	2.75
18	2.50	2.50
19	2.25	2.25
20+	2.00	2.00

5. Rates of retirement - changed. Sample ages and years of service, where Tier 1 represents active members hired before July 1, 2011.

			Years of	fService	
Tier 1:	Age	0-3	11-18	25	31+
	50	0.00%	4.00%	5.00%	25.00%
	55	0.00	4.00	25.00	25.00
	60	0.00	9.00	25.00	25.00
	62	0.00	33.00	25.00	25.00
	65	33.00	33.00	33.00	33.00
	70	15.00	25.00	33.00	25.00
Tier 2:	Age	0-3	11-18	25	31+
	50	0.00%	4.00%	8.33%	14.00%
	55	0.00	4.00	10.89	33.00
	60	0.00	9.00	30.00	25.00
	62	0.00	33.00	25.00	25.00
	65	33.00	33.00	33.00	33.00
	70	15.00	25.00	33.00	25.00

Deferred vested members are assumed to retire at their normal retirement age.

- 6. Mortality rates changed 1994 GAM Static, Projected to 2015 with Projection Scale BB with adjustments for small and large benefit amounts. This mortality assumption was chosen to be used from June 30, 2013 to June 30, 2017. The rates were projected to the middle point of this period and include an appropriate level of conservatism that reflects expected future mortality improvements. 50% of the rates were used for active members.
- 7. Mortality rates after disability changed Post disablement mortality rates are based on experience of other large public sector system and ASRS' own experience.
- 8. Future Retirees Eligible for the Health Insurance Premium Supplement changed It is assumed that 60% of future retirees will be eligible to receive the post-retirement health insurance premium supplement and that 40% of those retirees will be eligible for the dependent premium supplement. These assumptions also apply to members who have been retired less than one year.
- 9. Portion of members who will not withdraw their contributions It is assumed that active members who terminate (prior to eligibility for retirement) and deferred vested members who have already terminated will choose to receive the enhanced refund option if the value of the enhanced refund option is greater than the present value of the deferred benefit. Otherwise, the members are assumed to elect to receive the deferred benefit. If the member is assumed to elect the enhanced refund option, then it is also assumed that the member forfeits the health insurance premium supplement.

Members who terminate eligible for early retirement are assumed to commence payments immediately.

- 10. Spouse Assumptions We assume that 100% of the members are married. We also assume that the husband is three years older than the wife.
- 11. Modified Cash Refund Assumption We assume that members who elect a single life annuity will receive accumulated benefit payments equal to their contributions after three years of being in receipt.
- 12. 415(b) Limits 415(b) limits are not applied in the Plan valuation because there is an excess plan that pays benefits above the 415(b) limit.
- 13. Optional Form load on liabilities changed A load of 0.174% has been added to the nonretired 401(a) liabilities to account for the election of optional forms other than a single life annuity.
- 14. Alternate Contribution Rate added The past service contribution rate is adjusted to consider alternate contribution rate payments.
- 15. Adjustment for Contribution Timing added Contribution rates are increased by ½ of a year's assumed interest to reflect the fact that ASRS receives contributions throughout the fiscal year.



The asset valuation method is the market value less ten year phase-in of excess (shortfall) investment income. See Section 9B.

The funding method is the projected unit-credit method as prescribed in Arizona Revised Statutes Section 38.757A. The Board elected to change the amortization schedule, effective with this valuation, to a closed 30-year period for the 401(a) portion of the Plan and to a closed 15-year period for the 401(h) portion.

The actuarial calculations have been performed by qualified actuaries in accordance with accepted actuarial procedures based on the current provisions of the Plan and on the actuarial assumptions adopted by the Board.

ASRS prepared all trend data schedules in the financial section and the supporting schedules in the actuarial section of its Comprehensive Annual Financial Report.

Sincerely,

Charles E Chittenter

Charles E. Chittenden, FSA, EA, MAAA

# **INDEPENDENT REVIEW OF 2013 ACTUARIAL VALUATIONS**



Gabriel Roeder Smith & Company Consultants & Actuaries 5605 N. MacArthur Blvd. Suite 870 Irving, TX 75038-2631 469.524.0000 phone 469.524.0003 fax www.gabrielroeder.com

June 13, 2014

Retirement Board Arizona State Retirement System 3300 North Central Avenue 14th Floor Phoenix, Arizona 85012

Dear Retirement Board Members:

Gabriel, Roeder, Smith & Company (GRS) is pleased to present this report of an actuarial audit of the June 30, 2013 actuarial valuations of the Arizona State Retirement System (ASRS) retirement programs. The scope of our actuarial audit included the ASRS Plan (pension and health benefits), the ASRS System (pension and health benefits), and the Long Term Disability Program (LTD). We are grateful to the ASRS staff and Buck Consultants (Buck), the retained actuary, for their cooperation throughout the actuarial audit process.

This actuarial audit involves an independent verification and analysis of the assumptions, procedures, methods, and conclusions used by the retained actuary for ASRS, in the actuarial valuations of ASRS as of June 30, 2013, to ensure that the conclusions are technically sound and conform to the appropriate Standards of Practice as promulgated by the Actuarial Standards Board.

GRS is pleased to report to the Board, in our professional opinion, the June 30, 2013 actuarial valuations prepared by the retained actuary provide fair and reasonable assessments of the financial position of ASRS.

Throughout this report we make a number of suggestions for ways to improve the work product. We hope that the retained actuary and ASRS find these items helpful. Thank you for the opportunity to work on this assignment.

Mr. Falls is an Enrolled Actuary, a Fellow of the Society of Actuaries, and a Member of the American Academy of Actuaries. He meets the Qualification Standards of the American Academy of Actuaries to render the actuarial opinion contained herein. Both Mr. Falls and Mr. Ward are experienced in performing valuations for large public retirement systems.

Respectfully submitted, Gabriel, Roeder, Smith & Company

Lyn Jolls

R. Ryan Falls, FSA, FCA, MAAA, EA Senior Consultant

Lewis Ward

Lewis Ward Consultant

# **Funding Objective**

The funding objective of the Arizona State Retirement System is to maintain reasonably stable contribution rates and to achieve an ultimate funded status of 100%. The Board of Trustees is responsible for establishing and maintaining the funding policy.

The actuarial cost methodology utilized for funding purposes differs from the actuarial cost methodology utilized for financial reporting purposes. The identification and discussion regarding the differences between the actuarial assumptions for financial reporting purposes and those utilized for funding purposes is contained in the Notes to the Basic Financial Statements. The Projected Unit Credit (PUC) Method is utilized as the actuarial cost methodology for funding purposes. The ASRS has been utilizing the PUC since 1989, when it became law in 1989 as a result of action taken by the legislature.

As of June 30, 2013, the date of the most recent actuarial valuation, this funding level is 75.9%. When the present actuarial asset value of \$31.4 billion is compared to the actuarial liabilities of \$41.4 billion, actuarial liabilities exceed actuarial assets by the amount of \$10.0 billion.

As of fiscal year 2008, statutory changes require annual actuarial valuations, not the biannual valuation required by a prior statutory change effective in 1998. The rates determined by the Plan, System and HBS (combined) valuations do not include contributions to the LTD program.

Please reference the ten-year schedule of actuarially determined and actual contributions in Required Supplementary Information.

# **Asset Valuation**

The ASRS actuary determines the actuarial value of assets by recognizing investment gains and losses over a period of time. For gains and losses that occurred before fiscal 2002, the period is five years. For gains and losses that occurred in fiscal 2002, or later years, the period is ten years. The gradual recognition of investment gains and losses reduces volatility in the year-to-year level of contribution rates.

# Long-Term Disability Benefit

In addition to pension, health insurance, and survivor benefits, the ASRS also offers a long-term disability benefit.

Effective October 1, 1995, to comply with Internal Revenue Code requirements, liabilities associated with the long-term disability benefit was separated from the Plan. No assets were transferred to the LTD fund. Accordingly, the objectives of the funding method that the Board adopted for the LTD program have been:

- To produce a positive cash flow
- To maintain reasonably stable contribution rates
- To build up the assets gradually

As determined by the 2013 actuarial report, the LTD contribution rate is .48%, .24% for employees and .24% for employees. These rates are effective for FY 2014.

# Summary of Actuarial Method for Long-Term Disability Benefit

The actuarial cost method changed, effective for the 2005 valuation, to the projected unit credit method. Assets are valued at market, less (or plus) an adjustment to reflect investment gains (or losses) over a 10-year period. This method applies to gains and losses incurred in fiscal 2006 and later years. The unfunded actuarial accrued liability is amortized over 15 years in level dollar payments.

The Arizona State Retirement Plan makes provision for the retirement, disability, and death and survivor benefits to all employees of the State, instrumentalities of the State and certain political subdivisions. Please refer to the Financial Section of this report for an in-depth discussion of plan provisions. The major provisions of the Plan may be summarized as follows:

# **A. RETIREMENT BENEFITS**

## 1. Normal Retirement Date (the earliest of the following):

- a) a member's sixty-fifth birthday,
- b) a member's sixty-second birthday and completion of at least ten years of credited service, or
- c) the first day immediately following the day that the sum of the member's age and his years of total credited service equal eighty for members hired before July 1, 2011 or for members hired on or after July 1, 2011, age 60 with 25 years of credited service or age 55 with 30 years of service.

## 2. Monthly Life Annuity

The product of a benefit multiplier (as determined below) and the member's best 36 month average compensation (in last 120 months) for members hired before July 1, 2011 and 60-month average compensation (in last 120 months) for members hired on or after July 1, 2011 multiplied by his or her years of total credited service. Members who commenced membership prior to 1984 can use a 60-month average and include additional types of compensation, if doing so produces a larger result.

Years of Credited Service	Benefit Multiplier
Less than 20	2.10%
20.0 to 24.99	2.15%
25.0 to 29.99	2.20%
30 or more	2.30%

## 3. Normal Retirement Benefits

The sum of the monthly life annuity and any prior service benefits to which the employee was entitled under the System.

## 4. Early Retirement

Age 50 with 5 or more years of credited service.

## 5. Early Retirement Benefits

If not eligible for normal retirement and at least age 50 with 5 years of total credited service, normal retirement benefit earned to the date of retirement, reduced according to the following table:

Years of Service						A	ge at l	Date d	of Reti	reme	nt					
	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65
Members Hired Before July 1, 2011																
5-9.99	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	88%	91%	94%	97%	100%
10-19.99	44%	49%	54%	59%	64%	69%	74%	79%	84%	89%	94%	97%	100%	100%	100%	100%
20+	50%	55%	60%	65%	70%	75%	80%	85%	90%	95%	100%	100%	100%	100%	100%	100%
Members Hired On or After July 1, 2011																
5-9.99	35%	40%	45%	50%	55%	60%	65%	70%	75%	80%	85%	88%	91%	94%	97%	100%
10-24.99	44%	49%	54%	59%	64%	69%	74%	79%	84%	89%	94%	97%	100%	100%	100%	100%
25-29.99	44%	49%	54%	59%	64%	69%	74%	79%	84%	89%	100%	100%	100%	100%	100%	100%
30+	44%	49%	54%	59%	64%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%	100%

Provided, however, that if the member meets the Rule of 77 (but not the Rule of 80), the reduction will be 3% for each unit below 80 for members hired before July 1, 2011.

#### 6. Normal Form of Benefit

Straight life annuity with cash refund feature payable monthly with benefits commencing on the day following the date of termination of employment.

## 7. Optional Forms

- a) joint and contingent annuity (with pop-up) with either 100%, 66-2/3% or 50% of the reduced retirement income payable for the life of the contingent annuitant upon the death of the retiring participant, or
- b) period certain and life annuity (with pop-up) with either five, ten, or fifteen years of payments guaranteed

## 8. Minimum Benefit

The minimum monthly benefit payable to a retired member who is at least age 75 and who has 20 or more years of service is \$600.

# B. DISABILITY BENEFITS (for disability after June 30, 1988)

## 1. Long-Term disability

Monthly benefit equal to two-thirds of monthly compensation, reduced by percentages of other income received payable commencing six months after date of disability until the earlier of:

- a) Date of cessation of total disability, or
- b) Normal retirement date.

This benefit is paid by a separate LTD plan.

## 2. Disability Payments if Member Remains Disabled Through Normal Retirement Date

Monthly benefit participant would have received if service had continued to normal retirement date assuming the participant's salary remained at the level it was at his or her date of disability, also provided that the amount of total credited service is limited to 30 years unless he or she had more than 30 years at date of disability.

## 3. The minimum monthly benefit payable to a disabled participant is \$50.00.

## C. DISABILITY BENEFITS (for disability before July 1, 1988)

## 1. Eligibility

Age 50 with 5 years of service.

## 2. Benefit Amount

A life annuity that can be provided by the member's contribution account. Disability payments after normal or early retirement eligibility are reduced by the actuarial value of the disability payments made up to the date of normal or early retirement eligibility.

# **D. PRE-RETIREMENT DEATH BENEFITS**

## 1. Eligibility

Applicable if death occurs prior to retirement.

## 2. Benefit

Any one of the following, at the option of the beneficiary:

- a) a lump sum equal to the sum of (i) and (ii):
  - i) the sum of the member's member and employer balances, and
  - ii) the amount of the member's employee and employer accounts, along with supplemental credits, if any, transferred from the System to the Plan, with interest
- b) the beneficiary may elect to receive a monthly income, in the single life form, which is actuarially equivalent to the amount in (a).

# **E. VESTING OF BENEFITS**

## 1. Vesting

A member is fully vested in his or her accrued benefit.

## 2. Benefits Upon Vesting

A fully vested member is entitled to either:

- a) the enhanced refund option for members hired before July 1, 2011 or for members terminated due to an Employer Reduction in Force or position elimination for members hired on or after July 1, 2011, or
- b) the retirement benefit payable at normal retirement earned to the date of member's termination.

The enhanced refund option allows members who terminate prior to eligibility for retirement to receive a refund of their member contributions with interest. In addition, if a member has at least five years of service, he or she is also entitled to a share of the employer contributions with interest. The share is 25% for members with five years of service and increases 15% for each additional year of service up to a maximum of 100% for ten or more years of service. The Board reduced the interest rate to be credited on refund of contributions from 8% to 4%, effective June 30, 2005, and from 4% to 2% effective June 30, 2013.

# F. RETIREE HEALTH INSURANCE PREMIUM SUPPLEMENT

## 1. Eligibility

Retirement or disability after 5 years of credited service and covered by an employer-sponsored group insurance program for which the retired or disabled member must pay part of the cost. Employees who elect the enhanced refund option are not eligible for this benefit.

## 2. Benefit

The benefit is payable only with respect to allowable health insurance premiums for which the participant is responsible. The maximum benefits for participants with 10 or more years of service are:

- a) with respect to premiums paid for retirees with member only coverage:
  - \$150 per month if the retiree is under age 65
  - \$100 per month if the retiree is 65 or over
- b) with respect to premiums paid for retirees with family coverage:
  - \$260 per month if the member and dependents are under age 65
  - \$170 per month if the member and dependents are 65 or over
  - \$215 per month if the member is over age 65 and the dependent is under age 65
  - \$215 per month if the member is under age 65 and the dependent is over age 65

For members with five to nine years of service, the benefits are the same dollar amounts as above multiplied by a vesting fraction equal to 10 percent for each completed year of service (i.e., 50 percent to 90 percent).

# G. AUTOMATIC COST OF LIVING ADJUSTMENT BASED ON EXCESS INVEST-MENT EARNINGS

## 1. Permanent Benefit Increase (PBI)

Retirees who have been retired one year and LTD members are eligible for a PBI up to a maximum of a 4% increase. The PBI is paid from a reserve of "Excess Investment Earnings." If there are no "Excess Investment Earnings" in reserve, then no PBI is paid.

#### 2. Permanent Benefit Increase Enhancement

Provides retired members with at least ten years of service who have been retired five or more years an additional benefit. For each complete 5-year period the member has been retired an incremental benefit is paid if monies to pay the benefit are available. This benefit is funded by an interest credit of 8.0% of the reserve for future PBIs.

PBI and enhanced PBI benefits are reflected in the valuation as soon as they are awarded. Future PBI and enhanced PBI are not included in the valuation.

Due to legislation enacted in the 2013 legislative session, PBIs and enhanced PBIs will not be awarded to members hired after September 13, 2013.

# **H. EMPLOYEE AND EMPLOYER CONTRIBUTIONS**

The contribution rate for the fiscal year beginning on July 1st is based on the results of the most recent actuarial valuation as of the last day of the preceding plan year. The member's contribution rate is equal to the required employer contribution rate. The contribution rate for fiscal year 2014 is 11.30% for each member and each employer, based on the 2012 actuarial valuation. The contribution rate for fiscal year 2015 will be 11.48% based on this valuation. Interest is credited at 8.00%; however, interest is credited at 4% from July 1, 2005 and 2% from July 1, 2013 for return of contributions upon withdrawal. Please refer to the ten-year schedule of actuarially determined and actual contributions provided in Required Supplementary Information.

## ADOPTED BY BOARD ACTION ON MAY 24, 2013 EFFECTIVE AS OF JUNE 30, 2013

# **A. Actuarial Assumptions**

Determined from experience analysis from July 1, 2007 through June 30, 2012. Any changes as a result of the actuarial study or plan provisions have been taken into account in the most recent actuarial valuation.

## 1. Investment Yield Rate<sup>1</sup>

8% per annum compounded annually, net of all expenses (determined from the Board's strategic session).

#### 2. Mortality

The mortality assumption was chosen to be used from June 30, 2013 to June 30, 2017. The rates were projected to the middle point of this period and include an appropriate level of conservatism that reflects expected future mortality improvements.

#### a) Pre-retirement

Assumption: 50% of 1994 GAM – Static, Projected to 2015 With Projection Scale BB, with no setback. Rates at representative ages are shown below:

Rates of Mortality (Active)					
AGE	MALE PARTICIPANTS	FEMALE PARTICIPANTS			
20	0.000207	0.000128			
25	0.000270	0.000127			
30	0.000269	0.000146			
35	0.000292	0.000211			
40	0.000406	0.000344			
45	0.000692	0.000476			
50	0.001127	0.000639			
55	0.001882	0.000987			
60	0.003149	0.001779			
65	0.005325	0.003450			
70	0.008633	0.005639			
75	0.013718	0.009380			
80	0.023121	0.016632			
85	0.038025	0.029474			
90	0.066498	0.052712			

<sup>1</sup>The assumed rate of return on pension assets is different from the rate used to discount the actuarial accrued liability.

#### b) Post-retirement

Assumptions: Non-Disabled rates are based on the 1994 GAM – Static, Projected to 2015 with Projection Scale BB with adjustments for small and large benefit amounts. Disabled rates are based on the experience of other large public sector retirement systems and ASRS' own experience. Rates (with no adjustments for benefit amount) at representative ages are shown below.

	Rates of Mortality					
	Male Part	icipants	Female Par	ticipants		
AGE	NON-DISABLED	DISABLED	NON-DISABLED	DISABLED		
20	0.000414	0.034940	0.000256	0.026940		
25	0.000539	0.038890	0.000253	0.027440		
30	0.000538	0.051100	0.000292	0.038300		
35	0.000584	0.063540	0.000423	0.053930		
40	0.000812	0.058810	0.000688	0.056980		
45	0.001384	0.040920	0.000951	0.037590		
50	0.002253	0.034740	0.001277	0.025700		
55	0.003763	0.031360	0.001975	0.022840		
60	0.006299	0.031110	0.003558	0.018030		
65	0.010650	0.030860	0.006901	0.013930		
70	0.017267	0.033730	0.011278	0.012990		
75	0.027435	0.048250	0.018760	0.020770		
80	0.046241	0.055540	0.033265	0.036470		
85	0.076050	0.090010	0.058948	0.063400		
90	0.132997	0.146340	0.105424	0.112480		

## 3. Disability Rates

Rates of Decr	ement Due to Disability
AGE	UNISEX RATES
20	0.000491
25	0.000541
30	0.000654
35	0.000997
40	0.001583
45	0.002449
50	0.003649
55	0.004280
60	0.004655

4. **Withdrawal Rates** (for causes other than death, disability or retirement) Rates by completed years of service are shown below:

Y

Rate of De	ecrement Due to	Withdrawal
EARS OF SERVICE	MALES	FEMALES
0	18.50%	21.75%
1	15.75%	17.00%
2	12.75%	14.75%
3	10.75%	11.75%
4	9.50%	10.25%
5	8.50%	9.75%
6	7.75%	8.50%
7	6.75%	7.75%
8	5.75%	6.25%
9	5.50%	5.75%
10	5.25%	5.00%
11	4.75%	4.50%
12	4.25%	4.10%
13	3.50%	3.80%
14	3.25%	3.50%
15	3.00%	3.25%
16	2.75%	3.00%
17	2.75%	2.75%
18	2.50%	2.50%
19	2.25%	2.25%
20+	2.00%	2.00%

## 5. Salary Scales

A select and ultimate salary scale made up of a merit component and general salary increase component as follows:

		Total Salary
Years of Service	Merit Component	Increase <sup>1</sup>
1	3.75%	6.75%
2	3.00%	6.00%
3	1.90%	4.90%
4	1.35%	4.35%
5	1.05%	4.05%
6	0.95%	3.95%
7	0.75%	3.75%
8	0.60%	3.60%
9	0.60%	3.60%
10	0.40%	3.40%
11 to 19	0.20%	3.20%
20 or more	0.00%	3.00%

<sup>1</sup> Total salary increase rate = wage inflation (or growth) rate (3.00%) + merit component

## 6. Retirement Age

Select and ultimate retirement rates are used. Rates at representative ages and years of service are shown below:

		<b>crement Due to</b> DF SERVICE - ALL M		
AGE	0-3	11-18	25	31+
Tier 1 <sup>1</sup> :				
50	0.00%	4.00%	5.00%	25.00%
55	0.00%	4.00%	25.00%	25.00%
60	0.00%	9.00%	25.00%	25.00%
62	0.00%	33.00%	25.00%	25.00%
65	33.00%	33.00%	33.00%	33.00%
Tier 2:				
50	0.00%	4.00%	8.33%	14.00%
55	0.00%	4.00%	10.89%	33.00%
60	0.00%	9.00%	30.00%	25.00%
62	0.00%	33.00%	25.00%	25.00%
65	33.00%	33.00%	33.00%	33.00%
70	15.00%	25.00%	33.00%	25.00%

<sup>1</sup>Tier 1 represents active members hired before July 1, 2011.

Deferred vested members are assumed to retire at normal retirement age.

#### 7. Future Retirees Eligible for the Health Insurance Premium Supplement

It is assumed that 60% of future retirees will be eligible to receive the post-retirement health insurance premium supplement and that 40% of those retirees will be eligible for the dependent premium supplement. These assumptions also apply to members who have been retired less than one year.

## 8. Proportion of Vested Term Members Who Will Not Withdraw Their Contributions

It is assumed that active members who terminate (prior to eligibility for retirement) and deferred vested members who have already terminated will choose to receive the enhanced refund option if the value of the enhanced refund option is greater than the present value of the deferred benefit. Otherwise, the members are assumed to elect to receive the deferred benefit. If the member is assumed to elect the enhanced refund option, then it is also assumed that the member forfeits the health insurance premium supplement.

Members who terminate eligible for early retirement are assumed to commence payments.

#### 9. Spouse Assumptions

We assume that 100% of the members are married. We also assume that the husband is three years older than the wife.

#### 10. Modified Cash Refund Assumption

We assume that members who elect a single life annuity will receive accumulated benefit payments equal to their contributions after three years of being in receipt.

#### 11. 415 (b) Limits

415(b) limits are not applied in the Plan valuation because there is an excess plan that pays benefits above the 415(b) limit.

## 12. Optional Form Load

A load of 0.174% has been added to the non-retired 401(a) liabilities to account for the election of optional forms other than a single life annuity.

#### 13. Alternate Contribution Rate

The past service contribution rate is adjusted to consider alternate contribution rate payments. The past amortization amount was reduced by the anticipated amount of alternate contributions, and adjusted for interest. Previously, no adjustment was made for alternate contribution rate payments.

**14.** Adjustment for Contribution Timing – determined from experience analysis for July 1, 2007 through June 30, 2012

Contribution rates are increased by  $\frac{1}{2}$  of a year's interest to reflect the fact that contributions are made throughout the fiscal year. Previously, no adjustment was made for contribution rate timing.

#### 15. Future Permanent Benefit Increases

Future PBIs are not valued.

## **B. Actuarial Value of Assets**

The actuarial value of assets is equal to the market value of assets less a ten-year phase in (five-year phase-in prior to June 30, 2002) of the Excess (Shortfall) between expected investment return and actual income on the market value of assets. There is no corridor around market value within which the actuarial value is required to fall.

# **C. Actuarial Funding Method**

Costs are determined under the projected unit credit method. The unfunded actuarial accrued liability was previously funded on a level dollar basis over the period of time described in Section 38-737. Effective with the 2013 valuation, the ASRS Board determines the method of amortizing the unfunded actuarial accrued liability. For the actuarial valuation as of June 30, 2013, the period is a closed 30-year period for the 401(a) portion of the Plan and a closed 15-year period for the 401(h) portion.

## **D.** Data for Valuation

In preparing the actuarial valuation as of June 30, 2013, the actuary has relied on data and assets provided by the staff of the Arizona State Retirement System. While not verifying the data at their source, the actuary has performed tests for consistency and reasonableness.

# Schedule of Retirement Active Member Valuation Data

Last 10 Years

ERAGE INCREASE IN AVERAGE PAY
6 420
1.0%
7,853 3.9%
8,185 0.9%
0,901 7.1%
2,879 4.8%
4,198 3.1%
4,115 -0.2%
3,365 -1.7%
3,475 0.3%
3,182 -0.7%

# Schedule of Retirement Retirees Added to and Removed From Rolls

Last 10 Years

Valuation as of June 30	s of Beneficiaries Added to		Ben	irants and neficiaries ed from Rolls	Benefici	irants and aries Rolls End of Year	% Increase in Annual Allowance	Average Annual Allowances
	NO.	ANNUAL ALLOWANCES	NO.	ANNUAL ALLOWANCES	NO.	ANNUAL ALLOWANCES <sup>1</sup>		
2004	6,430	\$ 169,063,326	2,196	\$ 26,982,679	68,931	\$1,230,025,859	13.1%	\$ 17,844
2005	7,005	136,009,712	2,083	29,472,225	73,853	1,336,563,347	8.7%	18,098
2006	7,143	170,867,676	2,498	32,717,257	78,498	1,474,713,766	10.3%	18,787
2007	7,393	144,536,847	2,297	30,532,270	83,594	1,588,718,343	7.7%	19,005
2008	7,784	148,885,733	2,422	33,418,979	88,956	1,704,185,097	7.3%	19,158
2009	7,958	153,218,995	2,490	30,033,184	94,424	1,827,370,908	7.2%	19,353
2010	9,360	176,419,906	2,477	35,666,261	101,307	1,968,124,553	7.7%	19,427
2011	9,288	179,066,507	2,599	38,511,310	107,926	2,108,679,750	7.1%	19,526
2012	9,227	171,972,274	2,792	41,695,405	114,431	2,238,956,619	6.2%	19,566
2013	9,489	175,974,484	3,045	47,326,711	120,875	2,367,604,392	5.7%	19,587

<sup>1</sup> Cost of Living Increases included here.

# Schedule of HBS Retirees Added to and Removed From Rolls

Last 5 Years<sup>1</sup>

Valuation as of June 30	Retirants and Beneficiaries Added to Rolls			Be	Retira neficiar fron	ies	Removed	Bene	eficia	nts and ries Rolls f Year	% Increase in Annual	Average Annual Allowances	
	NO.	ANNU ALLOWA			NO.		ANNUAL OWANCES	NO.	A	ANNUAL			
2009	N/A		N/A		N/A		N/A	54,753	\$	82,222,248	N/A	\$	1,502
2010	5,689	\$ 10,3	58,376	\$	1,821	\$	6,487,680	57,795		86,092,944	4.7%		1,490
2011	6,047	10,4	59,392		3,199		7,707,744	60,643		88,844,592	3.2%		1,465
2012	5,867	9,7	54,788		3,285		8,936,184	63,225		89,663,196	0.9%		1,418
2013	5,861	9,4	34,508		4,159		9,127,908	64,927	2	89,969,796	0.3%		1,386

<sup>1</sup> Information not available for prior years.

<sup>2</sup> Includes 627 System members receiving HBS benefits and 1,516 members receiving LTD benefits and HBS benefits.

# Schedule of Funding Progress (Retirement and HBS combined)

Last 10 Years

Year Ended June 30	Li	Actuarial Accrued iabilities Plan	Ad	ctuarial Value of Net Plan Assets	Assets as a % of Accrued Liabilities Plan	Unfunded Actuarial Accrued abilities Plan (UAL)	Covered Employee Payroll	UAL as a % of Covered Employee Payroll
2004	\$	25,918,329,505	\$	23,642,904,763	91.2%	\$ 2,275,424,742	\$ 7,485,590,038	30.4%
2005		27,942,601,285		23,836,519,123	85.3%	4,106,082,162	8,032,457,947	51.1%
2006		29,696,631,262		24,851,522,776	83.7%	4,845,108,486	8,311,869,615	58.3%
2007		31,995,671,426		26,476,687,905	82.8%	5,518,983,521	9,161,803,726	60.2%
2008		33,870,864,745		27,851,825,730	82.2%	6,019,039,015	9,708,352,896	62.0%
2009		35,742,538,572		28,360,159,450	79.3%	7,382,379,122	9,834,810,345	75.1%
2010		37,557,862,066		28,823,144,688	76.7%	8,734,717,378	9,419,951,810	92.7%
2011		38,555,369,013		29,230,960,267	75.8%	9,324,408,746	9,060,630,604	102.9%
2012		39,952,371,191		30,229,577,272	75.7%	9,722,793,919	8,868,678,184	109.6%
2013		41,396,575,487		31,435,228,262	75.9%	9,961,347,225	8,752,783,004	113.8%

# Solvency Test (Retirement)

Last 10 Years

	Aggregate Accrued Liabilities for: ACTIVE MEMBERS (EMPLOYER Net Assets											
Year End			CTIVE MEMBER RETIREES AND ONTRIBUTIONS BENEFICIARIES			FINANCED PORTION)	Available for Benefits	-	sets Benefits			
June 30			(1)		(2)		(3)		(1)	(2)	(3)	
2004		\$	3,407,611,954	\$	11,888,766,685	\$	9,209,865,919 <sup>1</sup>	\$ 22,659,396,325	100%	100%	79.9%	
2005			3,717,945,957		12,970,620,699		9,797,630,212 <mark>1</mark>	22,808,290,293	100%	100%	62.5%	
2006			4,168,243,157		13,998,186,812		10,025,660,085 <sup>1</sup>	23,766,572,590	100%	100%	55.9%	
2007			5,533,036,906		15,191,806,375		9,665,632,410	25,309,888,063	100%	100%	47.4%	
2008			6,256,502,949		16,357,773,654		9,810,200,566	26,612,440,139	100%	100%	40.8%	
2009			7,054,925,502		17,455,947,713		9,779,242,657	27,093,788,614	100%	100%	26.4%	
2010	2		7,704,328,621		19,246,476,421		9,121,714,675	27,571,999,406	100%	100%	6.8%	
2011			8,374,149,814		20,541,081,742		8,135,947,783	27,983,517,225	100%	95.5%	0.0%	
2012			9,110,894,718		21,699,459,353		7,639,934,669	28,948,010,913	100%	91.4%	0.0%	
2013			9,917,301,188		23,684,426,598		6,310,027,446	30,110,632,566	100%	85.3%	0.0%	

<sup>1</sup> 401(a) liabilities for 2006 and earlier include 401 (h) liabilities for inactive members.

<sup>2</sup> 2010 and subsequent years results include System liabilities and assets for members who retired or will retire on or after July1, 1981.

# Solvency Test (HBS)

Last 10 Years

Year End	Aggrega ACTIVE MEMBER CONTRIBUTIONS	CCRUED LIADI	( F	s for: ACTIVE MEMBERS EMPLOYER FINANCED PORTION)	Net Assets Available for Benefits	Portion of Accrued Liabilities Covered by Net Assets Available for Benefits				
June 30	(1)		(2)		(3)		(1)	(2)	(3)	
2004	\$ -	\$	533,183,961	\$	878,900,986 <sup>3</sup>	\$ 983,508,438	100%	100%	51.2%	
2005	-		552,285,029		904,119,388 <sup>3</sup>	1,028,228,830	100%	100%	52.6%	
2006	-		578,560,443		925,980,765 <mark>3</mark>	1,084,950,186	100%	100%	54.7%	
2007	-		598,088,408		1,007,107,327	1,166,799,842	100%	100%	56.5%	
2008	-		619,808,594		826,578,982	1,239,385,591	100%	100%	75.0%	
2009	-		627,536,754		824,885,946	1,266,370,836	100%	100%	77.4%	
2010	-		652,876,059		832,466,290	1,251,145,282	100%	100%	71.9%	
2011	-		669,593,178		834,596,496	1,247,433,042	100%	100%	69.2%	
2012	-		674,713,116		827,369,335	1,281,566,359	100%	100%	73.3%	
2013	-		738,731,217		746,089,038	1,324,596,696	100%	100%	78.5%	

<sup>3</sup> HBS Liabilities for 2006 and earlier are included in Plan liabilities for inactive members.

# **Analysis of Financial Experience for Retirement**

Last 10 Years (Dollars in Millions)

	Unfunded Actuarial	Normal								
Year Ended June 30	Liability (UAAL) Prior Year	Cost for the	Contributions for the Year	Interest at 8% on UAAL	On Normal Cost	On Contributions	Total	Expected UAAL	Actual UAAL	Gain (Loss) for the Year <sup>1</sup>
2004	\$ 362.74	\$ 900.43	\$ (786.31)	\$ 29.02	\$ 72.03	\$ (31.45)	\$ 69.60	\$ 546.46	\$ 1,846.85	\$ (1,300.39)
2005	1,846.85	958.24	(861.35)	147.75	76.66	(34.45)	189.95	2,133.69	3,677.91	(1,544.22)
2006	3,677.91	1,023.15	(1,171.73)	294.23	81.85	(46.87)	329.22	3,858.54	4,425.52	(566.98)
2007	4,425.52	1,116.57	(1,527.70)	354.04	89.33	(61.11)	382.26	4,396.65	5,080.59	(683.94)
2008	5,080.59	1,165.17	(1,616.67)	406.45	93.21	(64.67)	434.99	5,064.08	5,812.04	(747.96)
2009	5,812.04	1,205.10	(1,598.33)	464.96	96.41	(63.93)	497.44	5,916.24	7,196.33	(1,280.08)
2010	7,196.33	1,234.67	(1,571.82)	575.71	98.77	(62.87)	611.61	7,470.79	8,500.52	(1,029.73)
2011	8,500.52	1,215.14	(1,619.79)	680.04	97.21	(64.79)	712.46	8,808.33	9,067.66	(259.33)
2012	9,067.66	1,170.47	(1,758.02)	725.41	93.64	(70.32)	748.73	9,228.84	9,502.28	(273.44)
2013	9,502.28	1,164.58	(1,859.21)	760.18	93.17	(74.37)	778.98	9,586.63	9,801.12	(214.49)

# **Analysis of Financial Experience for HBS**

Last 10 Years (Dollars in Millions)

		funded tuarial	Normal													
Year Ended June 30	Lia (L	ability JAAL) or Year	Cost for the Year	Contributions for the Year	а	terest it 8% i UAAL	No	On ormal Cost	Co	On ntributions	-	Total	(pected UAAL	Actual UAAL	(Lo	Gain oss) for e Year <sup>1</sup>
2004	\$	424.00	\$ 50.35	\$ (79.66)	\$	33.92	\$	4.03	\$	(3.19)	\$	34.76	\$ 429.46	\$ 428.57	\$	0.89
2005		428.57	51.98	(85.35)		34.29		4.16		(3.41)		35.03	430.23	428.17		2.06
2006		428.17	52.31	(93.46)		34.25		4.18		(3.74)		34.70	421.72	419.59		2.13
2007		419.59	55.04	(103.47)		33.57		4.40		(4.14)		33.83	404.99	438.39		(33.40)
2008		438.39	53.73	(99.03)		35.07		4.30		(3.96)		35.41	428.50	207.00		221.50
2009		207.00	46.38	(90.48)		16.56		3.71		(3.62)		16.65	179.55	186.05		(6.50)
2010		186.05	41.88	(59.39)		14.88		3.35		(2.38)		15.85	184.39	234.20		(49.81)
2011		234.20	40.28	(51.05)		18.74		3.22		(2.04)		19.92	243.35	256.75		(13.40)
2012		256.75	38.42	(54.46)		20.54		3.07		(2.18)		21.43	262.14	220.51		41.63
2013		220.51	35.54	(57.16)		17.64		2.84		(2.28)		18.20	217.09	160.23		56.86

<sup>1</sup> Gain/Loss includes assumption and plan changes.

Values shown for valuation dates on or after June 30, 2010, for the above two schedules, include System assets and liabilities for members who retired or will retire on or after July 1, 1981.

# **buck**consultants

# A Xerox Company

January 17, 2014

Retirement Board Arizona State Retirement System 3300 North Central Avenue 14<sup>th</sup> Floor Phoenix, AZ 85012

#### Valuation of the ASRS Long Term Disability Program as of June 30, 2013

Dear Retirement Board Members:

We certify that the information contained in the attached 2013 actuarial valuation report is accurate and fairly presents the actuarial position of the Arizona State Retirement System (ASRS) Long Term Disability Program (the LTD Program) as of June 30, 2013.

We have made all calculations for this report in conformity with generally accepted actuarial principles and practices, and with the Actuarial Standards of Practice issued by the Actuarial Standards Board. In our opinion, the report's results comply with our understanding of the requirements of the Arizona Constitution and statutes and, where applicable, the Internal Revenue Code, the Employee Retirement Income Security Act of 1974 (ERISA), and the Statements of the Governmental Accounting Standards Board. The undersigned actuaries are independent. Two of them are Enrolled Actuaries, they are all members of the American Academy of Actuaries, two are Fellows and one is an Associate of the Society of Actuaries, and they jointly meet the Qualification Standards of the American Academy of Actuaries to render the actuarial opinions contained herein. They are experienced in performing valuations for large public retirement systems and long term disability valuations and are qualified to provide actuarial services to the State of Arizona. The undersigned actuaries are not qualified as attorneys or accountants, so their views on such matters are subject to opinion of counsel and auditors.

#### **Actuarial Valuations**

The primary purpose of the valuation report is to determine the required member and employer contribution rates, to describe the current financial condition of the LTD Program, and to analyze changes in the LTD Program's condition. In addition, the report provides information that ASRS requires for its Comprehensive Annual Financial Report. The report also summarizes census data. Use of this report for any other purposes or by anyone other than ASRS and its auditors may not be appropriate and may result in mistaken conclusions because of failure to understand applicable assumptions, methods, or inapplicability of the report for that purpose. The attached pages should not be provided without a copy of this cover memorandum. No one may make any representations or warranties based on any statements or conclusions contained in this report without Buck Consultants' written consent.

Valuations are performed annually as of June 30 which is the last day of both the LTD Program year and ASRS' fiscal year.

3200 N Central Avenue, Suite 2200 • Phoenix, AZ 85012 602.864.3500 • 602.864.3535 (fax) Retirement Board January 17, 2014 Page 2

#### **Funding Objectives**

The actuarial valuation calculates the contribution rates payable by members and participating employers. These rates, when applied to payroll, yield contribution amounts sufficient to fund the normal cost plus the amortization of unfunded actuarial accrued liability over a closed 15-year period. Contribution rates are set annually, based on the valuation of the preceding year. The rate calculated in this report (0.24% in total) will apply in the fiscal year beginning July 1, 2014. The LTD program is meeting its funding objectives.

#### **Experience Studies**

Most of the assumptions of the LTD program are also assumptions of the ASRS defined benefit plan (the Plan). The actuary performs experience studies for ASRS every five years. The most recent experience study was completed in 2013 using experience from July 1, 2007 to June 30, 2012. Revised actuarial assumptions were approved and implemented for the June 30, 2013 valuation.

#### **Benefit Provisions**

The provisions of the LTD program valued in the report reflect our understanding of the long term disability provisions specified in Section 38-797 of the Arizona Revised Statutes.

There have been no changes in benefit provisions since the last valuation.

The terms of the LTD Program are summarized on pages 13 to 15 of this report. There is no provision for LTD benefits to increase for cost-of-living adjustments.

#### Assumptions and Methods

As a result of the recent experience study conducted on actual plan experience from July 1, 2007 to June 30, 2012, revised mortality rates, rates of retirement, rates of withdrawal, rates of disability, rates of termination of claims in LTD payment due to death or disability, rates of salary increase, and offsets for disabled and active members were adopted for the June 30, 2013 valuation. Furthermore, as the revised assumptions were adopted based on experience under the current pre-existing condition period, the adjustment for the change in the pre-existing condition period was removed. In addition, assumptions for incurred but not reported (IBNR) claims, alternate contribution rate payments and mid-year contributions were added. All are effective beginning with the June 30, 2013 valuation. The change in assumptions due to the experience analysis resulted in a decrease of \$97 million in liabilities and an increase of 19.42 percentage points in the funded status.

The actuary originates the assumptions, in consultation with the ASRS Director and other ASRS staff members, and recommends the assumptions to the Board which makes the ultimate decision on which assumptions and methods to use.

The Board elected to use the projected unit credit method. Under this method, actuarial gains (or losses) are subtracted from (or added to) the unfunded actuarial accrued liability. The Board also adopted a new 15-year closed amortization method as of June 30, 2013. Statutes previously defined the amortization method as an amortization of unfunded actuarial accrued liability over a rolling 15-year period. Under the new amortization method, the unfunded actuarial accrued liability as of June 30, 2013 will be fully amortized over the next 15 years.



Retirement Board January 17, 2014 Page 3

The assumptions represent a reasonable estimate of the plan's future economic and demographic experience. While the actuary believes that the assumptions are reasonable for financial reporting purposes, it should be understood that there is a range of assumptions that could be deemed reasonable that would yield different results. It should be understood that future plan experience may differ considerably from what has been assumed.

Future actuarial measurements may differ significantly from current measurements due to plan experience differing from that anticipated by the economic and demographic assumptions, increases or decreases expected as party of the natural operation of the methodology used for the measurements, and changes in plan provisions or applicable law. Due to the limited scope of this report, Buck performed no analysis of the potential range of such future measurements.

#### Data

ASRS staff and Sedgwick (the administrator of the LTD program) supplied census data for participants as of June 30, 2013. We have not audited these data, but have examined them for reasonableness and consistency with the prior year's data. ASRS staff also supplied asset information. The results of the valuation are dependent on the accuracy of the data. Data on disabled members is complete and, to the best of our knowledge, correct.

#### **Trend Data and Supporting Schedules**

ASRS prepared all trend data schedules in the financial section of ASRS' Comprehensive Annual Financial Report (CAFR). ASRS also prepared all supporting schedules in the actuarial section of the CAFR.

We look forward to discussing this report with you at your convenience.

Sincerely,

Charles E. Chittenter

Charles E. Chittenden, FSA, EA, MAAA Principal and Consulting Actuary

Douglas J. Fiddler, ASA, EA, MAAA Director, Retirement Actuary

Reza Vahid, FSA, MAAA Director, Health & Productivity

Effective October 1, 1995, to comply with Internal Revenue Code requirements, liabilities associated with the long-term disability benefit were separated from the Plan. No assets were transferred to the LTD fund. Accordingly, the objectives of the funding method that the Board adopted for the LTD program have been:

- To produce a positive cash flow
- To maintain reasonably stable contribution rates
- To build up the assets gradually

The Arizona State Retirement System (ASRS) Long Term Disability (LTD) Program began on July 1, 1995. The program covers ASRS LTD Program participants who become disabled on or after July 1, 1995. ASRS members who were receiving LTD benefits prior to July 1, 1995, were transferred to the program on October 1, 1995. Contributions began July 1, 1995, and are paid 50% by employers and 50% by active members.

Below we have summarized the main provisions of the LTD Program.

Effective Date: The plan was established effective July 1, 1995.

**Participation:** To be eligible, members must be actively at work and engaged to work at least 20 weeks in a fiscal year and at least 20 hours each week. Coverage is contingent on payment of premiums.

**Contributions:** Members are required to contribute to the LTD Program in accordance with the schedule ratified each year by the Board. The fiscal year 2013 rate was 0.24% of payroll. Employers have equal contributions, and the Board allocates all contributions to the LTD Program's depository.

**Qualifications for Benefit:** Monthly benefits are not payable until a member has been totally disabled for a period of six consecutive months. Monthly benefits are not payable to a member whose disability is due to the following:

- 1. an intentionally self-inflicted injury
- 2. war, whether declared or not
- 3. an injury incurred while engaged in a felonious criminal act or enterprise
- 4. for employees hired on or after July 1, 1998, any injury, sickness, or pregnancy for which you received medical treatment within three months prior to the effective date coverage began under the LTD Income Plan. Except for any employee who becomes an active contributing member on or after July 1, 2008 and receives medical treatment within six months prior to the date coverage begins under the LTD Income Plan. This exclusion does not apply to a disability commencing after a person has been an active contributing member of a participating employer for twelve continuous months.

Monthly benefits are not payable to a member who is receiving retirement benefits from ASRS.

Totally Disabled: A member is considered totally disabled if:

- 1. during the first thirty months of a period of disability, the member is unable to perform all duties of the position held by the member when the member became totally disabled; and
- 2. for a member who has received monthly benefits for 24 or more total months, that a member is unable to perform any work for compensation or gain for which the member is reasonably qualified by education, training, or experience.

**Benefit Amount:** Benefits payable from the plan equal two-thirds of a member's monthly compensation at the time of disability. Benefits are offset by:

- 1. 85% of social security disability benefits that the member or the member's dependents are eligible to receive;
- 2. 85% of social security retirement benefits that the member is eligible to receive;
- 3. all of any worker's compensation benefits;
- 4. all of any payments for a veteran's disability if both of the following apply:
  - a) the veteran's disability payment is for the same condition or a condition related to the condition currently causing the member's total disability;
  - b) the veteran's disability is due to service in the armed forces of the United States;
- 5. all of any other benefits by reason of employment that are financed partly or wholly by an employer, including payments for sick leave; and
- 6. 50% of any salary, wages, commissions, or similar pay that the member receives or is entitled to receive from any gainful employment in which the member engages.

Benefit Period: Monthly benefits cease to be payable to a member at the earliest of the following:

- 1. the date the member ceases to be totally disabled;
- 2. the date the member ceases to be under the direct care of a doctor or refuses to undergo any medical examination requested by the company selected by the Board to administer the LTD Program;
- 3. the date the member withdraws employee contributions with interest and ceases to be a member; and
- 4. the later of following:
  - a) the member's normal retirement date;
  - b) the month following 60 months of payments if disability occurs before age 65;
  - c) the month following attainment of age 70 if disability occurs at age 65 or after but before age 69;
  - d) the month following twelve-months of payments if disability occurs at or after age 69.

**Expenses:** Expenses associated with the operation of the LTD Program are payable by the LTD Program. The fee schedule is as follows:

Administrative:	\$13,000 / month
New Claims Fee:	\$420 / claim
Claims Management:	\$29 / claim / month

**Changes in Plan Terms Since the Prior Valuation:** No changes have been made since the last valuation on June 30, 2012.

We have prepared this report on our actuarial valuation of the assets and liabilities of the Arizona State Retirement System LTD Program as of June 30, 2013, in accordance with generally accepted actuarial principles, and with the requirements of GASB #43.

The actuarial assumptions and methods on which our valuation has been based are, in our opinion, appropriate for the purpose of our current valuation. The ASRS Board has adopted the assumptions used in this valuation in its meeting on May 23, 2013.

We have not audited the data or the asset information used in this valuation, but believe them to be complete and accurate. Refer to Section 10.1 of the Arizona State Retirement System Actuarial Report of the Plan as of June 30, 2013 for information on missing data assumptions used for active members.

# **Summary of Actuarial Methods**

The actuarial cost method is the projected unit credit method. Benefits are attributed from hire to expected date of disability. Assets are valued at market, less (or plus) an adjustment to reflect investment gains (or losses) over a 10-year period starting as of June 30, 2006. The unfunded actuarial accrued liability is amortized over a closed 15-year period using a level dollar amortization method. This is a change of method that the ASRS Board approved in its November 23, 2013 meeting. Previously, the amortization period was a rolling 15-year period.

# **Summary of Actuarial Assumptions**

The assumptions unique to the LTD valuation were as follows:

## 1. Discount Rate

8% per annum, net of investment expenses

## 2. Rates of Termination of Claims in Payment Due to Death or Recovery

150% of the rates in the 1987 Commissioners' Group Long Term Disability Valuation Table (1987 CGDT), applicable to plans with a six-month elimination period.

3. Disability Incidence Rates for Active Members – based on actual disability experience from experience analysis for July 1, 2007 through June 30, 2012

Age- based unisex rates as developed for the Plan. Rates at representative ages are given below:

Age	Unisex
20	0.05%
30	0.07%
40	0.16%
50	0.36%
60	0.47%

## 4. Offsets for Disabled Members

We are assuming that the amounts the administrator reports as offsets (other than overpayment offsets) will continue to apply to each member's benefit until that benefit expires. For members within first three years of receipt of LTD benefits, we have adjusted benefit amounts to reflect future offsets, assuming 90% of members will have offsets after 3 years.

We assume that these offsets reduce the gross benefits by 45%. We also assume that the weighted average months of overpayment are equal to 19 months.

These assumptions are reviewed annually.

## 5. Offsets for Active Members

We assume that LTD Program benefits, after all applicable offsets are 55% of the benefits before the offsets. This is the percentage that applies for currently disabled members and is based on the experience study as of June 30, 2012.

#### 6. Incurred But Not Reported (IBNR)

The liability for new LTD recipients was loaded by 20% to reflect IBNR. Previously, there was no load for IBNR.

## 7. Alternate Contribution Rate

We have adjusted the past service contribution rate to consider alternate contribution rate payments. Previously, there was no adjustment for alternate contribution rate payments.

## 8. Mid-Year Timing

We have adjusted the contribution rates to anticipate contributions being made throughout the year. Previously, these payments were not adjusted for mid-year payment.

#### 9. Changes in Assumptions Since the Prior Valuation

All other assumptions are the same as those used in the valuation of the Plan.

# Schedule of Benefit Recipients Added to and Removed from Rolls

Last 10 Years

Valuation as of	B	ene	ints and ficiaries I to Rolls	В	Retirants and Beneficiaries Removed from Rolls			er	rants and eficiaries End of Year	% Increase in Annual	Average Annual		
June 30	NO.		ANNUAL <sup>1</sup> LOWANCES	NO.		ANNUAL <sup>2</sup> LOWANCES	NO.	1	ANNUAL <sup>1</sup> ALLOWANCES	Allowance	Alle	owances	
2004	865	\$	14,403,292	742	\$	9,301,684	4,684	\$	61,299,216	9.1%	\$	13,087	
2005	926		15,285,111	671		11,000,763	4,939		65,583,564	7.0%		13,279	
2006	840		16,021,268	761		12,191,399	5,018		69,413,433	5.8%		13,833	
2007	800		15,958,305	747		13,060,111	5,071		72,311,627	4.2%		14,260	
2008	640		12,610,021	829		16,270,484	4,882		68,651,164	-5.1%		14,062	
2009	723		15,966,067	893		13,502,776	4,712		71,114,455	3.6%		15,092	
2010	789		17,200,407	777		15,066,829	4,724		73,248,033	3.0%		15,506	
2011	752		15,000,150	867		18,071,429	4,609		70,176,754	-4.2%		15,226	
2012	709		14,394,030	878		16,419,214	4,440		68,151,570	-2.9%		15,349	
2013	735		15,094,316	868		17,168,470	4,307		66,077,416	-3.0%		15,342	

<sup>1</sup> Reflects actual, but not assumed, benefit offsets. Does not include overpayment offsets.
<sup>2</sup> Includes changes in benefit amounts.

# **Schedule of Funding Progress**

Last 10 Years (Dollars in Thousands)

Year Ended June 30	Actuarial Accrued Liabilities Plan	Actuarial Value of Net Plan Assets	Assets as a % of Accrued Liabilities Plan	Unfunded Actuarial Accrued Liabilities Plan (AAL)	Covered Employee Payroll	UAAL as a % of Covered Empoyee Payroll
2004 <sup>1</sup>	\$ 544,205	\$ 137,861	25.33%	\$ 406,344	\$ 7,458,590	5.40%
2005	577,405	164,834	28.55%	412,572	8,032,458	5.10%
2006	574,701	194,297	33.81%	380,404	8,311,870	4.60%
2007	604,486	231,685	38.33%	372,800	9,161,804	4.10%
2008	553,185	274,902	49.69%	278,283	9,708,353	2.90%
2009	476,276	311,232	65.35%	165,044	9,834,810	1.70%
2010	477,266	319,308	66.90%	157,958	9,419,952	1.70%
2011	455,695	307,537	67.49%	148,158	9,060,631	1.60%
2012	439,706	295,786	67.27%	143,920	8,868,678	1.60%
2013	332,597	285,018	85.69%	47,579	8,752,783	0.50%

## **Solvency Test**

Last 10 Years (Dollars in Thousands)

Aggregate Accrued Liabilities for:													
Year End June 30	ACTIVE MEMBER CONTRIBUTIONS			ACTIVE MEMBERS (EMPLOYER FINANCED PORTION)		Net Assets Available for Benefits	Portion of Accrued Liabilities Covered by Net Assets Available for Benefits						
	(1)	(2)		(3)			(1)	(2)	(3)				
2004	1	\$ 243,713	:	\$ 300,492		\$ 137,861	100%	57%	0%				
2005	-	258,735		318,670		164,834	100%	64%	0%				
2006	-	247,577		327,124		194,297	100%	78%	0%				
2007	-	274,947		329,539	)	231,685	100%	84%	0%				
2008	-	233,871		319,315	,	274,902	100%	100%	13%				
2009	-	235,921		240,355	,	311,232	100%	100%	31%				
2010	-	242,098		235,168		319,308	100%	100%	33%				
2011	-	234,155		221,540	)	307,537	100%	100%	33%				
2012	-	224,090		215,616		295,786	100%	100%	33%				
2013	-	207,331		125,265	,	285,018	100%	100%	62%				

<sup>1</sup> The 2004 valuation results are from a study of the effects of adopting GASB No. 43. The formal 2004 valuation report did not use the GASB methodology.

#### Analysis of Financial Experience for LTD

As of June 30, 2013

	Lives	Reserves
L. CHANGE IN OPEN CLAIMS RESERVES		
The increase in the reserves for payments not yet due on disabled lives may be summarized as follows:		
(a) Open Claims Reserve Liability on July 1, 2012	4,440	\$ 217,902,714
(b) Change in reserve on 3,572 continuing disabled lives	N/A	(28,493,782)
(c) Reserves released on terminated lives	(868)	(24,373,090)
(d) Reserves added on new lives	735	44,637,749
(e) Change in assumptions	N/A	(7,968,764)
(f) Open Claims Reserve Liability on June 30, 2013 = (a) + (b) + (c) + (d) + (e)	4,307	\$ 201,704,827
2. DEVELOPMENT OF LIABILITY (GAIN)/LOSS		
(a) Actuarial Accrued Liability as of July 1, 2012		\$ 439,706,059
(b) Normal Cost for 2012/2013		25,723,092
(c) Expected Benefit Payments for 2012/2013		66,427,000
(d) Expected Actuarial Accrued Liability on June 30, 2013		
= ( (a) + (b) ) x 1.08 - (c) x (1 + .08 x 13/24)		433,357,980
(e) Change in Plan Terms		N/A
(f) Change in Assumptions		(97,474,730)
(g) Liability (Gain)/Loss		(3,286,433)
(h) Actual Actuarial Accrued Liability on June 30, 2013		
= (d) + (e) + (f) + (g)		\$ 332,596,817
3. SOURCES OF LIABILITY (GAIN)/LOSS		
(a) Offset (Gain)/Loss		\$ (3,695,934)
(b) Liability for members who were terminated in last year's val	uation	8,209,233
(c) More Terminations than Expected		(1,391,374)
(d) Fewer LTD Retirees than Expected		(7,491,854)
(e) Salary Gain on Continuing Actives		(2,440,533)
(f) New Active Entrants		5,478,967
(g) Other (Gain)/Loss		(1,954,938)
(h) Liability (Gain)/Loss		
= (a) + (b) + (c) + (d) + (e) + (f) + (g)		\$ (3,286,433)

L	.ives	Reserves
. DEVELOPMENT OF ACTUARIAL VALUE OF ASSETS		
(a) Excess (Shortfall) of Investment Income:		
(i) Current Year	\$	9,913,473
(ii) Current Year – 1		(18,922,274
(iii) Current Year – 2		36,999,159
(iv) Current Year – 3		10,543,678
(v) Current Year – 4		(68,696,736
(vi) Current Year – 5		(44,661,134
(vii) Current Year – 6		11,421,699
(viii) Current Year - 7		1,895,241
(b) Deferral of Excess (Shortfall):		
(i) Current Year (90% Deferral)		8,922,126
(ii) Current Year – 1 (80% Deferral)		(15,137,819
(iii) Current Year – 2 (70% Deferral)		25,899,411
(iv) Current Year – 3 (60% Deferral)		6,326,207
(v) Current Year – 4 (50% Deferral)		(34,348,368
(vi) Current Year – 5 (40% Deferral)		(17,864,454
(vii) Current Year – 6 (30% Deferral)		3,426,510
(viii) Current Year - 7 (20% Deferral)		379,048
(ix) Total Deferred for the Year		(22,397,339
(c) Market Value of Assets as of June 30, 2013		262,620,722
(d) Actuarial Value of Assets as of June 30, 2013 = (c) - (b)(ix) . DEVELOPMENT OF ASSET (GAIN)/LOSS	\$	285,018,061
(a) Actuarial Value of Assets as of July 1, 2012	\$	295,785,765
(b) Contributions		42,216,900
(c) Actual Benefit Payments for 2012/2013		63,612,703
(d) Administrative Expenses		2,739,277
(e) Expected Investment Income at 8% Return =		
((a) x .08) + ((b) x .08 x 1/2) -((c) x .08 x 13/24)		22,594,987
(f) Expected Actuarial Assets as of June 30, $2013 = (a) + (b) - (c) - (d)$	) + (e)	294,245,672
(g) Gain/(Loss) on Actuarial Assets		9,227,611
(h) Actuarial Assets as of June 30, 2013 = (f) - (g)	\$	285,018,06

The asset loss occurred because investment earnings on actuarial assets were less than expected. The actual net return on actuarial assets was 4.73%, compared to the assumption of 8%. The actual net return on market value of assets was 12.06%, compared to the assumption of 8%.

	Amount of Monthly Offsets	Number With Offsets
6. ANALYSIS OF SEDGWICK OFFSETS		
Description of Offset from Sedgwick as of June 30, 2013		
Social Security Disability	\$ 2,721,067	3,178
Social Security Retirement	93,201	102
Other	483,420	971
Total	\$3,297,688	4,251
Description of Offset from Sedgwick as of June 30, 2012		
Social Security Disability	\$ 2,677,627	3,312
Social Security Retirement	119,230	128
Other	472,513	1,002
Total	\$3,269,370	4,442

## LEGISLATED PLAN CHANGES ENACTED BY THE 2013 LEGISLATURE OF THE STATE OF ARIZONA

#### 1. Amortization

The legislation allows the ASRS Board to determine the periods over which to amortize deficits or surpluses.

#### 2. Survivor Benefits

The legislation removed the requirement that a survivor's benefit must exceed \$5,000 to qualify for an annuity election. It limits the annuity option for the survivor to the single-life option, provided the annuity amount is greater than an amount selected by the ASRS Board (presently \$100 per month).

The legislation eliminated the present value calculation that was available upon the death of a member who had reached early retirement eligibility or had 15 years of service.

#### 3. Permanent Benefit Increases

The legislation eliminates Permanent Benefit Increases for members hired after September 12, 2013.

#### 4. Health Insurance Program

The legislation permits the ASRS Board to establish a self-insured health insurance program and an account to administer such a program, provided the self-insured program offers all the benefits required by Title 20.

These changes were taken into account in the most recent actuarial valuation.



## ROAD TO RETIREMENT

## NAVIGATE YOUR FUTURE

## YOUR JOURNEY DESTINATION



#### Taking an alternate route? ASRS is here to help you.

- ✓ Leaving ASRS
- ✓ Long Term Disability
- ✓ Early Retirement
- ✓ Retirement



### www.azasrs.gov

# STATISTICAL

## SECTION

#### V. Statistical Section

This part of the Arizona State Retirement System's Comprehensive Annual Financial Report presents detailed information as a context for understanding what the information in the financial statements, note disclosures, and required summary information says about the ASRS's overall financial health.

#### **Financial Trends**

These schedules contain trend information to help the reader understand how the ASRS's Financial Performance has changed over the past 10 years.

Fiduciary Net Position – Last 10 Years	132
Changes in Fiduciary Net Position – Last 10 Years	134

#### Revenues

These schedules contain information to help the reader understand the ASRS's funding over the last 10 years.

Actual Contribution Rates – <i>Last 10 Years</i> 138
--

#### Operations

These schedules contain information about the ASRS's Operations.

Members by Type of Benefit	139
Average Benefit Payments – Retirement – Last 10 Years	140
Average Benefit Payments – HBS – Last 9 Years	141
Average Benefit Payments – LTD – Last 9 Years	142
Principal Participating Employers – Current Year and Nine Years Ago	143

Schedules and information are derived from ASRS internal sources unless otherwise noted.

#### **Fiduciary Net Position**

Last 10 Fiscal Years (Dollars in Thousands)

<b>Retirement Fund</b>										
ASSETS		2005		2006		2007		2008		2009
Cash, Receivables,										
and Prepaids	\$	2,091,244	\$	2,396,175	\$	2,197,053	\$	2,095,722	\$	867,888
Investments at Fair		24,154,827		25,699,691		30,978,445		29,021,366		23,379,787
Value Total Assets		26,246,071		28,095,866		33,175,498		31,117,088		24,247,675
LIABILITIES						,,		,,		_ , ,
Investments Payable		4,654,687		4,853,112		6,078,211		6,368,470		4,313,128
Other Payables		20,470		23,108		27,729		31,431		54,094
Total Liabilities		4,675,157		4,876,220		6,105,940		6,399,901		4,367,222
FIDUCIARY NET POSITION	\$	21,570,914	\$	23,219,646	\$	27,069,558	\$	24,717,187	\$	19,880,453
	<b>T</b>		Ŧ		<b>T</b>		<b>T</b>	,,,,	Ŧ	
HBS Fund										
ASSETS		2005		2006		2007		2008		2009
Cash, Receivables, and Prepaids	\$	85,061	\$	96,084	\$	90,106	\$	94,213	\$	45,385
Investments at Fair		074 406		1 001 520		1 225 221		1 272 967		1 046 717
Value Total Assets		974,406 <b>1,059,467</b>		1,081,538 <b>1,177,622</b>		1,335,221 <b>1,425,327</b>		1,273,867 <b>1,368,080</b>		1,046,717 <b>1,092,102</b>
LIABILITIES		1,039,407		1,177,022		1,423,327		1,508,080		1,092,102
Investments Payable		187,770		204,237		261,980		279,619		193,139
Other Payables		60		3,639		394		475		1,770
Total Liabilities		187,830		207,876		262,374		280,094		194,909
FIDUCIARY NET										
POSITION	\$	871,637	\$	969,746	\$	1,162,953	\$	1,087,986	\$	897,193
LTD Fund										
LTD Fund ASSETS		2005		2006		2007		2008		2009
ASSETS Cash, Receivables, and Prepaids	\$	2005 14,040	\$	2006 15,241	\$	2007 10,565	\$	2008 12,331	\$	2009 11,998
<b>ASSETS</b> Cash, Receivables, and Prepaids Investments at Fair	\$		\$		\$		\$		\$	
ASSETS Cash, Receivables, and Prepaids	\$	14,040	\$	15,241	\$	10,565	\$	12,331	\$	11,998
ASSETS Cash, Receivables, and Prepaids Investments at Fair Value	\$	14,040 151,025	\$	15,241 180,983	\$	10,565 233,148	\$	12,331 233,062	\$	11,998 215,151
ASSETS Cash, Receivables, and Prepaids Investments at Fair Value Total Assets	\$	14,040 151,025	\$	15,241 180,983	\$	10,565 233,148	\$	12,331 233,062	\$	11,998 215,151
ASSETS Cash, Receivables, and Prepaids Investments at Fair Value Total Assets LIABILITIES Investments Payable Other Payables	\$	14,040 151,025	\$	15,241 180,983	\$	10,565 233,148	\$	12,331 233,062	\$	11,998 215,151 <b>227,149</b> - 4,341
ASSETS Cash, Receivables, and Prepaids Investments at Fair Value Total Assets LIABILITIES Investments Payable	\$	14,040 151,025 <b>165,065</b>	\$	15,241 180,983 <b>196,224</b>	\$	10,565 233,148 <b>243,713</b>	\$	12,331 233,062 <b>245,393</b>	\$	11,998 215,151 <b>227,149</b>

	2010		2011		2012		2013		2014
\$	975,021	\$	1,056,204	\$	1,006,349	\$	1,062,311	\$	593,804
	24,620,142		27,911,298		26,247,996		29,225,574		33,845,069
	25,595,163		28,967,502		27,254,345		30,287,885		34,438,873
	3,404,191		2,086,445		795,215		1,187,021		708,243
	44,012 <b>3,448,203</b>		41,834 <b>2,128,279</b>		57,036 <b>852,251</b>		75,434 <b>1,262,455</b>		36,925 <b>745,168</b>
\$	22,146,960	\$	26,839,223	\$	26,402,094	\$		\$	33,693,705
Ψ	22/140/300	Ψ	20,000,220	Ψ	20/102/034	Ψ	25/025/450	Ψ	
	2010		2011		2012		2013		2014
	2010		2011		2012		2015		2014
\$	48,532	\$	52,196	\$	79,217	\$	75,951	\$	60,353
	1,101,174		1,236,614		1,177,906		1,314,249		1,527,901
	1,149,706		1,288,810		1,257,123		1,390,200		1,588,254
	152,374		92,594		35,022		51,936		30,738
	1,737		1,487		19,282		2,930		1,274
	154,111		94,081		54,304		54,866		32,012
\$	995,595	\$	1,194,729	\$	1,202,819	\$	1,335,334	\$	1,556,242
	2010		2011		2012		2013		2014
\$	6,808	\$	6,371	\$	7,172	\$	7,254	\$	6,864
	243,823		274,734		250,594		255,636		278,932
	250,631		281,105		257,766		262,890		285,796
	_		_		_		-		-
	252		250		443		270		280
									280
	252		250		443		270		280

#### **Changes in Fiduciary Net Position**

Last 10 Fiscal Years (Dollars in Thousands)

Retirement Fund										
ADDITIONS		2005		2006		2007		2008		2009
Member Contributions	\$	403,661	\$	570,933	\$	766,962	\$	857,813	\$	844,540
Employer Contributions Purchased		318,311		477,472		663,544		759,482		754,044
Service/Transfers Net Investment Income		141,932		125,751		107,548		95,226		72,436
(Loss)		1,720,991		2,126,272		4,105,644		(1,963,259)		(4,433,461)
Total Additions/										
(Reductions)		2,584,895		3,300,428		5,643,698		(250,738)	(	2,762,441)
DEDUCTIONS										
Retirement Benefits		1,406,547		1,538,992		1,650,818		1,768,219		1,888,931
Survivor Benefits		18,402		17,125		21,590		22,648		30,378
Refunds due to Separation		44,164		60,313		77,910		104,387		120,689
Transfers Out		4,581		5,129		10,117		177,176		5,706
Administration and Other		25,476		30,137		33,351		29,203		28,589
Total Deductions		1,499,170		1,651,696		1,793,786		2,101,633		2,074,293
NET CHANGE		1,085,725		1,648,732		3,849,912	(	(2,352,371)	(	4,836,734)
Fiduciary net position										
beginning of year		20,485,189		21,570,914		23,219,646		27,069,558		24,717,187
FIDUCIARY NET POSITION	\$2	21,570,914	\$2	23,219,646	\$2	27,069,558	\$	24,717,187	<b>\$</b> 1	19,880,453

2010		2011	2012		2013	2014
\$ 808,908	\$	833,287	\$ 905,968	\$	948,004	\$ 995,284
763,099		786,662	852,167		911,300	965,969
73,973		70,812	53,659		72,023	33,485
2,872,297		5,406,714	322,870		3,393,599	5,514,246
4,518,277		7,097,475	2,134,664		5,324,926	7,508,984
2,031,119		2,166,779	2,297,947		2,406,899	\$ 2,527,038
26,472		23,949	29,731		38,442	39,334
154,144		180,719	207,289		218,607	246,201
11,455		6,256	5,024		725	915
 28,580		27,509	31,802		36,917	27,221
 2,251,770		2,405,212	2,571,793		2,701,590	2,840,709
2,266,507		4,692,263	(437,129)		2,623,336	4,668,275
 19,880,453		22,146,960	26,839,223		26,402,094	29,025,430
\$ 22,146,960	\$ 2	26,839,223	\$ 26,402,094	\$ 3	29,025,430	\$ 33,693,705

#### **Changes in Fiduciary Net Position**

Last 10 Fiscal Years (Dollars in Thousands)

HBS Fund										
ADDITIONS		2005		2006		2007		2008		2009
Employer Contributions	\$	85,350	\$	93,461	\$	103,473	\$	99,027	\$	90,490
Other Income		-		-		-		-		-
Net Investment Income										
(Loss)		68,750		86,587		174,348		(87,559)		(192,303)
Total Additions/ (Reductions)		154,100		180,048		277,821		11,468		(101,813)
DEDUCTIONS										
Health Premium Benefits		89,602		80,827		83,236		85,132		87,723
Administration and Other		, 909		1,112		1,378		1,303		1,257
Total Deductions		90,511		81,939		84,614		86,435		88,980
NET CHANGE		63,589		98,109		193,207		(74,967)		(190,793)
Fiduciary net position										
beginning of year		808,048		871,637		969,746		1,162,953		1,087,986
FIDUCIARY NET POSITION	\$	871,637	\$	969,746	¢	1,162,953	\$	1,087,986	\$	897,193
		0/ 1/00/	<u> </u>	20272.10	<u> </u>	_,,	<u> </u>		<u> </u>	,
LTD Fund										
ADDITIONS		2005		2006		2007		2008		2009
Member Contributions	\$	38,982	\$	41,188	\$	44,518	\$	47,171	\$	47,213
Employer Contributions		38,982		41,188		44,518		47,171		47,213
Net Investment Income										
(Loss)		13,651		18,080		30,526		(21,623)		(47,726)
Total Additions/ (Reductions)		91,615		100,456		119,562		72,719		46,700
DEDUCTIONS										
Disability Benefits		62,183		66,695		69,221		68,284		65,781
Administration and Other		2,460		2,593		2,857		2,750		3,282
Total Deductions		64,643		69,288		72,078		71,034		69,063
NET CHANGE		26,972		31,168		47,484		1,685		(22,363)
Fiduciary net position						,		_,		(,,,
beginning of year		137,862		164,834		196,002		243,486		245,171
FIDUCIARY NET	+			100.000						
POSITION	\$	164,834	\$	196,002	\$	243,486	\$	245,171	\$	222,808

2010	2011	2012	2013	2014
\$ 59,393	\$ 51,048	\$ 54,463	\$ 57,154	\$ 53,405
-	-	35,473	25,826	29,848
128,258	240,994	13,439	146,737	240,538
187,651	292,042	103,375	229,717	323,791
87,983	91,699	93,915	95,763	101,746
1,266	1,209	1,370	1,439	1,137
89,249	92,908	95,285	97,202	102,883
98,402	199,134	8,090	132,515	220,908
897,193	995,595	1,194,729	1,202,819	1,335,334
\$ 995,595	\$ 1,194,729	\$ 1,202,819	\$ 1,335,334	\$ 1,556,242
2010	2011	2012	2013	2014
\$ 35,939	\$ 21,689	\$ 20,998	\$ 20,881	\$ 21,151
35,939	21,689	20,998	21,336	21,628
27,661	56,744	2,419	29,540	44,950
99,539	100,122	44,415	71,757	87,729
69,148	66,124	65,190	63,613	62,044
2,820	3,522	2,757	2,847	2,789
 71,968	69,646	67,947	66,460	64,833
27,571	30,476	(23,532)	5,297	22,896
222,808	250,379	280,855	257,323	262,620

#### Actual Contribution Rates Last 10 Fiscal Years

Retirement <sup>1</sup>										
<b>Contribution Rates</b>					Fiscal Y	'ears				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Member	5.20	6.90	8.60	9.10	8.95	9.00	9.60	10.50	10.90	11.30
Employer	4.10	5.77	7.55	8.05	7.99	8.34	9.01	9.87	10.25	10.70
HBS										
<b>Contribution Rates</b>					<b>Fiscal Y</b>	'ears				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Employer	1.10	1.13	1.05	1.05	0.96	0.66	0.59	0.63	0.65	0.60
LTD										
<b>Contribution Rates</b>					<b>Fiscal Y</b>	'ears				
	2005	2006	2007	2008	2009	2010	2011	2012	2013	2014
Member	0.50	0.50	0.50	0.50	0.50	0.40	0.25	0.24	0.24	0.24
Employer	0.50	0.50	0.50	0.50	0.50	0.40	0.25	0.24	0.24	0.24

<sup>1</sup> The above schedule does not include System retirees.

Source: Buck Consultants, LLC

#### Members by Type of Benefit As of June 30, 2014

Retirement Monthly Benefit <sup>2</sup>			O	ptions <sup>1</sup>			
	1	2	3	4	5	6	7
Under \$300	11,102	264	369	768	2,617	228	483
\$300 - \$499	7,420	256	383	571	2,169	270	539
\$500 - \$999	14,683	549	965	1,064	4,195	810	1,503
\$1,000 - \$1,499	9,840	437	773	699	3,436	916	1,360
\$1,500 - \$1,999	6,940	279	504	516	2,774	856	1,141
\$2,000 & Over	20,054	559	1,262	1,648	8,983	2,832	3,858
Totals	70,039	2,344	4,256	5,266	24,174	5,912	8,884

<sup>1</sup> OPTIONS KEY

1. Life Annuity refund provision

2. Life Annuity 5 year certain and life

3. Life Annuity 10 years certain and life

4. Life Annuity 15 years certain and life

5. Joint Annuity 100 percent to contingent survivor

6. Joint Annuity 66 2/3 percent to contingent survivor

7. Joint Annuity 50 percent to contingent survivor

<sup>2</sup> Most recent information available is 2013.

Source: Buck Consultants, LLC

HBS Monthly Benefits	Members	LTD Monthly Benefits
\$1-199	68,412	\$1-299
\$200-299	2,679	\$300-499
\$300-399	197	\$500-999
\$400 & Over	0	\$1,000-1,499
Total	71,288	\$1,500-1,999
		\$2,000 & over

Source: ASRS Pension Administration System

LTD Monthly Benefits	Members
\$1-299	9
\$300-499	23
\$500-999	332
\$1,000-1,499	935
\$1,500-1,999	1,074
\$2,000 & over	1,940
TOTAL	4,313

Source: Sedgwick CMS

#### Average Benefit Payments Last 10 Fiscal Years

				Year	s of Cre	dited S	ervice			
Retirement	0-4	5-9	10-14	15-19	20-24	25-29	30-34	35-39	40-44	45+
FISCAL YEAR 2004										
Average Monthly Benefit	\$ 139	\$ 345	\$ 726	\$1,109	\$1,629	\$2,384	\$3,092	\$3,499	\$3,863	\$4,413
Number of Retirees	1,716	10,153	13,268	10,984	11,747	11,567	7,607	1,611	248	30
FISCAL YEAR 2005										
Average Monthly Benefit	\$ 125	\$ 326	\$ 687	\$1,742	\$1,995	\$2,460	\$2,894	\$3,035	\$3,082	\$2,817
Number of Retirees	1,697	10,290	13,540	19,674	16,813	8,394	2,815	550	77	3
FISCAL YEAR 2006										
Average Monthly Benefit	\$ 126	\$ 334	\$ 702	\$1,746	\$2,079	\$2,541	\$3,001	\$3,190	\$3,427	\$3,255
Number of Retirees	1,889	10,789	13,986	19,845	18,680	9,419	3,215	592	81	2
FISCAL YEAR 2007										
Average Monthly Benefit	\$ 121	\$ 329	\$ 697	\$1,743	\$2,101	\$2,572	\$3,034	\$3,268	\$3,616	\$4,542
Number of Retirees	2,124	11,416	14,534	20,663	20,232	10,474	3,454	615	78	4
FISCAL YEAR 2008										
Average Monthly Benefit	\$ 122	\$ 339	\$ 717	\$1,106	\$1,655	\$2,425	\$3,273	\$3,776	\$4,422	\$4,760
Number of Retirees	2,952	12,530	15,527	13,045	14,970	14,789	12,392	2,347	361	43
FISCAL YEAR 2009										
Average Monthly Benefit	\$ 195	\$ 339	\$ 715	\$1,105	\$1,663	\$2,435	\$3,321	\$3,862	\$4,453	\$4,845
Number of Retirees	3,385	13,236	16,321	13,658	15,995	15,587	13,314	2,499	380	49
FISCAL YEAR 2010										
Average Monthly Benefit	\$ 119	\$ 338	\$ 714	\$1,108	\$1,674	\$2,445	\$3,342	\$3,900	\$4,533	\$5,040
Number of Retirees	4,011	14,223	17,233	14,418	17,150	16,581	14,549	2,691	399	52
FISCAL YEAR 2011										
Average Monthly Benefit	\$ 121	\$ 339	\$ 716	\$1,111	\$1,681	\$2,457	\$3,368	\$3,944	\$4,661	\$5,134
Number of Retirees	4,420	15,231	18,329	15,157	18,371	17,557	15,608	2,840	426	57
FISCAL YEAR 2012										
Average Monthly Benefit	\$ 124	\$ 341	\$ 718	\$1,112	\$1,685	\$2,464	\$3,383	\$3,980	\$4,768	\$5,224
Number of Retirees	4,864	16,228	19,419	15,867	19,447	18,547	16,564	2,979	458	58
FISCAL YEAR 2013 <sup>1</sup>										
Average Monthly Benefit	\$ 125	\$ 344	\$ 721	\$1,113	\$1,694	\$2,468	\$3,397	\$4,022	\$4,809	\$5,229
Number of Retirees	5,422	17,223	20,406	16,637	20,540	19,522	17,448	3,121	495	61

<sup>1</sup> Most recent information available.

Note: The above schedule does not include System retirees. Average final salary information is not available.

Source: Buck Consultants, LLC

#### Average Benefit Payments Last 9 Fiscal Years

HBS		Yea	ars	of Cre	dite	ed Serv	/ice	1	
	5	6		7		8		9	10 or more
FISCAL YEAR 2006									
Average Monthly Benefit	\$ 65	\$ 71	\$	81	\$	86	\$	103	\$ 130
Number of HBS Participants	1,008	861		872		869		895	47,117
FISCAL YEAR 2007									
Average Monthly Benefit	\$ 57	\$ 69	\$	83	\$	89	\$	96	\$ 130
Number of HBS Participants	1,046	877		903		885		891	49,368
FISCAL YEAR 2008									
Average Monthly Benefit	\$ 61	\$ 72	\$	76	\$	89	\$	97	\$ 130
Number of HBS Participants	1,082	917		911		934		897	51,167
FISCAL YEAR 2009									
Average Monthly Benefit	\$ 61	\$ 70	\$	78	\$	89	\$	100	\$ 130
Number of HBS Participants	1,123	941		916		951		906	53,198
FISCAL YEAR 2010									
Average Monthly Benefit	\$ 61	\$ 67	\$	76	\$	86	\$	97	\$ 127
Number of HBS Participants	1,149	941		928		998		924	54,589
FISCAL YEAR 2011									
Average Monthly Benefit	\$ 59	\$ 67	\$	75	\$	87	\$	92	\$ 126
Number of HBS Participants	1,252	1,018		999		1,057		983	58,656
FISCAL YEAR 2012									
Average Monthly Benefit	\$ 64	\$ 74	\$	78	\$	96	\$	100	\$ 144
Number of HBS Participants	1,352	1,074		1,087		1,094		1,045	62,706
FISCAL YEAR 2013									
Average Monthly Benefit	\$ 64	\$ 72	\$	79	\$	85	\$	95	\$ 152
Number of HBS Participants	1,402	1,120		1,130		1,161		1,074	64,354
FISCAL YEAR 2014									
Average Monthly Benefit	\$ 58	\$ 63	\$	71	\$	77	\$	83	\$ 116
Number of HBS Participants	1,463	1,151		1,188		1,205		1,122	65,159

Note: Information prior to 2006 is not available.

Source: ASRS Pension Administration System

#### Average Benefit Payments Last 9 Fiscal Years

Average Monthly Benefit         \$         1,689           Number of LTD Participants         4,968           FISCAL YEAR 2007         *           Average Monthly Benefit         \$         1,743           Number of LTD Participants         *         4,976           FISCAL YEAR 2008         *         4,976           Average Monthly Benefit         \$         1,823           Number of LTD Participants         4,957           FISCAL YEAR 2009         *         4,672           Average Monthly Benefit         \$         1,886           Number of LTD Participants         *         4,672           FISCAL YEAR 2010         *         4,672           Average Monthly Benefit         \$         1,966           Number of LTD Participants         *         4,797           FISCAL YEAR 2010         *         4,672           Average Monthly Benefit         \$         1,961           Number of LTD Participants         *         4,785           FISCAL YEAR 2012         *         4,643           Number of LTD Participants         *         4,643           FISCAL YEAR 2013         *         1,244           Number of LTD Participants         *         4,443 <th>LTD</th> <th></th>	LTD	
Number of LTD Participants         4,968           FISCAL YEAR 2007         4,968           Average Monthly Benefit         \$ 1,743           Number of LTD Participants         4,976           FISCAL YEAR 2008         4,976           Average Monthly Benefit         \$ 1,823           Number of LTD Participants         4,957           FISCAL YEAR 2009         4,957           Average Monthly Benefit         \$ 4,957           Average Monthly Benefit         \$ 4,957           FISCAL YEAR 2010         4,672           Average Monthly Benefit         \$ 4,672           FISCAL YEAR 2010         4,672           Average Monthly Benefit         \$ 4,795           FISCAL YEAR 2010         \$ 4,795           Number of LTD Participants         \$ 4,795           FISCAL YEAR 2011         4,795           Average Monthly Benefit         \$ 4,795           FISCAL YEAR 2012         4,795           Number of LTD Participants         \$ 4,795           FISCAL YEAR 2013         \$ 1,240           Number of LTD Participants         \$ 4,443           FISCAL YEAR 2013         \$ 1,244           Average Monthly Benefit         \$ 4,443           FISCAL YEAR 2014         \$ 1,244 <th>FISCAL YEAR 2006</th> <th></th>	FISCAL YEAR 2006	
FISCAL YEAR 2007\$1,743Average Monthly Benefit\$4,976FISCAL YEAR 2008*4,976Average Monthly Benefit\$1,823Number of LTD Participants*4,957FISCAL YEAR 2009*4,957FISCAL YEAR 2009*1,866Number of LTD Participants*4,672FISCAL YEAR 2010*4,797Average Monthly Benefit\$1,966Number of LTD Participants*4,797FISCAL YEAR 2011*4,797Average Monthly Benefit\$1,911Number of LTD Participants*4,785FISCAL YEAR 2012*4,785FISCAL YEAR 2013*1,240Number of LTD Participants*1,244Number of LTD Participants*1,244Average Monthly Benefit*4,443FISCAL YEAR 2013*4,443FISCAL YEAR 2014*4,443Average Monthly Benefit*4,443FISCAL YEAR 2014*4,443Average Monthly Benefit*4,443FISCAL YEAR 2014*4,443FISCAL YEAR 2014*4,443Average Monthly Benefit*4,443FISCAL YEAR 2014*4,443Average Monthly Benefit*4,443FISCAL YEAR 2014*4,443FISCAL YEAR 2014**Average Monthly Benefit*4,443FISCAL YEAR 2014** <t< td=""><td>Average Monthly Benefit</td><td>\$ 1,689</td></t<>	Average Monthly Benefit	\$ 1,689
Average Monthly Benefit\$1,743Number of LTD Participants4,976FISCAL YEAR 2008\$1,823Average Monthly Benefit\$1,823Number of LTD Participants*4,957FISCAL YEAR 2009*4,957Average Monthly Benefit\$1,886Number of LTD Participants*4,672FISCAL YEAR 2010*4,767Average Monthly Benefit\$1,966Number of LTD Participants*4,797FISCAL YEAR 2011*4,797Average Monthly Benefit\$1,961Number of LTD Participants*4,785FISCAL YEAR 2011*4,785Average Monthly Benefit\$1,241Number of LTD Participants*1,244Number of LTD Participants*1,244Average Monthly Benefit\$1,244Number of LTD Participants*4,443FISCAL YEAR 2013*1,244Average Monthly Benefit\$4,443FISCAL YEAR 2014*1,244Average Monthly Benefit\$1,244Number of LTD Participants*1,244Average Monthly Benefit\$	Number of LTD Participants	4,968
Number of LTD Participants4,976FISCAL YEAR 20081,823Average Monthly Benefit4,957FISCAL YEAR 20094,957Average Monthly Benefit\$ 1,886Number of LTD Participants4,672FISCAL YEAR 20104,672FISCAL YEAR 20104,797FISCAL YEAR 20114,797Average Monthly Benefit\$ 1,966Number of LTD Participants4,797FISCAL YEAR 20114,797Average Monthly Benefit\$ 1,931Number of LTD Participants\$ 1,931Number of LTD Participants\$ 1,240Number of LTD Participants4,646FISCAL YEAR 2012\$ 1,240Average Monthly Benefit4,646FISCAL YEAR 20131,244Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 20131,244Average Monthly Benefit4,443FISCAL YEAR 20141,244Average Monthly Benefit1,244Number of LTD Participants1,244Average Monthly Benefit1,244Average Monthly Benefit1,244Number of LTD Participants1,244Average Monthly Benefit1,244Average Monthly Benefit1,244Average Monthly B	FISCAL YEAR 2007	
FISCAL YEAR 2008\$1,823Average Monthly Benefit4,957FISCAL YEAR 2009*Average Monthly Benefit4,857FISCAL YEAR 2010*Average Monthly Benefit*Average Monthly Benefit* </td <td>Average Monthly Benefit</td> <td>\$ 1,743</td>	Average Monthly Benefit	\$ 1,743
Average Monthly Benefit\$1,823Number of LTD Participants4,957FISCAL YEAR 2009*Average Monthly Benefit\$1,886Number of LTD Participants4,672FISCAL YEAR 2010*4,672Average Monthly Benefit\$1,966Number of LTD Participants*4,797FISCAL YEAR 2011*4,797Average Monthly Benefit\$1,931Number of LTD Participants*4,785FISCAL YEAR 2012*4,646Average Monthly Benefit\$1,240Number of LTD Participants*1,244Number of LTD Participants*4,443FISCAL YEAR 2013*4,443FISCAL YEAR 2013*4,443FISCAL YEAR 2014*1,244Average Monthly Benefit1,244Number of LTD Participants*1,244Number of LTD Participants*1,244Average Monthly Benefit*1,244Number of LTD Participants*1,244Number of LTD Participants*1,244Number of LTD Participants*1,244Number of LTD Participants*1,244Number of LTD Participants*1,240Average Monthly Benefit*1,240Number of LTD Participants*1,240Average Monthly Benefit*1,240Number of LTD Participants*1,240Number of LTD Participants*1,240 <tr< td=""><td>Number of LTD Participants</td><td>4,976</td></tr<>	Number of LTD Participants	4,976
Number of LTD Participants4,957FISCAL YEAR 2009*Average Monthly Benefit\$Number of LTD Participants4,672FISCAL YEAR 2010*Average Monthly Benefit\$Average Monthly Benefit4,797FISCAL YEAR 2011*Average Monthly Benefit\$Average Monthly Benefit4,797FISCAL YEAR 2011*Average Monthly Benefit\$Average Monthly Benefit\$Average Monthly Benefit\$Number of LTD Participants*FISCAL YEAR 2012*Average Monthly Benefit\$Average Monthly Benefit*Average Monthly Benefit*	FISCAL YEAR 2008	
FISCAL YEAR 2009\$1,886Average Monthly Benefit4,672FISCAL YEAR 2010*Average Monthly Benefit\$Average Monthly Benefit*Average Monthly Benefit*****************************<	Average Monthly Benefit	\$ 1,823
Average Monthly Benefit\$1,886Number of LTD Participants4,672FISCAL YEAR 2010*1,966Average Monthly Benefit\$1,977FISCAL YEAR 2011**Average Monthly Benefit\$1,931Number of LTD Participants*4,785FISCAL YEAR 2012**Average Monthly Benefit\$1,240Number of LTD Participants*4,646FISCAL YEAR 2013**Average Monthly Benefit\$1,244Number of LTD Participants*4,443FISCAL YEAR 2014*4,443Average Monthly Benefit\$1,244Number of LTD Participants*4,443FISCAL YEAR 2014*4,245Average Monthly Benefit\$1,260	Number of LTD Participants	4,957
Number of LTD Participants4,672FISCAL YEAR 2010*Average Monthly Benefit\$Number of LTD Participants4,797FISCAL YEAR 2011*Average Monthly Benefit\$Average Monthly Benefit\$Number of LTD Participants4,785FISCAL YEAR 2012*Average Monthly Benefit\$Average Monthly Benefit\$Number of LTD Participants*FISCAL YEAR 2012*Average Monthly Benefit\$Number of LTD Participants*FISCAL YEAR 2013*Average Monthly Benefit\$Average Monthly Benefit\$Number of LTD Participants*Average Monthly Benefit\$Average Monthly Benefit\$Average Monthly Benefit\$Number of LTD Participants*Average Monthly Benefit\$Number of LTD Participants\$FISCAL YEAR 2014*Average Monthly Benefit\$1,240*Number of LTD Participants*FISCAL YEAR 2014*Average Monthly Benefit\$1,240*Average Monthly Benefit*1,241*1,242*1,243*1,244*1,244*1,245*1,246*1,246*1,247*1,248*1,249*1,249*<	FISCAL YEAR 2009	
FISCAL YEAR 2010\$1,966Average Monthly Benefit\$4,797FISCAL YEAR 2011**Average Monthly Benefit\$1,931Number of LTD Participants*4,785FISCAL YEAR 2012**Average Monthly Benefit\$1,240Number of LTD Participants*4,646FISCAL YEAR 2013*1,244Average Monthly Benefit\$1,244Number of LTD Participants*4,443FISCAL YEAR 2014*4,443Average Monthly Benefit\$1,240Average Monthly Benefit*1,244Number of LTD Participants*1,244Average Monthly Benefit*1,244Number of LTD Participants*1,244Average Monthly Benefit*1,244Number of LTD Participants*1,244Number of LTD Participants*1,244Average Monthly Benefit*1,244Average Monthly Benefit*1,244Average Monthly Benefit**FISCAL YEAR 2014**Average Monthly Benefit\$1,260	Average Monthly Benefit	\$ 1,886
Average Monthly Benefit\$1,966Number of LTD Participants4,797FISCAL YEAR 2011*Average Monthly Benefit\$1,931Number of LTD Participants4,785FISCAL YEAR 2012*Average Monthly Benefit\$1,240Number of LTD Participants*4,646FISCAL YEAR 2013**Average Monthly Benefit1,244Number of LTD Participants*FISCAL YEAR 2013*Average Monthly Benefit1,244Average Monthly Benefit*Average Monthly Benefit*Average Monthly Benefit1,244Number of LTD Participants*FISCAL YEAR 2014*Average Monthly Benefit*1,244*Number of LTD Participants*FISCAL YEAR 2014*Average Monthly Benefit*1,245*FISCAL YEAR 2014*1,246*1,247*1,248*1,249*1,244*1,244*1,244*1,244*1,245*1,246*1,247*1,248*1,249*1,249*1,240*1,241*1,242*1,244*1,244*1,244*1,244*1,245*1,246	Number of LTD Participants	4,672
Number of LTD Participants4,797FISCAL YEAR 2011Average Monthly Benefit\$Number of LTD Participants4,785FISCAL YEAR 2012Average Monthly Benefit\$Number of LTD Participants4,646FISCAL YEAR 2013Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 2014Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 2014Average Monthly Benefit4,443FISCAL YEAR 2014Average Monthly Benefit5ISCAL YEAR 2014Average Monthly Benefit5ISCAL YEAR 2014Average Monthly Benefit5	FISCAL YEAR 2010	
FISCAL YEAR 2011*Average Monthly Benefit\$Number of LTD Participants4,785FISCAL YEAR 2012*Average Monthly Benefit\$Number of LTD Participants4,646FISCAL YEAR 2013*Average Monthly Benefit1,244Number of LTD Participants1,244FISCAL YEAR 20134,443Average Monthly Benefit4,443FISCAL YEAR 2014\$Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 2014\$	Average Monthly Benefit	\$ 1,966
Average Monthly Benefit\$1,931Number of LTD Participants4,785FISCAL YEAR 2012*Average Monthly Benefit\$1,240Number of LTD Participants4,646FISCAL YEAR 2013*Average Monthly Benefit1,244Number of LTD Participants*FISCAL YEAR 20134,443FISCAL YEAR 2014*Average Monthly Benefit1,244Number of LTD Participants*FISCAL YEAR 2014*Average Monthly Benefit*Average Monthly Benefit*Number of LTD Participants*FISCAL YEAR 2014*Average Monthly Benefit*Average Monthly Bene	Number of LTD Participants	4,797
Number of LTD Participants4,785FISCAL YEAR 2012Average Monthly Benefit\$Number of LTD Participants4,646FISCAL YEAR 2013Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 20144,443Average Monthly Benefit4,443FISCAL YEAR 2014	FISCAL YEAR 2011	
FISCAL YEAR 2012*Average Monthly Benefit\$Number of LTD Participants4,646FISCAL YEAR 20131,244Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 20144,443Average Monthly Benefit5Average Monthly Benefit1,260	Average Monthly Benefit	\$ 1,931
Average Monthly Benefit\$ 1,240Number of LTD Participants4,646FISCAL YEAR 20131,244Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 20141,260Average Monthly Benefit\$ 1,260	Number of LTD Participants	4,785
Number of LTD Participants4,646FISCAL YEAR 20131,244Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 20141,260	FISCAL YEAR 2012	
FISCAL YEAR 20131,244Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 20141,260Average Monthly Benefit\$ 1,260	Average Monthly Benefit	\$ 1,240
Average Monthly Benefit1,244Number of LTD Participants4,443FISCAL YEAR 2014Average Monthly Benefit\$ 1,260	Number of LTD Participants	4,646
Number of LTD Participants4,443FISCAL YEAR 20145Average Monthly Benefit\$1,260	FISCAL YEAR 2013	
FISCAL YEAR 2014         Average Monthly Benefit       \$ 1,260	Average Monthly Benefit	1,244
Average Monthly Benefit\$ 1,260	Number of LTD Participants	4,443
	FISCAL YEAR 2014	
Number of LTD Participants 4 313	Average Monthly Benefit	\$ 1,260
	Number of LTD Participants	4,313

Note: Long term disability payments are based on salary and not years of credited service. Information prior to 2006 is not available.

Source: Sedgwick CMS

#### Principal Participating Employers Current Year and Nine Years Ago

		2014		2005				
Participating Employer	COVERED EMPLOYEES	RANK	% OF MEMBERSHIP	COVERED EMPLOYEES	RANK	% OF MEMBERSHIP		
Dept of Administration	26,457	1	12.75%	31,007	1	14.61%		
Maricopa County	9,005	2	4.34%	10,225	3	4.82%		
Mesa Unified Dist 4	8,400	3	4.05%	8,238	4	3.88%		
University of Arizona	6,875	4	3.31%	7,166	6	3.38%		
Maricopa County Community Coll.	6,310	5	3.04%	5,658	8	2.67%		
Tucson Unitfied School Dist	6,267	6	3.02%	8,038	5	3.79%		
Arizona State Univerity	5,258	7	2.53%	5,289	9	2.49%		
Pima County	4,912	8	2.37%	5,925	7	2.79%		
Gilbert Unified Dist 41	4,648	9	2.24%	4,330	10	2.04%		
Chandler Unified Dist 80	4,154	10	2.00%					
Maricopa County School Office				14,888	2	7.02%		
All other	125,270		60.35%	111,404		52.51%		
Total	207,556		100%	212,168		100.00%		

Note: All participating employers participate in the retirement, HBS and LTD Plans.

Source: ASRS Pension Administration System

## ARIZONA STATE RETIREMENT SYSTEM A Component Unit of the State of Arizona



### Visit ASRS Online at: www.azasrs.gov

3300 North Central Avenue Phoenix, AZ 85012 7660 E. Broadway Blvd., Suite 108 Tucson, AZ 85710

f Facebook http://www.facebook.com/azasrs